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TECHNICAL FACULTY IN BOR
MANAGEMENT DEPARTMENT*

**INTERNATIONAL MAY CONFERENCE ON
STRATEGIC MANAGEMENT**



**STUDENTS SYMPOSIUM ON STRATEGIC
MANAGEMENT**

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**INTERNATIONAL MAY CONFERENCE ON
STRATEGIC MANAGEMENT**

**STUDENTS SYMPOSIUM ON STRATEGIC
MANAGEMENT**

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Bor's Lake, 23-25 May 2014



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**INTERNATIONAL MAY CONFERENCE ON
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Plenary lectures:

INTERNATIONAL MANAGEMENT AND ENTREPRENEURSHIP: CASE OF SLOVAK ENTERPRISES

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Abstract: Globalization is a process resulting in a stronger and profound interconnection of diverse types of human activities including the economic activity. The tendency towards globalisation processes world-wide is based on the fact that businesses and enterprises are employed in the international, global business processes and thus have been facing competitiveness and at the same time they are oppressed by it. In this way national economies are interconnected world-wide and the business processes become globalized. The processes cannot be randomized; they must be managed and aimed at achieving the goals. The business and enterprise management is inevitable from the point of view of its effectiveness. The submitted paper addresses the issue of the global, international management and businesses and enterprises and its aim is to analyze the situation in the Slovak businesses. The paper discusses the results of a research carried out in the years 2011 – 2013.

Keywords: *Globalization, entrepreneurship, international management*

1. INTRODUCTION

The processes of globalization can be perceived as a process leading to a better interconnection of diverse human activities including economic activities. The globalization tendency results in the situation when entrepreneurs, entrepreneurial entities and businesses are employed in the business worldwide and they are exposed to a pressure of competition. [3]

Globalization is considered to be a quick process of economic integration of countries that is caused by liberalization of trade, investment and the capital movement and a fast development of technologies. The process can be observed in following fields:

- **International trade in goods and services.**
- **Capital flow.**

- **Multinational corporations and their role.**
- **New Technologies adaptation. [5]**

The national economic system has started their global interconnection and the economic processes have been internationalized. This has become a challenge for Slovakia. The Slovak Republic has entered the economic integration and has come through its stages. The key point in the history of the Slovak Republic was its European Union accession in May 2004 and the process of integration resulted in becoming a member of the Euro zone on 1 January 2009 when the Euro was implemented in Slovakia. Becoming a member of the European Union has brought a number of advantages and opportunities at the market for Slovak businesses, and at the same time the competitiveness accelerated.

The term “internationalize” means making something become international. If we perceive the process of internationalization in the context of entrepreneurship, it means making the entrepreneurial activities become international and operate at foreign markets. [6] There are various theories explaining the process of internationalization in different ways. The common feature of the theories is that they perceive the internationalization as the superior stage in the life cycle of companies that is characterized by a certain level of effectiveness.

2. RESULTS AND DISCUSSION

It is important to know the reasons the enterprises and businesses have had to make their activities internationalized if we want to understand the „internationalization process“ and its types and stages better. The table below gives the reasons for internationalization.

Table 1. Reasons for making the enterprise, business internationalized

Type	Activities	Phase
Trade	Export	Commercial
Agreements	Licences	Agreement-based
Capital shares	Establishing consortium	Participation
Integration	Direct Investment into Production	Integration-based
Autonomy	Establishing other companies	Autonomous

2. MANAGING THE INTERNATIONAL ENTREPRENEURSHIP

Survival of small and medium enterprises is conditioned by their ability to respond and adapt to changes that are made in the local and also regional situations. [2]

The process and conditions of entrepreneurial activities in Slovakia and in the European Union have been changing and improving. The process of adaptation to new conditions and creating new environment for entrepreneurial activities is a long-term process changing very fast. [1] The current position of the Slovak entrepreneurs in the international entrepreneurship has been changing suddenly and forming turbulently. According to the results gained in the research most of food producers view the process of internationalization as an opportunity to develop new innovative activities and to develop competitive advantages.

Table 2. Reasons Positive and negative features of internationalizing the entrepreneurship

Positive points	Negative points
- improving the international division of labour	- the companies that cannot sustain the quality, price or other parameters cease
- moving beyond the national borders	- the struggle to win the competition is more intensive
- overcoming the barriers in trade	- higher losses in case of failure at foreign markets than at the national markets
- gaining a better value of corporate resources at the market	- more investment needed in the process of entrepreneurship if compared to the national entrepreneurship at the national market
- corporate growth and profit potential	
- opportunity to gain experience in international entrepreneurship	
- opportunity to diversify the entrepreneurial hazard	
- a new opportunity to gain know-how	
- an opportunity to win new customers, new markets	

2. THE INTERNATIONAL ENTERPRENEURSHIP (CASE OF SLOVAK ENTERPRISES)

I have gathered data on the Slovak small and medium-sized enterprises and their activities. The Slovak Office of Statistics offered following data on the structure of the businesses by Dec. 31st, 2013:

Table 3. Structure of Enterprises

Enterprise	Relative number of enterprises (in %)
Micro- enterprise	54,07
Small enterprise	38,52
Middle-sized enterprise	7,41
Total	100,00

Penetrating the foreign markets needs analysing the potential market in detail, designing detailed plans, organization and management of the internationalized activities. [4] The managers are expected to do it all in detail so that the analysis can become an integral part of the strategic management and strategic planning.

All the above mentioned steps are expected to minimize the costs covering the process of penetration the foreign markets and also maximize the success at new markets. The research is aimed at knowing the countries that are considered by the entrepreneurs to be new possibilities to expand their business.

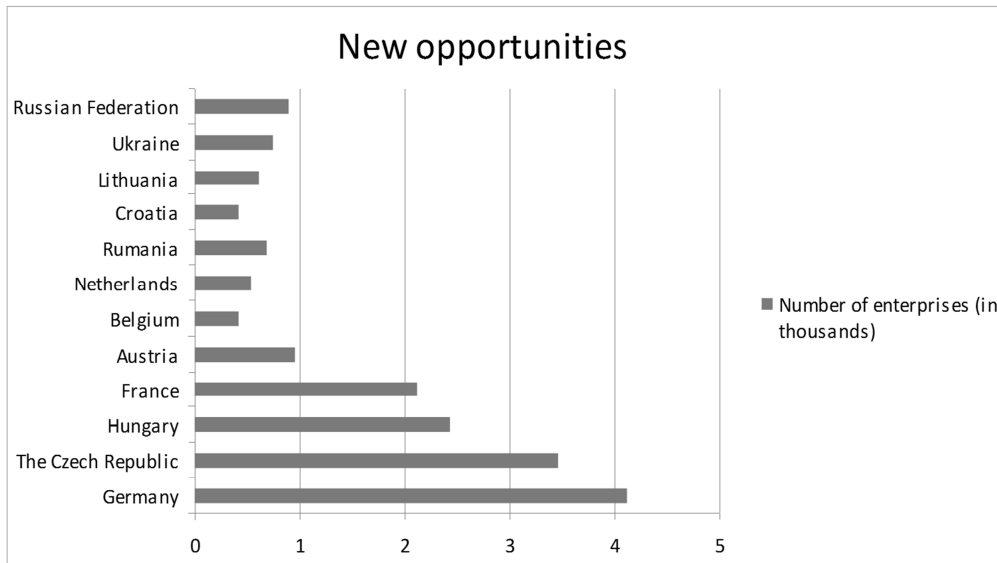


Figure 1. New opportunities

The enterprises could give more theories in their responses.

Most enterprises, companies are interested in penetration the EU countries' market. The first position is taken by the German market, followed by the Czech Republic. Hungary and France are perceived by two thousand enterprises as the markets for foreign trade activities. Out of the EU countries Austria, Belgium, Netherlands, Lithuania and the new membership country Rumania are chosen by almost one thousand responding entrepreneurs. The markets in Croatia, Ukraine, and the Russian Federation are expected to be a challenge for the Slovak entrepreneurs and are expected to be new opportunities to expand the entrepreneurship (87.18% of all enterprises), especially the countries of V4 are concerned (except for Slovakia, also Czechs, Hungary and Poland belong to this group). More than half of the enterprises and entrepreneurs involved in the research have marked the above mentioned countries as the destiny markets they can penetrate with their entrepreneurial activities

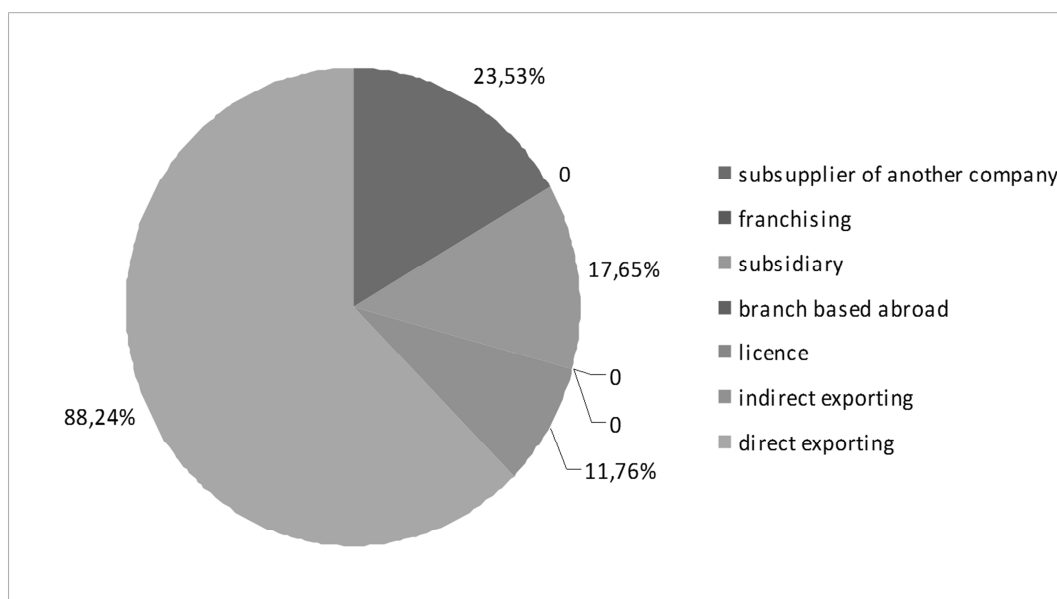


Figure 2. The way of making the entrepreneurship internationalized

The way of making the entrepreneurial activities internationalized in the SMEs is the direct export that is done by 88.24% enterprises operating at the foreign markets. While interviewing the managers in the concerned enterprises the reason for this form of internationalization has been revealed. From many points of view the managers in the enterprises have claimed that the above mentioned way is the most acceptable way of entering the foreign markets. Entering the foreign markets as sub-suppliers represents 23.53% of enterprises. Subsidiaries are based abroad by 17.65% of all enterprises operating also out of Slovakia. Two enterprises are employed in the indirect export, it is 11.76% of enterprises dealing with export. In the research none of the entrepreneurs has given establishing an enterprise abroad, licensing or franchising as the way of making the entrepreneurship internationalized.

Carrying out the research and examining the reasons for the international entrepreneurship we are interested in the fact whether the differences are statistically random or statistically significant. I have verified the hypothesis if the difference between the factors that are the reasons for international entrepreneurship, statistically significant. In the process of the hypothesis verification following quantitative methods is employed: The existence of interdependence between the features is verified by means of χ^2 (Chi-square) test of square contingency.

H_0 : linear and vertical variables are not dependent

H_1 : linear and vertical variables are dependent

$$\chi^2 = \sum_{i=1}^k \sum_{j=1}^l \frac{n (n_{ij})^2}{n_i n_j} - n$$

When the interdependence between the selected variables is determined, the strength dependence is tested by means of Pearson's coefficient.

Pearson's correlation coefficient C is used to test the power dependence between qualitative features and is determined by the relation:

$$C = \sqrt{\frac{\chi^2}{n + \chi^2}}$$

Following hypotheses are verified:

H_0 : there is no difference in perceiving the factors that are the reasons for SMEs to run their business world-wide.

H_1 : there is a difference in perceiving the factors that are the reasons for SMEs to run their businesses world-wide.

According to the results of the chi-square test ($p=0,002$) the hypothesis H_0 is rejected at the level of the value $\alpha=0.05$, that there is no difference in perceiving the factors that are the reasons for making the businesses and enterprises internationalized. The hypothesis H_1 is proved and accepted. The result is verified by the Pearson's coefficient that gains the

value $p=0,447$. The entrepreneurs perceive the factors that are the reasons their enterprises operate world-wide diversely. It means that the enterprises have diverse motivation to make their enterprises internationalized.

3. CONCLUSION

The issue of small and medium enterprises is a huge topic that can be discussed from different points of view. From the point of view of the perspective of the international entrepreneurship the enterprises have claimed that they intend to expand their entrepreneurial activities in the EU countries and also other European countries. A fact seems to be interesting, that none of the enterprises has an intention to enter the American or Asian market.

REFERENCES

1. Hajduová, Z. – Andrejkovič, M. – Mura, L., Utilizing experiments designed results during error identification and improvement of business processes. In: Acta Polytechnica Hungarica, No. 2/2014. ISSN 1785-8860
2. Mura, L. Introduction to Entrepreneurship (Úvod do podnikania). Komárno: J. Selye University, 305 p., 2012, ISBN 978-80-8122-049-4
3. Mura, L. et al. Business ventures (Obchodné podnikanie). Trenčín: Institute of Applied Management, 151 p. 2012, ISBN 978-80-8122-041-8
4. Mura, L. – Buleca, J. – Zeleňáková, L. – Qineti, A. – Kozelová, D., An analysis of selected aspects of international business in Slovak dairies in the EU framework. In: Mljekarstvo. 62 (3), pp. 219-226, 2012, ISSN 0026-704X
5. Mura, L. – Gašparíková, V., Penetration of Small and Medium Sized food companies on foreign markets. In: Acta Universitatis Agriculturae et Silviculturae Mendeleianae Brunensis. Brno: MZLU, No. 3/2010, pp. 157-163. ISSN 1211–8516
6. Mura, L. – Grublová, E. – Gecíková, I. - Kozelová, D., An Analysis of business internationalization models. In: Studia Oeconomica Universitatis Babeş Bolyai, No. 2/2011. pp. 16-28. ISSN 1220-0506

HUMAN RESOURCE MANAGEMENT AT THE LOCAL SUBSIDIARIES OF MULTINATIONAL COMPANIES IN LIGHT OF TWO RESEARCH SURVEYS IN CEE COUNTRIES

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Abstract: An important characteristic of Eastern European privatization is that foreign capital played a key role in the process. According to our survey, many investors choose this area, not only because of its cheap labor – the skilled, blue-collar workforce, engineers, technicians and the perceived higher flexibility are also among the key motives. These multinational companies have redrawn the labor market maps and traditional Human Resource Management (HR) practices of the former socialist countries. The Central and Eastern European International Research Team (hereafter CEEIRT=www.ceeirt-hrm.eu) – composed of researchers from different universities from the Central and Eastern European (CEE) Region - has begun a long-term research project investigating the transition of HR practices and roles in Multinational Company (MNC) subsidiaries in 2009. We conducted two surveys in 2009 – 2010 and in 2011-2013. Our contribution provides a region-wide overview on HR practices at local subsidiaries of foreign owned multinational companies in light of our previous two surveys (n=279 and n=254).

Keywords: FDI, Eastern-Europe, multinational firms,

1. INTRODUCTION

Although they might seem over-simplistic, the following questions deserve attention: What motives drive a company to set up a subsidiary in East Europe? What are their reasons for expanding their activities to East European markets?

Three traditional motives can be identified [1]. The first, and probably the most obvious, motive is to secure sources of raw materials. Cases of large American oil companies opening new production sites in Russia are perfect examples of this – a step which has ensured cheap and reliable sources of oil for them. The second traditional motive is to explore new markets. Countries with small local markets favor moving

towards Eastern Europe, in this way securing needed new markets. The Swedish furniture producer IKEA is a typical example, since its rapid expansion secured its position in most countries in the region. Many firms opt for foreign investments in substitution for an expensive local workforce. There are many products which can only be produced competitively with cheap labor.

In addition to traditional motives, increasing the economies of scale, soaring R&D costs or radical changes in product life-cycles also drive companies involved in international business to expand internationally. These new motives contain several underlying factors. What are these? Some are contained in the following list [1]:

Countries in the region offer significant incentives to foreign investors (taxation, duties and investment incentives).

Internationalized companies gain several strategic advantages which have a positive effect on their internal performance.

An adequate industrial background and a strong subcontractor basis also support companies oriented towards international markets.

Where traditional industries are concerned, it should not be forgotten that achieving success in other markets is only possible if the domestic basis is sufficiently solid. Should a company start up a subsidiary in another country, it has to expand its domestic network and business partnerships also and it must also face special staffing issues with recruiting in another labor market.

Changing (economic, technological, social) conditions suggest that the role of the abovementioned “born global” companies will increase. The traditional, step-by-step approach of internationalization and globalization will gradually give the floor to this new stream, especially in knowledge-intensive industries [2]:

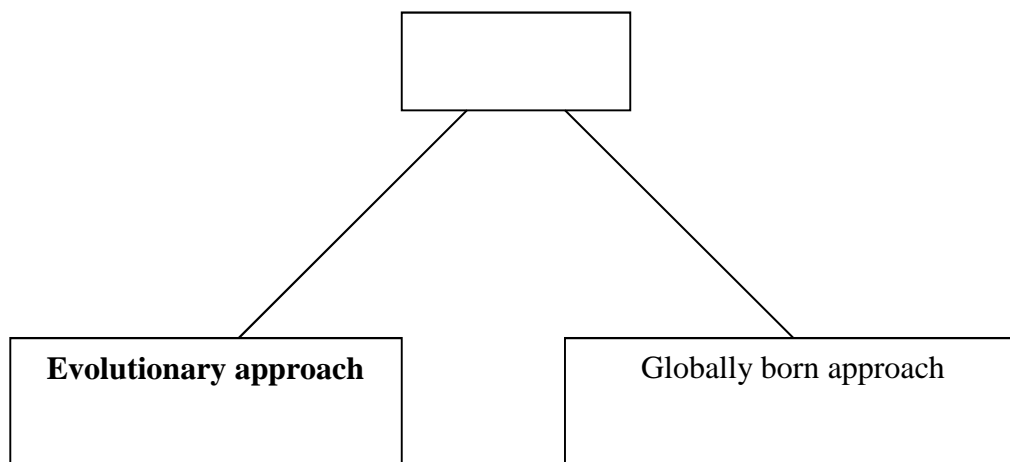


Figure 1. Two main channels of internationalization-globalization

Source: Primary research by the authors.

Born global companies can enter foreign markets without significant domestic sales. These companies try to allocate their resources and organize their sales to gain market advantage rapidly with their operations extended to yet more countries. The domestic market is of less importance for them; they operate in the global arena rather than restricting themselves to a particular one. Similarly to traditional companies, the international experience of the founder is highly important. By using new information and communication technologies, these companies minimize or handle the “distance” problem totally, which is otherwise typical of traditionally internationalized companies.

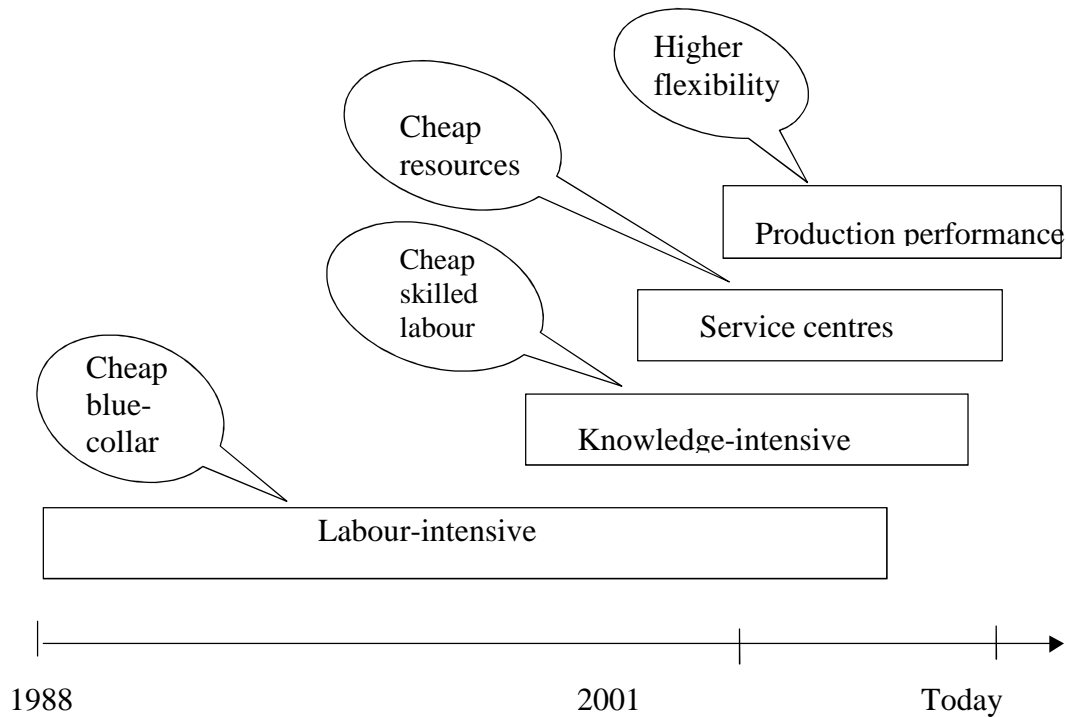


Figure 2. Motives for relocating to Eastern Europe

Source: Primary research by the authors.

The process of direct investment from west to east has entered a new phase. An important characteristic of Eastern European privatization is that foreign capital played a key role in the process. Certain western politicians refused to create a new Marshall Plan for East European countries in the grounds that multinationals’ investments were filling this gap. In fact, traditional investors looking for cheap labor have already started to relocate from the region, but knowledge-intensive industries and service-sector investments appear to be taking their place. According to our survey, many investors choose this area, not only because of its cheap labor; the skilled, blue-collar workforce, engineers, technicians and the perceived higher flexibility are also among the key motives. Several developed Asian countries (Japan, South Korea and Taiwan) operate hardly any industries domestically which require heavy physical work, preferring to relocate these two countries with lower labor costs. The globalization of these companies requires new bases in the west and recent large-scale investments by Japanese companies and a South Korean tire-manufacturer in Hungary, the Czech Republic or Poland are all in accordance with this new tendency.

FDI inflow into the CEE region between 1990 and 2012 amounts 830 bn. € (1.040 bn.\$)

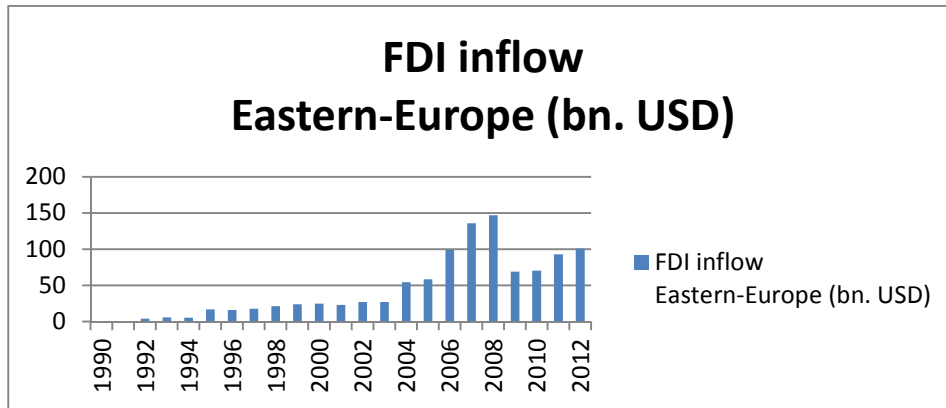


Figure 3. FDI inflow Eastern-Europe (1990-2012) [5]

2. RESEARCH MODEL

MNCs enter to foreign markets for traditional reasons (market acquisition, securing resources, and diversification), but lately they are also seeking better economies of scale and a more rational allocation of expenditures, via shifting processes and activities to lower cost nations (Dowling, Festing and Engle, 2008). These realignment activities necessitate coordinating and refining HR practices, such as altering methods for expatriate compensation, reviewing training policies, and realigning the transfer of managers across borders

Our research model (Figure 4) is contingency oriented. It integrates four major internal influencing variables (Ifs) as follows:

- stages of the subsidiaries in CEE region,
- nature and time of market entrance,
- role and complexity of subsidiary mandates,
- contextual Ifs (e.g. size, origin, culture and strategy)

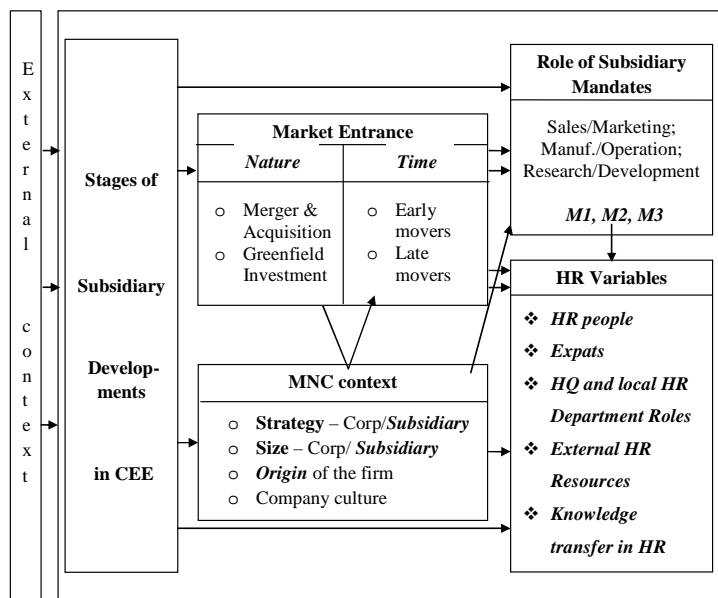


Figure 4. Research Model: HR and its Context in Multinational Subsidiaries
Source: [4]

3. SAMPLES AND ANALYSIS

The project, which had established a basis for a longer term research and its most recent part of the project (2011-2013) is a descriptive study based on objective data [4]. The data collection was made through both face-to-face interviews and online completion of the same questionnaire, which was based on the model shown on Figure 4, and the number of valid responses by participating country is shown in Table 1.

Table 1. Number of valid responses by participating countries in the two CEEIRT research phases (2008-2009 and 2011-2013)

Country	Number of valid responses	
	2008-2009	2011-2013
Estonia	45	0
Croatia	11	0
Poland	88	53
Hungary	75	118
Romania	17	34
Serbia	20	19
Slovakia	23	30
Total	279	254

Source: Primary research by the authors.

4. CONCLUSIONS

Our hypotheses (H1-H7) and our review of the findings has already given us the opportunity to examine the connection between certain HR variables and the factors assumed to influence their application (Table 2).

Table 2. Hypothesis explanations of two consecutive researches Source: Primary research by the authors.

Factors influencing HRM	(2008-2009)	(2012-2013)
H1: mandate	<p>The mandate affects the number of HR staff, the number of foreign delegates (expat), partly the relationship between the local and central HR, partly the use of external HR service providers, the knowledge flow from the parent company to the subsidiary, and the role of local HR training and development.</p> <p>Overall, we accept the hypothesis.</p>	<p>The mandate affects (according to chi-square test) the number of HR staff (production, sales), but does not affect the number of foreign delegates (expat) nor the relationship between the local and central HR department. The chi-square test shows significant relationship between the external service providers and the mandate only in a few cases. Based on the analysis of cross table analysis firms focusing on development employ the largest proportion of external service providers. There is no evidence of a significant relationship between the knowledge flow from the parent company to the subsidiary and the mandate. In one case (production/service) there is a significant relationship between the local training and development (based on chi-square test and ANOVA).</p> <p>Partly we accept the hypothesis</p>
H2: origin of the firm	<p>The effect of the origin to selected variables cannot be examined statistically. There is evidence for the relationship between the local and the central HR and for the knowledge transfer.</p> <p>Overall, we reject the hypothesis.</p>	<p>The effect of the origin cannot be examined statistically, as the chi-square test conditions are not met. Based on the cross table analyzes companies from Eastern European show a significantly different view in the case of most of the examined variables, compared to the companies from other management cultures. There is a significant relationship between the origin and HR knowledge transfer variables (based on ANOVA).</p> <p>Partly we accept the hypothesis.</p>

Continuation of the Table 2. from the previous page

<p>H3: year of establishment</p>	<p>The date of establishment affects the number of HR staff, but does not affect the number of foreign delegates (expat), nor the relationship between the local HR and central HR. The use of external HR service employment can only be partly examined, and partly there is no evidence. There is no recognizable relationship between the knowledge flow from the parent company to the subsidiary. Overall, we reject the hypothesis.</p>	<p>The chi-square test criteria are not met in the most cases. Based on the cross table analyzes in the case of the most variables the companies established before 2010 show a very similar picture, while the new (post-2010) founded companies are different in many aspects. They employ less HR staff, there are no foreign delegates (expat), the relationship between the local HR and the HQ is centralized and the most of them do not use an external provider (However, note that only 7 companies responded!) The ANOVA did not show a significant relationship between HR knowledge transfer, and local HR training, however, the knowledge transfer is more typical for the subsidiaries established after 2010 (based on averages). Overall, we accept the hypothesis.</p>
<p>H4: form of establishment</p>	<p>The form of establishment affects the number of HR staff, but it does not affect the number of expat staff. The relationship between the local and central HR, cannot be examined. There is no relation concerning the use of external service providers, and also there is no connection between the knowledge flow from the parent company to the subsidiary. Overall, we reject the hypothesis.</p>	<p>The form of establishment affects the number of HR staff (the chi-square test is low), but it does not affect significantly the number of expat staff, the relationship of local and central HR. There is no evidence on the relation between the form of establishment and the use of external service providers, nor to the knowledge flows from the parent company to the subsidiary. However, based on the cross-table analysis it can be observed that in case of newly established companies -with the exception of health and safety – the use external service providers it is more typical and is increasing. (In contrast to the companies established by acquisition.) Irrespectively of the form of establishment, nearly half of companies are characterized by significant knowledge flow from the parent company to the subsidiary. Overall, we accept the hypothesis.</p>

Continuation of the Table 2. from the previous page

<p>H5: strategy</p>	<p>The strategy does not affect the number of HR staff, the number of expat staff, and the relationship of local and central HR. There is a partly relationship between the strategy and the use of external service providers, and it does not affects the knowledge flow from the parent company to the subsidiary either.</p> <p>Overall, we reject the hypothesis.</p>	<p>It can be concluded that the subsidiaries following downsizing and regression strategy have HR staff, and they have a much greater proportion of expats. The companies applying growth strategy employ in almost every area larger proportion of external firms. The strategy does not affect the knowledge flow from the parent company to the subsidiary and the role of local training and development.</p> <p>Partly we accept the hypothesis.</p>
<p>H6: size (number of employees)</p>	<p>The company size (number of employees) affect the number of HR staff, the number of expat staff and the knowledge flow from the parent company to the subsidiary, its influence to the relationship between the local and central HR is less typical, and even less according to the employment of external service, and there is no connection to local training and development.</p> <p>Partly we accept the hypothesis.</p>	<p>The company size (based on number of employees) has a significant effect on the HR staff (the strongest relationship), on the number of expat staff and on knowledge flow from the parent company to the subsidiary (Chi-square test). There is a significant relationship between the size of the company and the use of external providers in the case of recruitment, staff development and HRIS. Typically the larger companies use them.</p> <p>Overall, we accept the hypothesis.</p>
<p>H7: the firm characteristics influencing the size of HR departments</p>	<p>The size of the HR department is in relation with the total number of employees, the number of expat staff and the revenue. The relationship between the national delegates (inpatriate), the annual fluctuation and the share of personnel costs cannot be examined. There is no connection in case of the training budget.</p> <p>Partly we accept the hypothesis.</p>	<p>As we have seen in the previous point, the size of the HR department is related to the total number of employees, the chi-square test shows a significant (medium) relationship. In the cases of the other variables , it is not applicable. The cross table analysis shows a clearly visible trend:</p> <p>In the case of higher HR staff number there is a larger number of expats and national delegates (inpatriate), as well. The companies having more than twenty HR specialists spend more on training, and their labor cost is below10%. (compared to others)</p> <p>Partly we accept the hypothesis</p>

REFERENCES

1. Bartlett, C.A.&Beamish, P.W. Transnational Management. Text, Cases and Readings in Cross-border Management. (6th ed.) Boston: Irwin/McGraw-Hill, 2011.
2. Chetty, C.,&Campbell-Hunt, C. A Strategic Approach to Internationalization: A Traditional Versus a "Born&Global" Approach. Journal of International Marketing, (2005) 1: pp. 57-82.
3. József Poór-Zsuzsa Karoliny--Katalin Dobrai-Agnes Slavic-Kinga Kerekes-Ferenc Farkas-Allen D. Engle Sr.. Factors Influencing Human Resource Management Solutions at Subsidiaries of Multinational Companies in Central and Eastern Europe. Journal of East-West Business, 2014. Vol.20. Issue 1. pp.1-27.
4. Poór, J., Engle, A. &Gross, A. (2010). Human resource management practices of large multinational firms in Hungary 1988-2005, in: Acta Oeconomica,2010, 60, 4,pp. 427 – 460.
5. UNCTAD. World Investment Report 2014. United Nations, Geneva, 2014.

CONTEMPORARY ASPECTS OF STRATEGIC PROJECT MANAGEMENT

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Abstract: The strategic project management is a new approach in project management, focused upon creating competitive advantage for the organization in the project execution. This approach is especially relevant for strategic projects initiated in order to create the company's future, all kinds of research and development projects among them. The organizations of today can no longer leave the strategy in the care of the top managers, and leave the operational realization to be carried out by project managers. The projects will increasingly have to be managed as strategic activities. To realize these changes, the project managers and the project teams must have a formal planning and execution framework in accordance with the strategic approach. Bringing the strategic management and the project management into accord is a two-way process, where the adopted organizational business strategy affects the selection, preparation and execution of the project. On the other hand, the project execution has a feedback impact upon the corporate strategy. Every project may have its own specific strategy and that is the strategy that is being implemented. The project strategy is the method in which the project is planned to achieve the set objectives and business results.

Keywords: strategic project management, project strategy, project portfolio management, project selection, prioritizing

1. INTRODUCTION

Globalization, the technological development and the geopolitical changes in this century call for the change in the organization's strategic orientation as well. Growth in profits, as one of the basic goals, is being exchanged for the growth in value for the shareholders, for the respect for the business ethics and for the establishment of the socially responsible business. The turbulent and unpredictable development of technology has also had an impact upon a fierce competition in certain markets, such as e-trade, where the winner captures the entire or a major share of the market.

In answer to these challenges it is necessary that such a management system in the organization be defined that will pool the needs for change in the form of a different number and size of projects and programmes to be realized as well as the strategy these projects are comprised in. By applying the concept of project management as a frame for such a management system, if it is supported by an appropriate organization, team work and project culture, it is possible to achieve a substantial improvement in the business results.

The development of the project management concept is today directed to the strategic aspects, hence project management now is approached in a way different from that in the

past. This new attitude is related to the understanding of project management as part of the company's strategic activities [9]. The relation between the project and the strategic managements is a logic one, however, the dilemmas and problems as to how they should be related are still present. This calls for a development of appropriate guides on the methods in which the organizations can harmonize the projects with strategies, as well as make the project managers and the project teams responsible not only for bringing a project to an end, but for ensuring that the project should achieve the organizational objectives for the purpose of which it was started.

2. STRATEGIC PROJECT MANAGEMENT

The previous research that connected the strategic management and the program/project management was directed towards the elaboration of portfolio management. The research comprised the aspects of portfolio management such as the project selection, priority identification, harmonizing the projects within the portfolio, adjusting the project to the project strategy, strategic resource management and improving the strategic management of the functional areas and projects of the organization [2, 3, 4, 6]. The latest research, however, relates to adjusting the strategy on the project and the program levels of activities and creating an integrated adapted approach of program and project management to a business strategy [1, 5, 8].

Table 1. Project management and strategic project management [7, modified]

	Project management	Strategic project management
Basic Paradigm	Projects are a collection of activities that need to be executed on time, budget, and requirements	Projects are strategic organizational processes that are initiated to achieve business goals
Focus	Efficiency	Effectiveness and efficiency
Perspective	Operational	Strategic and operational
Manager's Role	Getting the job done – on time, within budget, according to specifications	Getting the business results Winning in the market place
Project Management style	One size fits all	Adjustment approach
Project definition	Project scope, what needs to be done?	Product, competitive advantage, strategy, scope
Planning	Activities, schedule, budget	End results, success dimensions, activities
Project Reviews	Progress, status, milestones, budget	Customer needs, strategy, success dimensions, status
Human Side	Teams, conflict resolution	Meaning, motivation

The strategic project management is a new approach in project management, focused upon creating competitive advantage for the organization in the project execution. This approach is especially relevant for strategic projects initiated in order to create the

company's future, all kinds of research and development projects among them. However, it is not related to this group of projects only.

The organizations of today can no longer leave the strategy in the care of the top managers, and leave the operational realization to be carried out by project managers. The projects will increasingly have to be managed as strategic activities. To realize these changes, the project managers and the project teams must have a formal planning and execution framework in accordance with the strategic approach. Table 1. presents the difference between the classic project management and the strategic project management.

3. PROJECT STRATEGY

The basic organizational goal is the added value creation for its stakeholders. The most important stakeholders are its owners, then people who work in the organization, and finally the clients and the customers who purchase the goods or the services from a certain organization. A successful organization creates value for each of the groups. The value creation for each of the groups of stakeholders is also a means of value creation for other groups that find their interest in the business operations.

The strategy is the basic guide of the overall value creation that is central to the organizational existence. The most important function of the strategy as part of the planned process is to develop a collective mind and transfer knowledge to managers that will be responsible for the strategy implementation. The project managers have to introduce the strategic project management in order to reproduce the strategic process within their projects and ensure that the project results be in accord with the strategy. The business strategy should provide for the key orientation of the project and is a foundation for the decision making in the course of the program and project realization.

The understanding of strategy as a management process and the role of the project manager in the process is related to the understanding of the difference between the business strategy or a strategic direction/path and the strategy that is executed or the obligatory strategy. The defined strategy means the attitude of the top management as to what an organization should do and what it will be doing. The strategy that is being executed is the one the organization really implements. They differ in that the middle level managers and the project managers have to translate the defined strategy into action. In this way certain elements are lost, however, others are gained in the process itself. There is always a gap between a defined strategy and the strategy that is executed, however, when the strategy process functions well, both strategies will help the company follow a consistent and successful path.

Bringing the strategic management and the project management into accord is a two-way process, where the adopted organizational business strategy affects the selection, preparation and execution of the project. On the other hand, the project execution has a feedback impact upon the organizational strategy. Every project may have its own specific strategy and that is the strategy that is being implemented. The project strategy is the method in which the project is planned to achieve the set objectives and business results.

4. TRANSLATING CORPORATE STRATEGY INTO PROJECT STRATEGY

Organizations may have the best ideas and methods, however, if the translating corporate strategy into project strategy is not structured or implemented correctly, there

will be problems in achieving the organization's objectives. An effective strategic project management needs an a priori defined necessary processes, and the implementation plan should be agreed on prior to launching new projects.

Organizations need to work on devising a model to help them in strategic project management. One possible approach for translating corporate strategy into project strategy is a phase model presented in Figure 1.

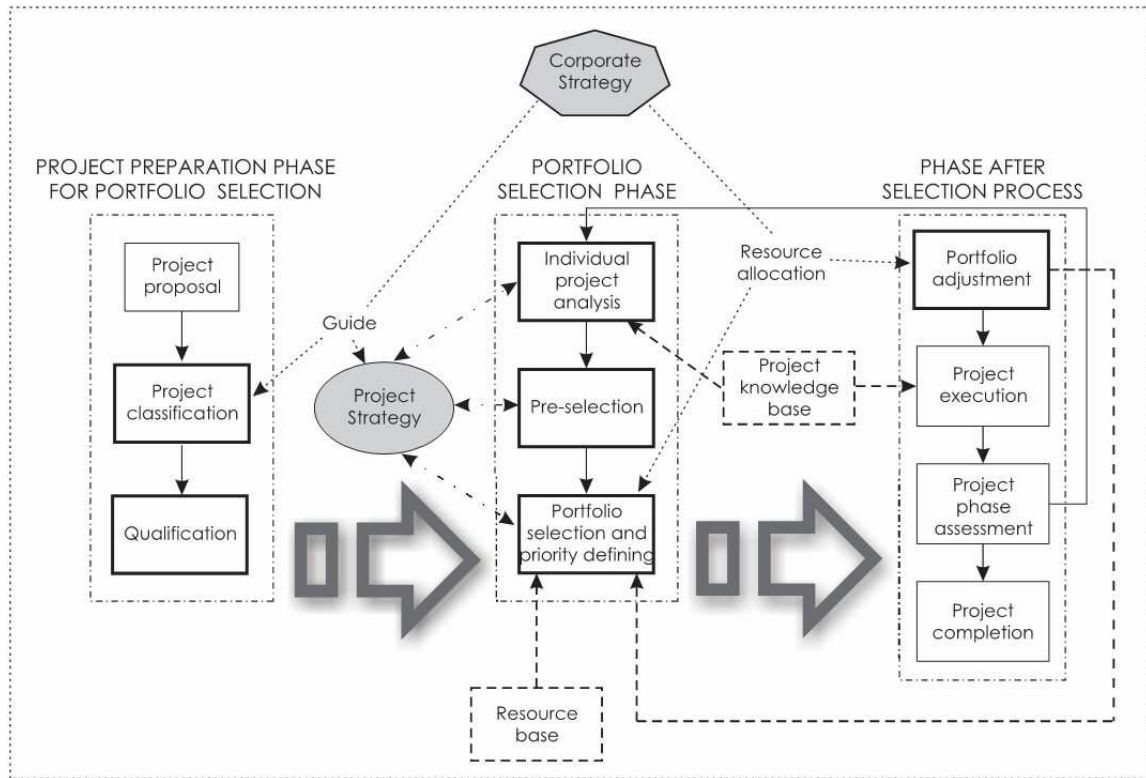


Figure 1. Phase model as one possible approach for translating corporate strategy into project strategy

The proposed model of translating corporate strategy into project strategy decomposes the process into a series of individual phases that flow from the initial strategic analysis to the project completion. The purpose of the model is to define and organize the strategic project management process. The model is not associated to any method or technique generally implemented in decision making; this is in the domain of the model user, the project type, and the decision maker's preferences. Certain proposed phases can be changed, replaced or completely removed if the organization decides in favour of a different approach to this process. Certainly, after the model has been implemented for the first time, a review should be made of both the strategy and the selected methods and techniques.

Model of translating corporate strategy into project strategy consists of three phases:

- phase of project preparation for portfolio selection,
- portfolio selection phase,
- post-selection process phase.

The first phase is project classification and qualification, the second phase is the phase of project selection, of defining the strategic focus and of budget allocation. Adjustment of the portfolio as to the project parameters of candidate-projects, including their interaction with other projects through resource restraints or other interdependences is performed in the third phase.

Defining the elements that precede the project portfolio management process is intended to aid a correct flow of management. Defining the strategic focus (Corporate Strategy) should be conducted on a higher management level. Resource allocation to different project categories also includes a higher level of decision-making that has to be completed prior to the portfolio selection process. The selection of methodology should be based both on its comprehensibility for those who are to implement it, their willingness to learn or adopt a certain approach and on the prior experience.

The selection of methods and techniques for a particular class of projects, the problem solving style and the final selection of methodology generally depend on the organizational culture of the company. Certain activities within portfolio management require that a number of methods and techniques be combined. A simple check list containing the criteria to be met can be used at the beginning of the project; considerably more sophisticated methods will be implemented in the projects that are already in the process of execution. On the other hand, the criteria used to test the project in the course of its execution have to be consistent with the criteria used in the first assessment of the project, so that an adequate comparison between the projects can be possible.

The project proposal should have an a priori defined form on the organizational level. This will ensure that the further flow should go without requirements for additional data. The project proposal includes the business goals, the project goals, the deadlines, the budget, the constraints and the assumptions that affect the project. The project proposal can be in the form of the pre-feasibility study, a feasibility study or a business plan.

All the proposed projects have to be classified in accordance with the project type. The project classification criteria are defined on the organizational level and in compliance with the company management system and business operations. Projects are classified as internal and external, according to the required financial funds and their sources, their technical structure, their importance for the company, their purpose, etc.

Qualification helps eliminate the projects that are not feasible before the portfolio selection phase starts, and is based on the general information on the project. Qualification makes it possible to reduce the number of project to be analysed in the selection process. The qualification testing of the project may be administrative, based on specific guidelines.

Qualification precedes the concrete portfolio calculations. Already prepared instructions or guidelines devised in the strategy development phase can be used, where each project has to be analysed from the point of view of project complying to the strategic focus of the company. Identified here are the projects that are compulsory and that will also be included into the rest of the portfolio selection process. Compulsory projects are those for which an agreement has been reached that they have to be carried out and without which the company cannot operate in an adequate manner.

The project strategy should have the following defined elements [7, modified]:

- Business perspective/background – The business perspective defines the reasons and the motivation for the project realization. Here, it is necessary that the product/service users, their needs and demands be defined, as well as the method the project to solve them.

- Objective – Here, it is necessary that the end goal of the project be defined, that is, the business goal and the long-term benefit to be achieved by the project completion.
- Product/service definition – The product/service definition comprises the description of the product or the service, their functional or technical characteristics, implementation and application costs, reliability, maintenance, compatibility, etc.
- Competitive advantage/value – The reasons are described as to why one will be willing to pay for the product or the service, why the product/service is superior to the alternative products/services, etc. On the other hand, it is necessary that the value be defined from the part of the organization – the long-term benefits the organization will enjoy and the way the product/service adapt to the long-term strategic objectives.
- Success and failure criteria – The criteria on the basis of which the project will be assessed should be defined, but the project limitations and the main anticipated risks, too.
- Project definition – This section defines what is necessary to be done on the project, but also what should not be done. The project type may also be defined according to certain characteristics (novelty, complexity, technology, uncertainty), which in turn defines the approach to project management. The project definition includes the appointing of the project team and the project manager that will execute the project, the execution time horizon and the necessary resources.
- Strategic focus – This is the last section defined in the project strategy, nevertheless, it is its main part. It defines the manner in which the project is planned to achieve the set goals and achieve business results. The strategic focus will include the guide that will highlight to the project participants the activities and the approach by which the desired objective will be made a reality. The strategic focus comprises such elements as the position to be attained by the project execution, the guide to behaviour and decision making, the work policy and the development of the processes that will lead to the planned results.

The input data for individual projects are analysed and processed in the form appropriate for further analysis. Here the general set of parameters necessary in the following phase is calculated for each project, and is based on the values estimated in the feasibility study and/or databases of the previously completed projects. The projects already under way that have reached certain key events may be assessed again in this activity. The assessment of such projects will include less uncertainty in relation to the newly- proposed projects that are not launched yet. The output of this phase is a general set of parameters calculated for each individual project. The data may also be qualitative, and most frequently encountered quantitative data on the project are the anticipated net present value, risk and the resources required over a time period, including the uncertainty estimate of these parameters.

The number of projects proposed for the portfolio may be rather large, and the complexity of the decision-making process and the time required that a portfolio should be selected increases geometrically with the number of projects under consideration. Project selection can also be a trade-off if a large number of projects is analysed unnecessarily. It is for this reason that a pre-selection process should be implemented, in order that the projects that are not in the company's strategic focus be eliminated. For example, pre-

selection can be used to eliminate the projects that do not bear sufficient information on the basis of which a logical decision can be based, those that do not meet the requirements such as a minimal internal profitability rate, etc.

In the course of this activity, the calculations from the previous step are used to eliminate projects that do not meet a defined indicator threshold such as, e.g., the return on investment rate. Testing the project against indicators can depend on certain guidelines that may eliminate all the projects that are not compulsory to realize, and whose internal profitability rate is lower than a set amount. The intention is to eliminate all unsuitable projects and reduce the number of projects to be analysed simultaneously in the portfolio selection activity. This does not apply to the projects that are compulsory or necessary as support for other projects. Attention should be focused upon preventing the elimination threshold to be set, since it is ungrounded, and thus eliminates otherwise potentially rather promising projects.

Portfolio selection and prioritizing activity combines the outputs from the previous steps in a manner required for a portfolio selection based on organizational goals. This can include an extensive interaction with the company's management and a comparison of prospective projects with numerous goals, or it can involve small-scale direct interventions if optimization techniques such as 0-1 integer programming are implemented. The output of this step may be the preliminary ranked projects based on the portfolio-specified goals and the initial resource allocation in accordance with the quantities available. This step is the first step of problem solving, to be continued in the post-selection phase where a final adjustment is achieved by the decision makers and also new calculations are done as necessary to provide support to the portfolio analysis.

The interaction among different projects should also be analysed within this activity, including interdependence, competition for resources, execution time, all on the basis of the calculated values of each project within the general set of parameters from the previous steps. The AHP, the scoring model, and portfolio matrices are popular with the decision makers on portfolio selection, as they allow the users to view a broad range of quantitative and qualitative characteristics, as well as achieving manifold goals. None of the above listed techniques, however, analyses manifold resource restraints and project interdependence. The AHP, pair comparison technique, Q-sort are also too cumbersome and inadequate to be implemented on a large number of projects.

Within this activity of the model, two steps for portfolio selection are proposed. In the first step, a relative total benefit for each project can be determined. A comparative approach such as Q-sort, pair comparison technique and the AHP can be implemented in this step for a smaller number of steps, allowing for the analysis of both qualitative and quantitative indicators. This step may require more work from the Project Portfolio Board members for the purpose of comparing prospective project pairs. In case of a larger number of projects, the scoring model is more appropriate as it does not involve the comparison of a large number of project pairs. The result of this approach should be the establishment of a relative value of each project.

In the second step, all the project connections, resource availability and other constraints should be involved in the total portfolio optimization based on a relative value of each proposed project. If all project measures can be expressed qualitatively, the first step can be omitted since the optimization can be carried out directly by a mathematical calculation in the second step. In specific cases, where the interdependence and time constraints are not important and where there is only one resource important in allocation, the second step can be simple in that only the highest-value-bearing projects will be selected until the available resource has been used up. This, however, does not mean that

an optimum portfolio will be selected since a combination of given projects can produce a more substantial total benefit than a set of projects with highest individual utility each. The relative value of each project can be an input into a software-supported process, that can be based on the 0-1 integer programming, and that uses the resources, the time, the interdependences and other constraints to maximize the total benefit. Goal programming can also be used for manifold goals in this step in case more than one goal is explicitly identified.

Portfolio adjustment helps the decision makers perform the final adjustment of the project portfolio. Presentations of one or more portfolio matrices are used as support and the critical variables required for decision-making and selected by the Project Portfolio Board for this purpose are critically reviewed. All the connectivity among the projects, such as interdependence and inter exclusion are already taken into account in the previous steps and can be presented, if necessary, during the adjustment process. Portfolio adjustment is a reasoning problem that requires a feedback from the Project Portfolio Adjustment Board because of the consequences of the decisions made. The data for this activity are provided by the sensitivity analysis using the same model applied in the portfolio selection analysis.

The end result of adjustment should be a portfolio that meets the organizational goals to an optimal or nearly optimal extent, however, with a possibility for final adjustment left to the Project Portfolio Board. The project portfolio selection is a strategic decision and certain information has to be presented to enable the decision maker to assess the portfolio without being burdened by too many data. The final step is the portfolio adjustment which provides a complete insight, where the project characteristics of critical importance in an optimized portfolio (e.g. net present value, completion deadline, etc.) can be presented using a matrix presentation, together with the impacts of each proposed change in resources or projects selected. It is very important that only a limited number of these presentations (schemes) be included in order that confusion should be prevented in making the final decision. If needed, it is possible to make some changes in the projects. If changes essentially differ from the portfolio developed in the previous activity, it is necessary that the process is reversed in order to re-calculate the portfolio parameters. It is also necessary that a sensitivity analysis be conducted in order that the impact of changes (project adding or excluding) upon the resources and the portfolio optimum should be predicted.

An important aspect of portfolio adjustment is achieving a form of balance among the selected projects. For example, not many highly risky projects should be proposed due to the fact that the failure of a number of such projects may endanger the future of the organization. On the other hand, low-risk projects may not earn a high return on investment, which is in turn often typical of risky projects, thus the anticipated returns from portfolio may be too low if the project selection is too conservative when it comes to risk. The balance in view of the size of the project is also important since engaging a large portion of resources in a couple of large projects may be fatal if more than one projects fail. A large number of long- term projects, however promising they are, may cause financial problems related to cash flow.

A periodical review of the project is part of portfolio management. It means a review of all the active projects as well as the projects currently on the waiting list and comparing one with another. The aim of such a review is to establish whether they make the right set of active projects and whether these projects comply with the strategic goals of the organization.

5. CONCLUSION

The aim of strategic project management is to translate translating corporate strategy into project strategy and to provide consistent approach to classification, selection, prioritization, planning and execution of the right projects and programmes in the organization. Although the majority of project managers and project teams recognize the importance of the relation between the harmonization of the corporate strategy and achieving organizational goals, these elements are, unfortunately, taken into consideration only at the beginning, while later, in the course of the project execution, the focus is on the operative approach. It is for this reason that a strategic harmonization of the project should be carried out by strategic project management.

The development of an efficient strategic project management approach is not an easy task. There is no one single adequate approach to the strategic project management that can be implemented to any organization. The most important objective in the project execution is, from the point of view of the organization, to achieve business results. Therefore, both the project manager and the organization in general have to focus upon this and try to find the ways to ensure that the business results of the organization are achieved.

REFERENCES

1. Cleland, D, Project Management – Strategic Design and Implementation, McGraw-Hill, New York, 1999.
2. Cooper, R. G., Edgett, S.J., Kleinschmidt, E.J, Best Practices for Managing R&D Portfolios, *Research Technology Management* 41(1998), 20-33.
3. Dinsmore, P. C, *Winning in Business with Enterprise Project Management*, Amacom, USA, 1999.
4. Dye, L. D., Pennypacker, J. S, *An Introduction to Project Portfolio Management*, Project Portfolio Management, Center for business Practices, USA, 1999.
5. Morris, P. W. G., Jamieson, H. A, *Translating corporate strategy into project strategy*, Project Management Institute, Newtown Square, PA, USA, 2004.
6. Petrović D, *Concept of Multiproject Management in the Organization*, Doctoral thesis, University of Belgrade, Faculty of Organizational Sciences, Belgrade, 2003.
7. Shenhar, J. A., et al, *Project Strategy: The Missing Link, Linking Project Management to Business Strategy*, Project Management Institute, Newtown Square, PA, USA, 2007.
8. Shenhar, J. A., Milošević, D., Dvir, D., Thamhain, H, *Linking Project Management to Business Strategy*, Project Management Institute, Newtown Square, PA, USA, 2007.
9. Williams, D., Parr, T, *Enterprise Programme Management – Delivering Value*, Palgrave Macmillan, Hampshire, 2004.

BEE COLONY OPTIMIZATION

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Abstract: Natural systems have become significant sources of ideas and models for development of various artificial systems. Swarm behavior is one of the main characteristics of many species in the nature. Herds of land animals, fish schools and flocks of birds are created as a result of biological needs to stay together. Swarm behavior is also one of the main characteristics of social insects. Swarm intelligence is based on investigation of actions of individuals in different decentralized systems.

There have been substantial advances in the theory and applications of Swarm Intelligence in last decade. The BCO metaheuristic (Bee Colony Optimization) that will be presented in the lecture belongs to the class of Swarm Intelligence algorithms. The BCO uses an analogy between the way in which bees in nature look for a food, and the way in which optimization algorithms search for an optimum of a given combinatorial optimization problem. The BCO is a stochastic, random-search technique that belongs to the class of population-based algorithms. The BCO represents an artificial system composed of a number of precisely defined agents (individuals, artificial bees). Population of agents (artificial bees) collaboratively searches for the optimal solution.

The intention of this lecture is to provide an overview of the BCO principles and applications, to evaluate the current state-of-the-art in the subject, and to underline topics which seem promising for future research.

Keywords: BCO, of Swarm Intelligence, artificial systems

Conference papers:

MOTIVATING MANAGERS EXPECTATIONS AND REALITY (POLISH EXPERIENCE)

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Abstract: Motivating managers is the subject of the analysis undertaken in this article. Presented results of the research are supposed to provide answers to the following question: What motivational incentives do the representatives of top management staff expect from their employers, and what motivators are actually offered them? To answer this question, the authors conducted a survey among 53 managers representing the business sector. From the research emerges a picture of a large variety of incentives offered to managers by their employers, as well as a large variety of ratings of these incentives by those who benefit from them. For example: money is important for this professional group, but more important is the possibility to meet the needs for autonomy and power through higher decisional independence and participation in shaping the organization strategy. The research showed that the strength of the influence of an individual motivator is differently perceived by managers at different age.

Keywords: managers, motivating, polish business sector

1. INTRODUCTION

There is very rich scientific literature in the management science that describes motivating employees. It includes a number of practical tips on how management staff can influence subordinates to shape their commitment, loyalty and stimulate development of their professional competencies. Less is known about how to motivate managers, whose employment situation is specific. It can be assumed that while occupying high positions in the organization, managers have satisfied their needs for achievements or needs for power. Their financial situations are also usually better than their subordinates. What, therefore, keeps them motivated at the high level expected by their employers? What motivational incentives do the representatives of top management staff expect from their employers, and what motivators are actually offered them? To answer this question, the authors conducted a survey among 53 managers representing the business sector.

2. LITERATURE REVIEW

The motivation process, based on the theory and practice of management, is examined and described in the context of effective stimulating employees to make a greater and more

effective effort, which gives benefits to the organization and, at the same time, enables employees to meet their needs. Motivating is accurately ranked among the most important and difficult functions of management. The need for an individual approach to an employee, penetration into his or her system of needs and expectations, creation of appropriate working conditions and selection of the best management style are particularly emphasized. Motivating employees is defined as the interaction of various forms and means on employees so that their behaviours are consistent with the will of the supervisor, in order to achieve the tasks set before them. The aim of motivating is to shape pro-effective attitudes, yet effective motivating must take into account not only objectives of the company and their hierarchy, but also needs and expectations of employees. Excessive, one-sided orientation – mostly only towards needs of the company – may be the cause of a failure of the entire incentive system implemented in the organization. Conducting a conscious policy of motivating requires clear and precise answers to the question: what behaviours and what methods motivate employees? It is necessary, however, to take into consideration the regularity that a set of factors shaping human motivation is complex. The factors can be of a psychological, economic, cultural and intra-organizational nature [4].

Numerous, assessed today as classic motivational theories emphasize various aspects of motivating. Work content theories emphasize the motivating importance of meeting needs of employees - for example, A. Maslow, D. McClelland, F. Herzberg [3]. Process theories (for example, concepts of J. S. Adams or V. Vroom [6]) emphasize the significance of elements such as employee's expectations, a sense of justice and injustice. In turn, reinforcement theories (as the theory of F. Skinner [5] or A. Bandura [1]) emphasize the role of learning certain behaviours on the basis of positive and negative reinforcements. Today, researchers of the problem move towards creating models of motivation integrating the most valuable cognitive and utilitarian achievements of earlier concepts. An abundance and diversity of factors influencing motivational processes are seen in them. The mentioned factors constitute attributes of both an employee and an organization itself, but also characteristics of the external environment of an enterprise. Examples of the latter include: the political system, tax system, social security system, the level of economic development, features of the labour market, the role of trade unions and the degree of integrity with the global economy.

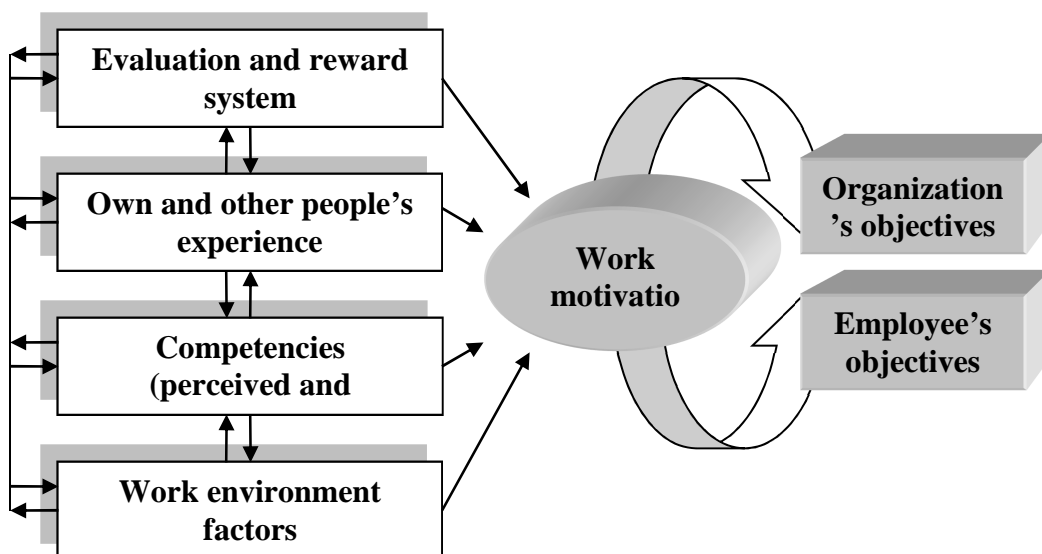


Figure 1. An integrated model of motivation

Regardless of factors related to characteristics of the external environment, the most important determinants of motivational processes highlighted in the integrated models of motivation concern the organization and its employees. Figure 1 shows the basic variables affecting the level of employee's motivation, which enables the simultaneous achievement of his or her personal objectives and organizational goals as well. They are all closely related and have an influence on each other.

A multitude of arrows and lines connecting various factors determining the course of the motivation process is supposed to illustrate the need for a comprehensive perception of motivational factors, without attempts to rank them according to the criterion of value or importance. It is difficult to classify them as completely dependent on the organization or completely dependent on the employee. However, motivation is a function of management and a task of the organization. Therefore, in analysis of each motivational variable it is necessary to underline opportunities and obligations that rest upon the enterprise in the respect of each of these variables. At the bottom of the figure **work environment** factors are placed, which should be understood as:

- adjustment of tasks assigned to employees to their possessed technical and organizational capabilities;
- flexible, adequate to the needs, usage of a management style, such as the participatory management style;
- providing employees with access to the information important in the work process.

The factor “**Competencies**” should be understood here as competencies objectively possessed by an employee, as ones actually used by him or her in the work process, but also as competencies assessed subjectively. Creating the motivation system it is necessary to:

- diagnose objectively existing competencies of employees (those understood as opportunities, dispositions and the ones displayed during activity as well);
- recognize subjective beliefs of employees regarding their possessed competencies;
- conduct employee selection processes according to the criterion of initial essential competencies for a given position and enterprise;
- adjust tasks to possessed by an employee competencies;
- conduct actions towards objective improvement of required competencies, acquisition of new competencies important for a given position and the whole organization (objective increase of competencies to the optimal state);
- provide feedback for an employee (by a system of ongoing evaluation and daily contacts) to enable him or her to raise self-esteem in the area of competencies, improve subjective sense of self-confidence and his or her professional opportunities.

The next element “**Own and other people's experience**” constitute factors highlighted, for example, in J. S. Adams' theory of justice, B. F. Skinner's theory of reinforcement and A. Bandura's theory of social learning. An employee analyses his/her work experience from the nearer and more distant past, observes and analyses experience of other people, makes comparisons, assesses and adapts behaviours of other people as his/her own. Continuity of work processes, placing them at a certain time continuum requires appreciating the importance of employee's past and conclusions drawn by the employee on the basis of its analysis. In turn, the social context of professional activity indicates the need for a serious treatment of mechanisms for comparing own work to work of others – in terms of investment, efficiency and benefits as well.

Important factors affecting the level of motivation to work are the **evaluation system** and **reward system** existing in an organization – existing objectively and their subjective perception made by employees. Methods of performance measurement and benefits that arise from the evaluation should be seen by an employee as objective, clear, understandable and fair. Almost all authors, especially J. S. Adams, emphasise it in their theories. Fulfilment by an employee required and clear criteria should activate the reward system strengthening (according to the theory of B. F. Skinner) desired behaviours of the employee and eliminating unwanted behaviours. The quality and quantity of prizes will be one of the key elements of each motivation system. Prizes should enable to satisfy individual needs, their role has been highlighted in theories of motivation, and also enable to achieve individual goals, their motivating power has been characterised in E. A. Locke's theory [6]. Hence, the perception of opportunities to achieve own goals in the course of and as a result of professional activity is particularly important.

In evaluation and award systems appear processes on which the organization has a decisive influence by establishing formal procedures, rules and regulations. There are also such processes on which the organization has a limited influence as it is difficult to impose top-down benchmarks by which an employee is guided while assessing (through comparing) justice of received benefits.

Summarising the integrated model of motivation it is worth to emphasise two fundamental regularities:

Effectiveness of a motivational process is determined by employee's traits and organization's features, and both these subjects closely interact with each other;

A measure of quality of a motivation system is the possibility to achieve changing objectives of an organization and changing objectives of an employee [4].

3. RESEARCH METHODOLOGY

The study comprised managers studying the Executive MBA at Polish Academy of Sciences in Warsaw. The selection of respondents resulted from the fact that the Executive MBA studies are chosen by people with significant professional experience as well as experience at managerial positions. An average length of respondents' job seniority on managerial positions was 8.5 years. They represented companies of various sizes with a clear predominance of large and medium companies (81 % of the group) and a variety of activities. Two questionnaires were used in the research. They included a list of various motivational incentives, which was established on the basis of analysis of literature of this problem. Accuracy of the selection of motivators has been confirmed by results of the research: a very small number of indications to motivational incentives with no importance included in the questionnaires. For the total number of 636 possible indications, only 12 times (1.88 percent of the overall number of responses) respondents indicated no importance to a given motivator (that is, it does not have any motivational significance for the respondents).

The first questionnaire provided information about motivational incentives preferred by respondents. The second (given only after completing the first questionnaire) enabled to examine what motivators employers offer their managers. To avoid automatic repetition of responses, motivational incentives, whose motivational power has been assessed by surveyed managers, were listed in a different order in the questionnaire concerning motivators preferred by managers, and in a different order in the questionnaire concerning incentives offered by employers. In both cases it was a random order. The respondents

were also given open questions about the most important assets, the most important shortcomings and the most urgent changes in the area of motivating managerial staff in their workplaces. The research was conducted in November, 2013.

Questionnaire surveys of which results are comprised in this publication are based on the mechanism of introspection. * The authors are aware that this method is seen as one that not allows for gaining knowledge which is inter-subjectively verifiable and does not give access to the factual causes of behaviours. In spite of the criticisms raised by methodologists of social sciences, introspective studies are essentially the basis for all questionnaire studies, and the use of their results in the diagnosis of psychological determinants of managers' work is based on the statement, well-documented in the literature, that the employee is the best source of information about the specificity of his/her position or the fulfilled organizational role.

4. RESULTS AND DISCUSSION

The respondents were asked to assign importance to the listed in the questionnaire motivational incentives in order from those that motivate them most (score 1) to those incentives that motivate them least (sequential scores: 2, 3, 4, etc.). In the case of elements which, in the opinion of the respondents, do not have any motivational power, respondents were asked to assign zero value to them. In this way emerged a set of the most valuable elements of the motivation system from the perspective of managerial staff (cf. Table 1).

Table 1. Motivational incentives preferred by managers

Motivational incentives	Result (an average)
Responsibility for creating the organization strategy	4.77
The earnings level	4.94
Possibility of further promotion (a clear career path)	5.49
Long-term motivational incentives (stocks, stock options, profit sharing)	5.49
Recognition from other team members and supervisors	6.02
The role of a leader in the team	6.05
Prestige of working for this company	6.21
Sense of belonging to the team	6.43
Influence on development of other team members (subordinates)	6.43
Raising leaders (successors)	6.83
Helping other people	7.13
Fear of job loss	8.45
Additional benefits (e.g. prizes, trips, etc.)	8.89

* Introspection – from Latin *introspicere*, literally it means „looking inside,” observing and analyzing one's own mental states, thoughts, feelings, and motives. It deals with the conscious contents and processes.

Source: self-elaboration based on the results of the research

Among 12 motivational incentives, out of which respondents had to indicate the ones preferred by them, the most essential turned out to be:

- responsibility for creating the organization strategy,
- the earnings level,
- possibility of further promotion (a clear career path).

In the case of the first two motivators, none of the respondents assigned zero value to them, which means that for all respondents they have motivating importance. In turn, 51 out of 53 respondents assigned other than zero value to the motivator “Possibility of further promotion (a clear career path).”.

“Responsibility for creating the organization strategy” was the motivator most often indicated as the most important (score 1 ascribed to it 13 out of 53 respondents). The number of indications on a given motivator as the most important contains Table 2.

Table 2. Motivators most often indicated by respondents as the most important motivational incentives for them (1).

Motivator	The number of indications as the most important motivator (1)
Responsibility for creating the organization strategy	13
The earnings level	7
The role of a leader in the team	7
Possibility of further promotion (a clear career path)	5
Sense of belonging to the team	3
Prestige of working for this company	3
Recognition from other team members and supervisors	3
Other (single indications)	11

Source: self-elaboration based on the results of the research

The authors perceive some differences in responses resulting from the age of the respondents. Among the respondents belonging to the age group of 25-34 year-olds “Responsibility for creating the organization strategy” is among the three most powerful incentives – similarly as in the general result. However, while in the whole group of the respondents this incentive was in the first place, in this age group it was clearly overtaken by the “Earnings level” (an average score 3.9) and “Possibility of promotion (a clear career path)” (an average score 4.63). In turn, “Prestige of working for this company” has a greater significance for the respondents of the age group of 25-34 year-olds than for the whole research group (an average in this subgroup is 5.72 compared to 6.07). “The role of a leader in the team” is far less important motivator in this age group than in the whole group of the respondents (an average score 7.81 compared to 5.92). In contrast, in the age group of 45-54 year-olds the most important incentives are: “Influence on development of other team members (subordinates),” “Prestige of working for this company” and

‘Recognition from other team members and superiors.’ ‘The earnings level’ is a motivational incentive that among middle-aged managers is in a relatively distant eighth place (an average 6.89, in the whole group 4.94). The relatively small size of the sample group does not allow for an assessment of the statistical significance of differences, thus we treat them only as a certain trend worthy of confirmation in the course of broader research.

In Table 3 we present the average scores of motivational incentives indicated by respondents as offered them by employers. Among the most emphasized and used by employers motivators (in the opinion of the participants of the research) are: the level of earnings (an average 5.36), prestige of working for this company (an average 5.66) and sense of belonging to the team (5.68). In the second part of the research respondents more often pointed out that the given incentive is not applicable in any way in the motivation system used towards them by employers (a total of 82 indications, that is 12.89%). Motivational incentives used towards managers in the motivation systems and listed in the survey are, therefore, of lower importance than expected by managers. Hence, employers use included in the research incentives to a lesser extent than it results from the preferences of managers employed by them.

Table 3. Motivational incentives used by employers towards managers

Motivational incentives	Result (an average)
The earnings level	5.36
Prestige of working for this company	5.66
Sense of belonging to the team	5.68
Recognition from other team members and supervisors	6.09
Responsibility for creating the organization strategy	6.09
The role of a leader in the team	6.32
Influence on development of other team members (subordinates)	6.66
Helping other people	7.53
The possibility of promotion (a clear career path)	7.83
Additional benefits (e.g. prizes, trips, etc.)	8.09
Raising leaders (successors)	9.32
Long-term motivational incentives (stocks, stock options, profit sharing)	9.32

Source: self-elaboration based on the results of the research

One of the aims of the research was to examine to what extent motivational incentives preferred by managers are reflected in the motivation systems used towards them by their employers. Table 4 summarizes the comparison. In the table, those motivational incentives have been highlighted in case of which there is the biggest difference between the preferences of managers and the role of the given motivator in the motivation systems used towards respondents by their employers. The biggest difference concerns the long-term motivational incentives (stocks, stock options, profit sharing), whose motivational power

was assessed by managers as relatively high, and are used by employers minimally. At the same time, it is worth noting that in the case of several important for the respondents motivators, the practice of employers coincides with the expectations of managers motivated by them.

Table 4. The comparison: preferences of managers and motivating practice used by employers

Motivational incentives	Result (an average) preferences of the responders	Result (an average) the practice of employers
Responsibility for creating the organization strategy	4.77	6.09
The earnings level	4.94	5.36
The possibility of promotion (a clear career path)	5.49	7.83
Long-term motivational incentives (stocks, stock options, profit sharing)	5.49	9.32
Recognition from other team members and supervisors	6.02	6.09
The role of a leader in the team	6.05	6.32
Prestige of working for this company	6.21	5.66
Sense of belonging to the team	6.43	5.68
Influence on development of other team members (subordinates)	6.43	6.66
Raising leaders (successors)	6.83	9.32
Helping other people	7.13	7.53

Source: self-elaboration based on the results of the research

The respondents were asked to indicate the biggest, in their opinions, assets of the existing motivation systems in their workplaces and addressed to managers. It is distinctive that as many as 13 respondents (24.5%) did not indicate such a feature. Other responses are presented in Table 5.

Table 5. Assets of the motivation system in the assessment of the managers

Category of the answer	Number (N=53)	%
High earnings	20	37.7
Attractive bonus system and financial rewards for performance	9	16.9
Timeliness of benefit payments	4	7.5
Transparency and clarity of the rewarding rules	4	7.5
Possibility of professional development (e.g. participation in trainings financed by the employer)	3	5.7
Stability and predictability of the reward system	3	5.7
Ambitious character of the entrusted tasks	3	5.7
High prestige (good brand) of the employer	3	5.7
Cooperation in atmosphere of trust	3	5.7
The motivation system does not have distinguishing, positive characteristics	13	24.5

*responses do not sum up to 100% because respondents were allowed to give any number of answers; source: self-elaboration based on the results of the research

Analysis of responses concerning positive features of the system motivating managers indicates regularity that respondents appreciate motivators of a financial nature, but as the advantage of the motivation system approximately 50% of respondents indicates them. It is hard to precisely assess whether it is a high or low indicator. The responses in Table 4 show that incentives of an intangible nature (atmosphere of trust, challenging tasks, possibility of professional development) are used by employers less frequently than it is expected by the surveyed managers.

Confirmation of this regularity is also found in the responses to a question about the disadvantages of the motivation system. In the opinion of respondents these are mainly very small influence on the most important, strategic decisions about the future of the enterprise, too small independence and difficulties in communicating with managers at the highest level of the organizational structure. With reference to financial matters, respondents criticized far-reaching discretion in awarding and too small connection of awards with measurable results of the work.

5. CONCLUSION

From the research emerges a picture of a large variety of incentives offered to managers by their employers, as well as a large variety of ratings of these incentives by those who benefit from them. On the basis of the obtained results it can be carefully concluded that the specific dissemination of motivating principles in the organization is not the right move. The design of efficient motivation systems should be based on the identification of particular, individual needs and expectations of managerial staff.

The research has confirmed the thesis, for years highlighted in the literature, that the level of earnings is important, but it is one of a few motivational incentives of high importance (and not always the most important). We should not, however, on this basis

draw radical conclusions leading to neglecting material matters in motivating managers. Presented in this article research results have proven that money is important for this professional group, but more important is the possibility to meet the needs for autonomy and power through higher decisional independence and participation in shaping the organization strategy.

It is worrying that 24.5% of the respondents working in Polish enterprises did not indicate any assets of the reward systems used in their organizations. This means that ¼ of managers critically assess motivating actions of their employers. We believe this number is significant.

The research shows that Polish companies negligibly use long-term motivational incentives (stocks, stock options, profit sharing) towards managers, which are very popular in the world, especially in the U.S. Meanwhile, this type of remuneration is considered to be an effective tool to motivate and maintain in the enterprise the most talented managers [2].

The presented analysis had a cognitive character – enabled to identify motivators that influence the level of managers' involvement in their work. The results illustrated the multidimensional character of the undertaken problem. Its complexity depends not only on a variety of motivational factors that determine the quality of the manager's work, but also on the strength of their interaction. The research showed that the strength of the influence of an individual motivator is differently perceived by managers at different age, but it is certainly not the only relation worthy of attention and further research. From analysis of the literature, we conclude that the specific managerial functions implemented in the organization, quality of relations with subordinates and the type of the organization determine motivating managers. The list of determinants is long and shows that motivating managerial staff from the point of view of not only needs of science, but especially, of practice is a phenomenon that requires further research.

REFERENCES

1. A. Bandura, Social learning theory, Englewood Cliffs, Prentice Hall, New York 1977.
2. J.S. Hyman, Long-term incentives, [in] The Compensation Handbook, McGraw Hill, New York 2008, p. 324 -326.
3. A. Kinicki, B. Wiliams, Management: A Practical Introduction, McGraw-Hill, New York 2010.
4. J.M. Moczydłowska, Managing professional competence but motivating employees (in polish: Zarządzanie kompetencjami zawodowymi a motywowanie pracowników), DIFIN, Warszawa, 2008, p. 27-33.
5. F. Toates, Burrhus F. Skinner: The shaping of behavior, Palgrave Macmillan, Basingstoke, 2009.
6. J. Woźniak, Contemporary motivation systems. The theory and the practice (in polish: Współczesne systemy motywacyjne. Teoria i praktyka), PWN, Warszawa 2013, p. 28-40.

CHALLENGES IN MILK PROCESSING SECTOR IN ALBANIA (TIRANA REGION)

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Abstract: Research in the field of supply chain management was increased significantly by more academics. In principle, this concept should be seen in two main directions or based on a close collaboration between the entities involved in the supply chains, or in a broader context of a network of business relationships.

With the increasing competition in the agricultural sector and agro - farming, in recent decades is necessary that the subjects engaged in these activities to be more market oriented, focusing mainly on consumer preferences and improvements in production, processing and distribution systems.

The main aim of the research was identification of the problems faced by managers / owners of the dairy sector in Albania. For this reason was conducted a survey of farmers and agro processor in Tirana region, where operate most of the producers of the industry. Albanian farmers are still not prepared today to face problems and to be oriented to the markets, especially international ones, because they lack the necessary information on the markets. Manufacturers find it difficult to know the conditions and requirements that have markets to which aim to go without being organized in associations or groups. Often lacking the model they should achieve, they have difficulties in deciding where and when to invest.

Keywords: dairy sector, supply chain management, clusters, agricultural and livestock products, development strategy

1. INTRODUCTION

Since 1990, the arrival of a new economic system in production brought the competition between national and foreign. Dairy industry was characterized by a large number of very small units with simple technology or traditional seasonal processing unit. This has caused difficulties processed products to farmers facing European imported products. As a result, agricultural and livestock products have not yet competitive advantages over analog products import. This materialized by the fact that imports of these products are declining though still at high levels, while exports have increased not essential. In this way the need of creating clusters for efficient management of the dairy sector, to provide comparative advantages of local products and increase exports by encouraging investments that support production, improve infrastructure and facilitate the connection of production to the market .

In order to identify the problems faced by managers / owners of the dairy sector in Albania was conducted a survey of farmers and agro processors manufacturers in the region of Tirana.

The study objectives are as follow:

1. The reflection of the current situation and the difficulties faced by farmers and agro processors in Tirana region;
2. Identify the characteristics of agricultural and livestock supply chain in the region;
3. Analysis of the current challenges and future facing the partners in the supply chain;
4. Determining the key factors to the success of this chain.

2. SUPPLY CHAIN MANAGEMENT IN THE DAIRY SECTOR

Research in the field of supply chain management was increased significantly by more academics. In principle, this concept should be seen in two main directions or based on a close collaboration between the entities involved in the supply chains, or in a broader context of a network of business relationships. Agricultural and livestock supply chain is a network of interrelated companies working together to manage the flow of goods and services along the value added chain of agricultural and livestock products, in order to realize high value for the customer with cost the lowest possible. Despite the fact that agriculture and livestock supply chain is represented as a linear model, in reality its different components are highly interconnected. Changes in one part of him will have their influence throughout the chain.

Developing a supply chain starts with the willingness of stakeholders to engage in the cluster. It is important that the factors involved have proper knowledge on the chain and its activities. Knowledge of dealing with the functioning of the chain as a whole, the partners in the cluster, providing a functional long-term business relationship.

For all chain is important for partners to be involved actively and flexible enough to respond as soon as possible to market changes. This rapid response to changes in market requires the development of a joint strategy, strong collaboration, communication, and integration flow chain activities and business processes.

A strategic and competitive position in the market requires the cluster partners to base their activities in a strategy for the entire co- chain, focused on understanding the customer and the business environment. Trust and commitment are also important elements for achieving successful development partnership and integration between partners in the cluster, as a relationship that is based on interdependence, open communication and mutual benefits.

To operate effectively and quickly respond to customer demands and market challenges, subjects should engage in relationships within the cluster. Development of an effective agricultural and livestock cluster not only generates benefits for firms involved, but also brings wider benefits: social and economic aspects of national development and wider. Further more, benefits can be in terms of major investment opportunities and a better performance in providing quality and safety standards of agricultural products and livestock.

With the increasing competition in the agricultural sector and agro - farming, in recent decades is necessary that the subjects engaged in these activities to be more towards market oriented, focusing mainly on consumer preferences, flexible activities, improvements in production, processing and distribution systems. An effective response to this growing competition would be included within the cluster. On the other hand inclusion in a cluster would require first of all a careful review of the costs of production and service, of all stakeholders and after adjustment of production and service systems in the cluster's overall strategy.

3. METHODOLOGY OF RESEARCH

Methodology for the implementation of the research has as main dimensions: the specification of the research subjects, tools, sample taking, assessment results.

For the specification of the research subjects was obtained information from:

- ❖ Agro processors
- ❖ Farmers of livestock farms
- ❖ Experts and entrepreneurs in agro-processing enterprises

Research tools: For the provision of data from key stakeholders, are used a variety of tools, such as structured questionnaires, field surveys, structured and unstructured interviews.

Analysis was conducted in a regional context (focused in Tirana region). Questionnaires were constructed depending on the group of actors that will be included in the study. They identify characteristics, opportunities and challenges and possible solutions to the issues facing the supply chain management of agriculture and livestock in the region of Tirana. The analysis of the information gathered have concluded for the overall situation recognition and opportunities for farmers to increase production to tackle the challenges that brings the competition, with a view to conclude how the effectiveness of economic activities, sectors or units depending to a large extent on their ability to exploit market opportunities in domestic, regional and international.

Depending on the actors who were involved in the study, two questionnaires were built.

The first questionnaire is addressed to farmers and agro-processing in the milk processing industry, and as such was designed keeping in mind the fact that questions directed a category of people with a moderate level of knowledge, and therefore are simple, clear.

The second questionnaire is addressed to specialists, experts and entrepreneurs in dairy processing industry. This questionnaire was structured according to Likert scale, with the aim of assessing the degree of agreement, level of performance and level of importance (evaluation from 1-5) for each of the issues related to agriculture and livestock cluster.

There are built quantitative questions to be answered, and also questions that for the very nature of the type of problem to be answered qualitatively. Therefore questions were used three categories:

In the first category are included open-ended questions where participants were asked to give their opinion through qualitative responses. For example, Do you have difficulties securing raw materials? If yes, what are the difficulties? Please comment.

In the second category, participants in the study were required to use a measurement scale. Asked person faces several alternatives and were asked to evaluate each option in three or more levels. For example, please indicate how do you consider the level of cooperation between the following stakeholders involved in this chain? Poor, below average, average, good, excellent (Assess 1, 2, or 3 in order of importance).

In the third category, are included only questions that require quantitative, such as: What is the annual turnover of the business? How many cattle you have? What is the average daily milk you get / supplied?

Also were used other instruments as well as meetings and discussions with experts in agriculture and livestock, economist, round tables, in different companies, local authorities, Customs, Department of Agriculture, Ministry of Agriculture, Chamber of Commerce, Banks, universities and the Prefecture.

To ensure maximum precision of the data, samples were taken on the region studied, agro processors and livestock farms. The sample selection was made based on the number of processed agro industry in the milk and dairy farms in the district of Tirana.

The first sample was formed by an intentional choice and agro processors namely 17 (31.5 %), 36 dairy farms (66.7%), 1 combined livestock agro - processing (1.9 %), total 54 units. 18.5 % of them are small businesses, 68.5 % are medium and 13 % are large businesses.

The second sample was formed by a random selection of agro- entrepreneurs in the region and a selection of experts composed of academics, officials and representatives of non-governmental organizations. The reason for this choice was based on available knowledge, involvement and importance of these actors in the agricultural and livestock clusters in Tirana region. The organization was such as to diminish the cost and time of interviews in general.

The information collected by questionnaires, was processed with the SPSS program, using mainly descriptive statistics analysis. Analysis of results served to highlight the challenges and problems faced by producers in the region of Tirana and to derive conclusions and recommendations for facing them by producers (farmers) and agro processors in the region.

For agriculture and livestock specialists at the Regional Directorate of Agriculture, local institutions (municipalities, communes), the Chamber of Commerce and Industry, financial institutions (bank and non-bank), customs, etc.. Data analysis was made based on information obtained from personal discussions with relevant experts, as well as of round tables, studies and statistics.

4. DATA ANALYSIS AND PRESENTATION OF RESULTS

The research results are grouped as follows:

1. Results for agriculture and livestock specialists from farmers regarding DRBU
2. Results for local institutions (municipalities, communes) in relation to farmers
3. Results for the financial institutions (bank and non-bank) in relation to farmers
4. Results from questionnaires distributed to farms and agro processing

Results for agriculture and livestock specialists from farmers.

In infrastructure services specialists believe that it is inappropriate, such as for granting loans to inputs such as milk processing machinery, processing technology, providing food base from other cluster partners and marketing of products. In terms of small units, there are difficulties and high costs of building a servo system. This makes the farmers to have problems in providing quality food base. Consequently processors find it difficult to get quality products.

Results for local institutions (municipalities, communes) in relation to farmers.

From discussions with experts in the field has shown that all persons involved in the debate agree on the importance of service marketing but emphasize that organized structures for marketing the products are still in their infancy. There are also significant deficiencies in information regarding market demand, price level, etc.. Especially for farmers located far from consumers. Manufacturers are hampered by lack of knowledge and access to information necessary to make decisions on production and sales as well as decisions on investments, exports, etc. Many processors and manufacturers continue to

make decisions for unplanned production based on the assumption that will be sold easily in the market. Factors such as demand, market prices and especially the quality of the products are often not appreciated enough. So producers and processors often find themselves facing competition with knowledgeable importer and market-oriented.

Regarding the collection of structures that have received products affect farmers growing security that products made from them will be sold (as fresh product or be processed by the industry). Increased security will provide opportunities for farmers to increase production market and hence of their income.

From the participants in the organized roundtable was accepted that there are deficiencies in standardization and packaging products. Agricultural products continue to have poor quality compared to imported ones in terms of presentation, grading and packaging. This puts them at a disadvantage, at a time when the cost of single-use packaging is growing and consumers have become more sensitive. There are also gaps in product quality and agricultural and livestock which is an important aspect of consumer welfare. Besides the adoption and implementation of regulations in this area, it also requires investment by manufacturers and processors which means higher costs and therefore higher prices for consumers.

Development of the agricultural land is an important element, as it will help to use the best available and is important to facilitate financial intermediation, but still has problems with the registration of land and site updates are often inaccurate. Although barriers are removed for sale and renting the land, the market is still inactive. This is prevented to a large extent from family ownership to the land.

All persons involved in the debate agree that remittances play an important role in the economy of the region of Tirana. This migration is accompanied by the removal of the active labor force from rural areas and limits the capacity of leaders in agriculture because farmers remaining age is high. But it also has its other side, the positive side. Money coming from immigration can be used to invest in rural areas of agro-processing sector and non-farm sectors oriented.

Despite the higher needs in the agribusiness sector for investment and long-term financing, the reality shows that it remains the sector with the lowest proportion of funding from the banking system: only about 1.5% of the loan portfolio of voice agribusiness, versus 34% of production, or 25% of the trade item. This process becomes even more difficult when these clients include requirements for mortgage guaranty, or loan payment standard forms, which require higher flexibility and technical expertise in service. Therefore in this sector shows a pronounced tendency to self-finance of informal funding, although associated with a high level of savings. In recent years the banking system is trying to change that perception.

Presentation of the results of questionnaires distributed in livestock farms and agroprocessors

Out of 54 units, 31.5% of them are agro processors, 66.7% and 1.9% livestock farms and agro-livestock farms. According to the sample size units from 54 units, 18.5% are small ran businesses. 68.54 ran medium businesses, 13% ran big businesses. The number of employees in 17 agro-processing units consists of nine employees from livestock farms, 36 units have an average of 6 employees in the unit and the only livestock and agro-processing consists on average of 14 employees.

When asked "Do you have any difficulty in securing raw materials?" From sample units responded with "yes" - 98.1% of them and only 1.9% have no difficulty in securing raw materials. Respondents who stated that they have difficulty in securing raw materials, have further specified factors affecting:

1. Price factor is a very important factor in the occurrence of difficulties for the provision of raw materials (ie very important for 49.1 % of the units and important for 34 %). This difficulty is mainly due to competition from imports, lack of collection centers, and lack of infrastructure road and as a result the difficulty of transportation is also another factor in the illegal entry of raw materials, causing a distortion price and quality.

2. *Quality Factor* is not a very important factor for 34 % of the units surveyed. This is mainly because these units provide the raw material by themselves, or reach to realize a quality product manufacturing.

3. *Factor supplier* deficiency is very important for 24.5% of the respondents, the most important of 39.6%. This reinforces the above conclusion regarding the quality, because businesses are unable to reach cooperation to find suppliers for the provision of the necessary raw materials.

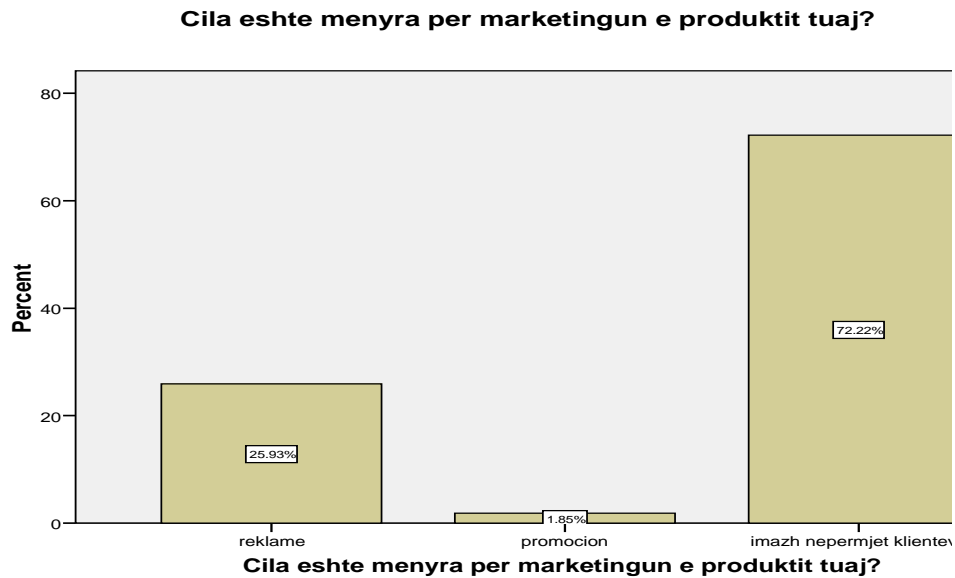
4. *Lack of information and competition* does not constitute a significant factor for sampling units. This indicates isolation and no collaboration between units operating in the region of Tirana. Each unit "ignores" its competitor. So there is a low competitive ability of animal products, relatively low quality and standards of their default levels required.

The question: "Where do you sell the production designed for sale within the country", 13 % sell it in the gathering centers, 59.3 % in the city market and other cities and 7.4 %, directly to the processors. The largest percentage of sales in the city is due to demographic growth and concentration in the region of Tirana, where units arrive to find their "market" (graph 1).

Sample units have like the best way for marketing the product through customer image (72.2 %). They use the clients themselves for marketing, because they are not able to use technological tools such as advertising through television, print posters, etc. (graph 2).



Graph 1. Products distribution



Graph 2. Marketing tools

The question "What are the problems that you notice during the sale of the product", the interviewees responded by listing a number of factors:

- Lack of buyers confirmed by 85.2% of the sample units,
- Lack of information confirmed by 66.7% of the units,
- 37% consider lack of investment units,
- Lack of collection centers indicated by 24.1% of respondents,
- Competition is considered important by 18.5% of sample units

There is a periodic check from the Regional Sanitation showing a sign of better control over the quality of the products during the manufacturing process being completed from relevant hygiene specialists. This control also goes up to 16 times per year for larger units, which indicates an average control more than one time a month, an average which is estimated to be in the region of Tirana.

64.8 % of sample units have information on the counterpart sector in Greece, Macedonia and the region. There is an interest of farmers and agro processors, product processing technology and breeding of livestock. It has a significant impact given the immigration benefits from the experience and technology of these countries.

It is worth to be noted that only 78% of respondents claim customer study, of which only 5.3% using structured questionnaires. Albanian businesses do not engage in the study of consumer demand, which threatens to change them (Chart 3 and 4)



Chart 3. Consumers testing

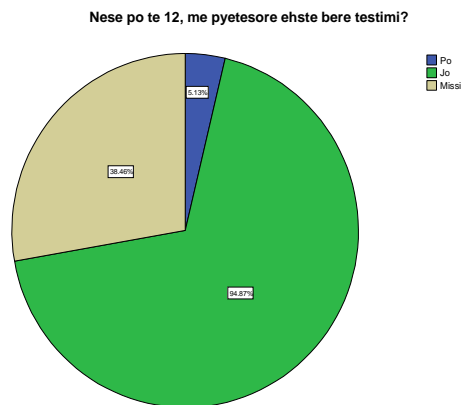


Chart 4. Consumers testing atorëve

To the question “Do you feel risked by integration in the EU, 87 % of businesses feel risked and require increased support from the state in the form of investments (89.6 %). Another form of support is easing credit conditions 60.4 % and 50 % improvement of technology.

The two surveys confirm our hypothesis that the creation of clusters is an effective way to increase competitiveness as competitive ability of agricultural and livestock products remains dependent on high cost, relatively low quality and standards of their shortage in the required level. Clustering will bring positive effects in the supply chain industry and the production of milk processing.

Manufacturers and processors find it difficult to organize themselves to benefit as the market of inputs and that of the products to be manufactured for the market and could fail to export. Difficulties encountered by farmers in this regard relate to the large number of their inability to reach agreement, their changes in economic conditions, lack of knowledge etc.

Lack of capital to invest in livestock and not only is one of the main factors that hinder development. The responses received indicate that farmers as the main sources of financing use personal savings, loans from friends of friends, little remittances and bank loans. This barrier is made to invest in modern technology and therefore the level of technology used is generally low. Apart from difficulties in securing capital is an obstacle in this regard and small size of farms, the difficulty to use land as collateral, lack of

knowledge that farmers have the resources and the technology supply the appropriate form of this technology for conditions their farms. Manufacturers have very limited knowledge about marketing and the importance of his time when not only want to sell produce in the domestic market but also to export.

5. CONCLUSIONS

In conclusion we can say:

- ❖ Albanian farmers are still not prepared today to face problems and to be oriented to the markets, especially international ones, because they lack the necessary information on the markets. Manufacturers find it difficult to know the conditions and requirements that have markets to which aim to go without being organized in associations or groups. Often lacking the model they should achieve, that must take into account to determine where and how to make investments, what would differentiate their production yield, of what quality will produce, you have the opportunity to sell their products not only in domestic markets but also outside it.
- ❖ Although a large number of farmers are trying to be market-oriented, scarce observed surplus of agricultural products and livestock. Where are the biggest surpluses there they have problems with securing markets for sale. Most of the production is sold in the markets of the region of Tirana. Products are not exported.
- ❖ Farmers in general are not able to cope financially and professionally challenges of opening the economy. Our farms compared with those of the region for more EU countries that are unconsolidated, less equipped and supported, less managed at the level of market demand etc.. Measure due to the small size and fragmentation of farms, so the lack of clusters that do not allow the use of efficient production methods, making their production is characterized by low yields, high production costs and relatively low quality.
- ❖ Producers - farmers find it difficult to organize themselves to benefit as the market of inputs and that of the products to be manufactured for the market and the less profitable for three exported. Difficulties encountered by farmers in this regard related to the large number of their inability to reach agreement, their changes in economic conditions, packet control they have over their production and production activity because this production comes from small multiple units operating independently, lack of knowledge etc..
- ❖ Lack of capital to invest in agriculture and not only, is one of the main factors that hinder development. Farmers as main financing sources using personal savings, loans from friends of friends, income and little immigration nea bank loan. This barrier is made to invest in modern technology and therefore the level of technology used is generally low.
- ❖ Apart from difficulties in securing capital is an obstacle in this regard and small size of farms, the difficulty to use land as collateral, lack of knowledge that farmers have the resources and the technology supply the appropriate form of this technology for conditions their farms. Manufacturers have very limited knowledge about marketing and its importance in conditions where not only want to sell produce in the domestic market, but also to export.

- ❖ This sector is accompanied by a series where the most important barriers are weak performance of the value chain characterized by a low level operations, high costs, lack of quality and lack of reliability. This results in a lower competitiveness of the sector.
- ❖ Analysis of the current level of competitiveness and joint activities shows that increased collaboration between firms, as an opportunity for the formation of cluster structures, is a proper responsibility of agro-processing industry facing challenges results from globalization of markets and increased consumer power in market.

6. RECOMMENDATIONS

The agribusiness sector is still facing many difficulties and challenges in the region of Tirana. Some theoretical and practical recommendations that will help in tackling the challenges facing this sector every day and increase the competitiveness would be:

- The only way for the development of the agricultural sector is the creation of larger farms. Through the organization of clusters, exchanges between them, the joint utilization of available equipment, land sales and rents, to consolidate the use and development of land market. In this regard can stimulate lending for purchase of land for sale to ease its procedures. To occupy land for agricultural purposes, the farmer can be excluded from taxation for a period of time, at least in the first years of its activity. Farmers should enter into contractual relationships or to form groups for the supply of raw materials and marketing of products benefiting lower prices for raw materials and greater security for the sale of their products. Rural markets should be seen by them as an important factor in this regard by increasing the quality of work and the information that was given to farmers, as DRBU public institutions, local authorities, etc., but also private associations that are created.
- Local governments need to play an active role and to cooperate extensively with manufacturers creating transparent and enforceable rules having previously taken their thoughts . Local government can invest in rural areas to create appropriate conditions for the warehouses or processing of their products, but these investments should be made very carefully. The aim should be to promote private entrepreneurs investment in these areas. Some of the facilitating conditions that local governments should create for farmers, associated with the way the management of rural markets that concerned themselves to participate in the management and operation, as well as the establishment of new centers in other municipalities of the region.
- A critical element is the implementation of government policies in the agricultural and livestock products, since in many cases the challenge is seen more in terms of policy implementation. Government support for the implementation of information management systems in agriculture and livestock industry seems to be very important. A concrete action could be to create certification bodies or centers of information system that can help ensure food quality, support and operations planning processes. The aims to support investments undertaken by manufacturers and processors of milk, meat, vegetables and fruit.
- Another important partner for manufacturers on their way towards increasing competitiveness are financial institutions. The Albanian economy needs support from banks and they should continue to support this important sector of the economy as it is

very necessary presence and their assistance to farmers. That they play their role properly is requested assistance in changing business practices of banks in rural areas such as promotion of the banks to be introduced to financial services in rural areas and perhaps the creation of an agricultural bank could be a suitable solution.

- Diversification of production and processing of milk is needed to reduce the high unemployment in this sector. Such a type of agriculture will increase household income, especially through increased production for the market. Diversification of production must be accompanied by improvement of infrastructure (mainly roads), marketing, storage and conservation of agricultural products, the promotion of cooperation among farmers to create optimal for the market economy, etc.
- Management must be committed to the maximum level to improve the efficiency and effectiveness of production capacity in order to benefit the advantages of economies of scale in production. Management should also focus on product development strategy to increase the range of items in a given product category. This must be done to narrow the space of imported products in the local market and that national.
- Increase the level of mechanization is one of the main ways to achieve the desired outcomes of agricultural production. But the existence of appropriate agricultural machinery poses a problem that can be solved with small marketing of agricultural equipment suitable for the local farming conditions. This marketing should be done by the public sector, while the private sector should be encouraged to create parks machinery that will provide services to their private rental.
- It is important that partners be involved actively and flexible enough to respond as soon as possible to market changes. This rapid response to changes in market requires the development of a joint strategy, strong collaboration, chain integration, communication and flow of activities and business processes.

REFERENCES

1. Brown, R (2001). Clusters, Innovation and Investment.
2. EU Commission, (2002) Regional Clusters in Europe.
3. Kume, V (2007) Manaxhimi strategjik, fq 148-177,311-329.
4. MBUMK. Vjetari Statistikor 2007, 2008, 2009, 2010, 2011.
5. MBUMK, Arkivi i Qarkut të Tiranës.
6. MBUMK, (2007) Strategjia Kombëtare për Zhvillim dhe Integrim, 2007-2013 Tirane.
7. Musabelliu, B.(2006) Koperimi dhe integrimi ne bujqësi.
8. Musabelliu, B, Meço, M (2003) .Kooperativat e fermerëve dhe organizimi i tyre.
9. OECD, (2005). Business Clustes Promoting Enterprise in Central and Eastern Europe.

ETHICS OF INTELLECTUAL PROPERTY IN BUILDING A RECOGNIZABLE IMAGE FOR COMPETITIVE ADVANTAGE

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Abstract: The code of Ethics and Business Conduct is a sublimite of rules of conduct in the workplace, that should be of assistance to all employees for their better functioning. Many companies have created an internal policy that describes the ethical behavior of the employees. These policies can be simple rules written in easily understandable language (statement of ethics of the company) or there can be developed detailed policies that contain a specific code of conduct (code of ethics of the company).

Knowledge and skills are valuable but we can not possess as we possess items. Innovative and creative ideas are at the heart of the most successful businesses. Ideas should be developed, so they can be transformed into innovative products and innovative services and to be successfully commercialized. No matter what kind of product produced or service offering, companies create creations that can be protected by industrial property right.

Investment in protection is much more than protection from potential competitors. It is a way of increasing the market value of the company and increasing the opportunities for profit. Strategic utilization of intellectual property as part of the industrial property can significantly improve the competitiveness of the company. As ownership of physical objects, intellectual property must be acquired and maintained. Therefore, the company should recognize the value of intellectual property and treated as capital.

Keywords: business ethics, intellectual property, company competitiveness

1. INTRODUCTION

When a new product enters the market and it has been successful in attracting customers, it is likely that competitors will sooner or later try to make a similar or identical product. In some cases competitors will exploit economies of scale, greater market access, improve ties with major distributors or access to cheaper raw materials for production, hence will be able to make the same or similar product at a lower price, it will be a lot of pressure on inventor of the original product or service. In some cases this will lead to the demise of the business of the original inventor, because it is likely that he made significant investments in new product development, while its competitors use the results and receive " free ride " on his creativity and inventiveness.

This is the most important reason why small and bigger businesses should consider to protect their creative and innovative work using the intellectual property system. This system provides exclusive rights to use the inventions, designs, bands, literary and artistic works and other intangible goods. The protection provided by intellectual property law provides some ownership of an invention or creative work that effectively limits the amount of copying and imitation by competitors.

Property of a company can basically be divided into two types: physical goods - which includes buildings, machinery, finance and infrastructure; and intangible goods - ranging from human capital and the knowledge and experience to ideas, strategies, business plans, brands, designs and other intangible fruits of the creative and innovative talents of the company. Traditionally, physical goods are responsible for the bulk of the company's value and are considered largely responsible for determining the company's competitiveness in the market. In recent years this has changed radically. Companies are increasingly realizing that intangible goods becoming more valuable than physical.

Today many of the leading companies in many sectors has entrusted the production of other companies focus almost solely on creating new designs and products and promote their brands (or brands) to attract new customers. While product design company in their production may be elsewhere. For these companies the value of their tangible goods can be extremely limited, but the value of their intangible goods (such as the reputation of their brand and / or being entitled to exclusive rights to key technologies and attractive designs), which are key to their success is very high.

The relevance of this issue is pressing and substantial and it is now a challenge to modern business and modern global environment managers in building a competitive advantage by maintaining ethical standards and concern for intellectual property. However there are certain controversies that result in ethical dilemmas regarding ownership:

- patents granted to copy , trademarks
- abuse of intellectual property systems
- robbery workers : proceedings of attracting employees who work in the competition in order to use the knowledge and skills they possess unfairly
- procedure of employing all the most talented people in a particular area , whether it is needed in order to prevent their employment in competition
- business and Industrial Espionage

2. HUMAN INTELLECTUAL CAPITAL AND INTELLECTUAL PROPERTY

The term intellectual capital means that the source of that capital is the intellect, knowledge in various forms. In practice we find two forms of intellectual capital as follows:

- material in the form of plans, designs, patents, licenses, databases, manuals, rules of procedures, corporate standards, software etc.. (explicit knowledge);
- intangible, which are stored in the head of staff (knowledge, vision, ability to work, problem-solving, the ability of running, culture, experience, etc.), and the literature is called hidden knowledge (tacit knoweledge).

Thomas Stewart, intellectual labor has described as " something that can not be touched , but it slowly makes you richer." The term intellectual capital (intellectual capital-IC) is used as a synonym for untouchable (intangible) assets of a company that significantly affect the success of the operation, in which the balance is found under the name of goodwill. Some authors when they talk about intellectual capital, under this term means the total available knowledge as intellectual capital of individuals, companies, regions and nations which the market turns worth.

In other words, knowledge that creates value is intellectual capital. Intellectual capital is crucial especially important when establishing, operating, maintaining, achieving business

profitability and the growth and development of the company. This suggests that intellectual capital is a valuable property as the individual and the company.

Theorists believe that the most important feature of the property is that the owner can basically use, or to exploit ownership, unlimited in accordance with his will and require that no one maliciously to use his / her property. Of course, there are legal restrictions on the use or exploitation of tenure.¹

Convention Establishing the World Intellectual Property Organisation of 14 July 1967² stipulates that intellectual property rights covering relating to: literary, artistic and scientific works, performances of artists - artists, phonograms and radio - television stations, the findings of all fields of human activity, scientific discoveries, industrial designs, trade and service marks, commercial names and designations, protection against unfair competition, and all other rights relating to intellectual property in the industrial, scientific, literary and artistic district.

3. INTELLECTUAL PROPERTY IN BUILDING COMPETITIVE ADVANTAGE

Innovative and creative ideas are at the heart of most successful businesses. These should be developed, to turn into innovative products and innovative services and successfully commercialize. No matter what kind of product produced or service offering, the company probably produces creations that can be protected by industrial property right. Investment in conservation is much more protection from potential competitors. It is a way of increasing the market value of the company and increase the opportunities for profit.

Strategic utilization of intellectual property can significantly improve the competitiveness of the company. As ownership of physical objects, intellectual property must be acquired and maintained. Therefore, the company should recognize the value of intellectual property and treated as capital. The value of intellectual property and its potential for increasing the value of the company and achieving greater profits is often underestimated by small and medium businesses. Intellectual property can generate profits through licensing, sale or commercialization of products protected by intellectual property rights, which will increase the company's value and profit:

- Intellectual property he owns the company may increase the company's value in the eyes of investors and financial institutions.
- In the event of a sale or merger, intellectual property can increase the value of the company or to be the primary or even the sole value of the company.

4. ETHICAL BEHAVIOR RECOGNIZABLE BRANDS OF THE COMPANIES

Nowadays, the ethical behavior of companies helps in creating a strong competitive position in the market and positive impact on their financial results, ie the realization of profits. On the other hand, as more companies realize profits on ethical behavior, the more we develop and nurture ethical norms and cultural relations. Companies with greater resources - regardless of the number of employees - have more ways available to express concern for the broader social and ethical issues and practice socially responsible behavior, and thus simultaneously serving the consumers to appreciate their employees and to gain

¹ Customs house measures for protection of intellectual property, Represent 5/2005

² Akimovska Polenak Mirjana, Anastasovska Dabovich Jadranka, Buckovski Vlado, Pepeljugoski Valentin, "Intellectual Property and Intellectual Property Rights", Skopje: Faculty of Law "Justinian I", 2004

the confidence of the general public. Thus, the relationship between respect for ethical norms and profitable operation is bidirectional.

Companies that are perceived by their employees as honest and of high integrity, have a much higher total average used steiholderite than companies precepirani as dishonest and without integrity. Recent research shows that even when using different measurement methods, companies that actively apply ethical and socially responsible behavior, have higher pre-tax income than companies that are focused on financial results. Accordingly, there is no conflict between ambition and financial results, on the one hand, and ethical behavior on the other. These results are accompanied by strong evidence that corporate concern for ethical behavior is part of the strategic planning for achieving greater profitability. Safe to conclude that in the present market conditions, more ethics is one of the aspects of management, aimed at achieving competitive advantage.

Because the definition of ethics as a discipline that deals with the study of what is right and what is wrong, quite naturally raises the question whether there is a difference between ethics and law. Of course, the law also applies to issues related to right and wrong . Therefore , it is true that there is significant overlap between ethics and law . In fact , the law is primarily institutionalization or codification of ethics in specific social rules , regulations and prohibitions . However , these two are not equivalent in meaning. Perhaps the best way to understand these concepts is to imagine how two areas of common intersection. Thus , I can freely say that ethics continues where the law ends.

Business ethics is primarily concerned with those issues that are not regulated by law or where there is no definitive consensus whether something is right or wrong. The discussion regarding the ethical dimension of certain business practices may result in certain legislation, once consensus has been reached on the matter. But for most issues that are of interest to business ethics , the law usually does not offer guidance. Because of this, often times, it is considered that business ethics are used for decision -making within the " gray areas " in the operation or when " there is a conflict of values."³

For many ethical problems in business is not always definite and completely " right" solution. Namely, when a decision is made, for which there is a conflict of values, many of the imposed questions and problems can be ambiguous and vague. As in the case of testing products on animals, using persuasive sales techniques that involve silence of certain relevant data, or exploitation of child labor, ethical issues in business, also controversial and suitable for the study of many different viewpoints. In this sense, business ethics differs from disciplines such as accounting, finance or engineering, where research is conducted on the specific facts and procedures and on the basis that is objectively correct decision making. The adoption of ethical decisions, usually, does not mean the decision is undoubtedly " one hundred per cent correct decisions", but making better decisions .

5. RESULTS EMPIRICAL RESEARCH

Scope of this research are ethical norms regarding intellectual sopstvenost present in companies and businesses, their respektabilnost to socially responsible behavior and the impact that they have on long-term survival and development of the company and its competitiveness. Synthesis of the data obtained will provide a solid basis for giving their contribution in terms of creating a model of culture in the company, whose main

³ Trevino, L.K. & Nelson, K.A. (2007). *Managing business ethics: straight talk about how to do it right*. 4th Edition. Hoboken, NJ: Wiley.

characteristics are ethical norms, with special emphasis on the ethics of individual ownership.

Basic (general) hypothesis is based on the claim: the existence of the ethics of intellectual property among companies positively affect their competitiveness. To prove this hypothesis surveyed employees and 15 managers in its sales on the territory of R. Macedonia 72 subjects were included.

In terms of how companies build reputation and gain competitive advantage through the ethics preference for intellectual property were asked several questions:

The question: Are you recognized as a company strongly and publicly practiced ethics of intellectual property rights in its operations? With the ability to answer: yes, no or do not know, the respondents gave their answers on Chart 1.

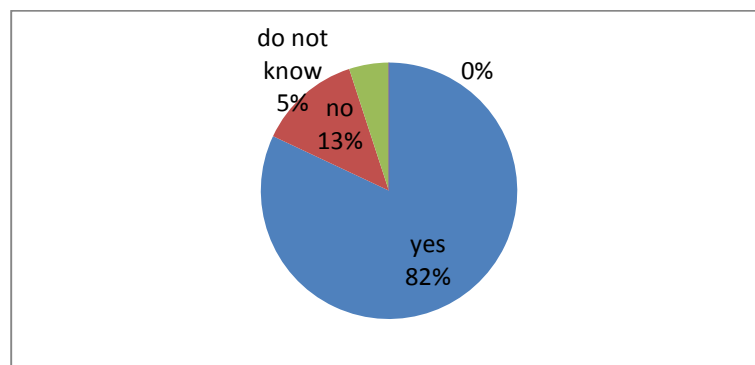


Figure 1. Are you recognized as a company strongly and publicly practiced ethics of intellectual property rights in its operations?

So, the issue 82 % of respondents reported positive, that is recognized as a company that practiced ethics in their operations, while only 5 % reported negative on this issue. 13 % of respondents answered - I do not know or had no opinion on this question .

This indicates that larger companies care about upholding the ethics of individual ownership in their work .

The second question of the questionnaire: Are ethics Intellectual property carries benefits for your company? respondents answered as follows: 43 % to 37 % did not know and 20 % responded with , not (Chart 2)

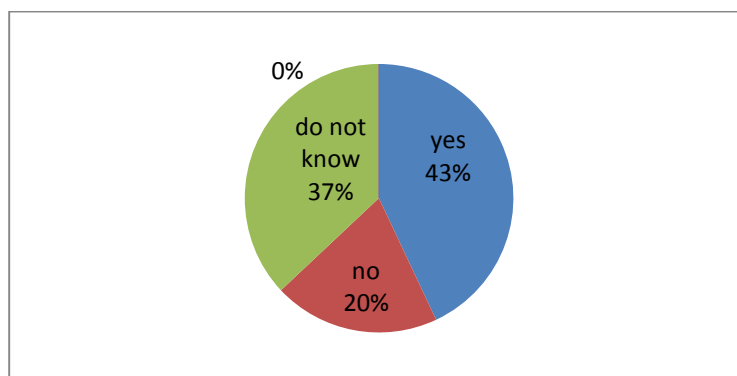


Figure 2. Are ethics Intellectual property carries benefits for your company ?

The analysis of this matter can be concluded that employee largely unaware of the value of ethics and intellectual property

The third question was about whether your managers apply the same principles , rules and methods of intellectual property protection to all employees? The answers to this question are given in Chart 3

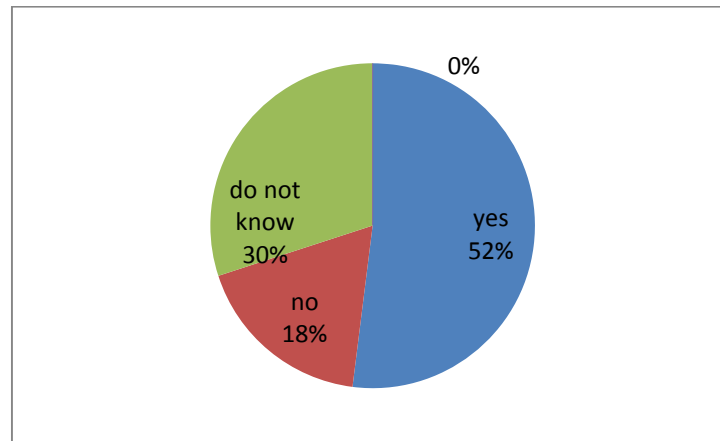


Figure 3. Are your managers apply the same principles, rules and methods of intellectual property protection to all employees?

According to the answers given are obviously recognizes that companies have a unified code of ethical protection of intellectual Custom. A large percentage of respondents who said they do not know , but doubt remains , do not know or do not want to answer the real question.

The fourth question was designed to discover whether the company has an organizational culture in relation to the basic issue of this paper, after which largely confirming and previous question. In response to whether the organizational culture in your company creates (LA) conditions for ethical and socially responsible behavior? " Obtained results are shown in Chart 4:

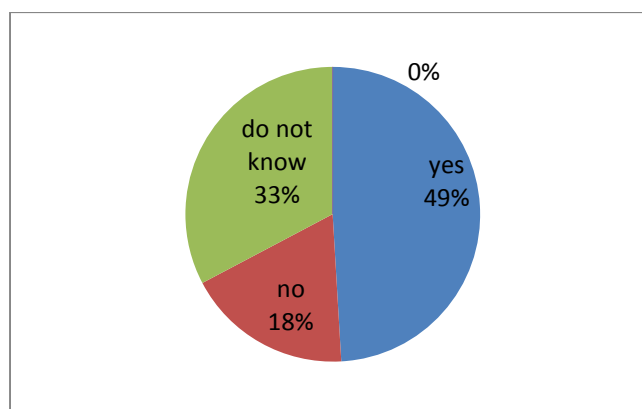


Figure 4. Does the organizational culture in your company creates (LA) conditions for ethical and socially responsible behavior ? "

With analysis these responses and comparison with the previous question can confirm the previous conclusion .

As an indication of what companies need to do to improve the current situation in the context of improving the ethics of intellectual property were analyzed to answer the following question: what is needed to improve access to a company to apply ethical principles in relation to intellectual property, and it can create some performance advantage for the company in the market? This question was asked to choose one of four responses: change in organizational culture, funding, training, resources, organizational change, individual and social ethics and more. Results are presented through percentages graph fifth

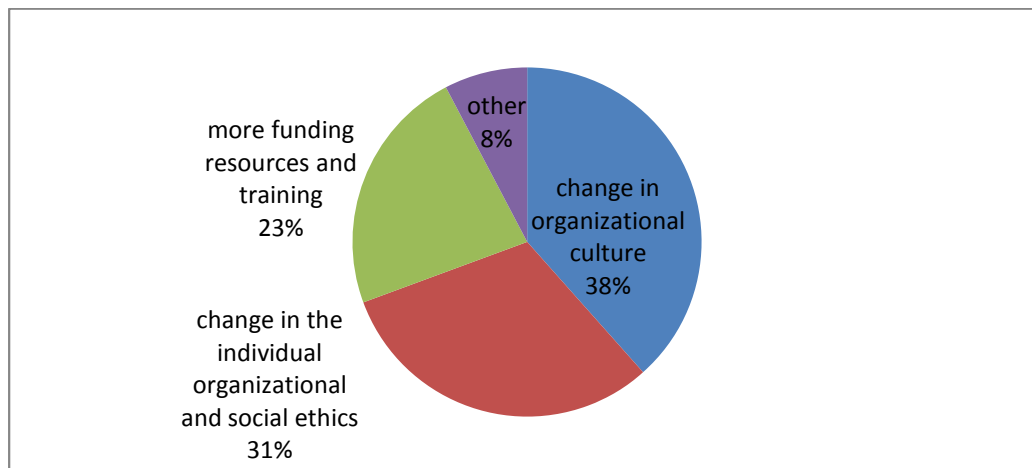


Chart 5. What is needed to improve access to a company to apply ethical principles in relation to intellectual property, and it can create some performance advantage for the company in the market? .

All options are affordable and have their place in this aspect, but most of the 38.5 % believe that the change in organizational culture can improve the company's approach to the application of ethical principles for intellectual property, 31 % believe that the change in the individual , organizational and social ethics need to change. A smaller proportion of respondents 23 % believe that companies need more funding, resources and training to be able to be active in this segment, and the other of about 7.7 % have other positions that could change the situation for the better.

6. CONCLUSION AND RECOMMENDATIONS

The perception of the company employees who work in a culture that prefers ethical norms, leads to increased performance in the company.⁴ The use of intellectual property as an added value or additional capital a business can bring sizeable gains, whether it is to win new customers, export to other markets, financing of new products and brands, marketing, licensing or preservation of trade secrets. As a result of technical and

⁴ Loe, T.W. (1996). The Role of Ethical Culture in Developing Trust, Market Orientation and Commitment to Quality. PhD dissertation. University of Memphis.;

information revolution and the development of service industries, companies are finding that intellectual property becomes more valuable than physical property.

Nowadays, the ethical behavior of companies helps in creating a strong competitive position in the market and positive impact on their financial results, ie the realization of profits. Safe to conclude that in the present market conditions, more ethics is one of the aspects of management, aimed at achieving competitive advantage. Concepts of ethics and social responsibility, a fair play in business, leading towards building a climate of trust that will allow you to maintain a balance between the demands of business and ethical requirements of all stakeholders.⁵

Ethical training, we believe it is necessary to conduct necessary when employing new staff for their preferred introduction to the ethical standards of the company and what is desirable and acceptable behavior at the working place for continuous information and education of employees regarding the importance and contributions of ethical behavior, companies can organize discussions and seminars in the field of business ethics. Such discussions or seminars can also inform employees in terms of new business policies, practices or procedures in companies, to praise, glorify or emphasize ethical procedures or to give some examples of past unethical behavior and undesirable consequences in the company or in some other companies. The information that is distributed to employees by maintaining such discussions or seminars, provide a clear understanding of the importance of preference and integration of ethical norms in operation and understanding of the contributions of ethical behavior and preservation of intellectual Custom.

Organizing, quality circles, helps in identifying and addressing ethical issues that affect the area of operation of the companies. Within the circles of quality, discusses the way in which we can improve the ethical atmosphere in the company, to explore the reasons for occurring ethical dilemmas or problems and propose solutions or course of action.

Developing a system of ethical supervision, using different resources and practices, enables monitoring of ethical or possibly no ethics culture in companies and provides the basis for prevention and taking further necessary action. Monitoring of employees in performing work assignments, conducting internal research, developing a system for reporting and organizing of quality circles, are practices that we believe help in monitoring the compliance or non-compliance to preferred ethical standards in the companies in terms of preserving the intellectual Custom.

Commitment to continuous improvement and development of ethical culture and ethical behavior are key prerequisites for creating a company whose business is based on high ethical standards.

Continuous promoting ethical behavior inevitably interacts and forms the basis for developing a system of total quality management in companies (Total Quality Management – TQM). Ethical norms in the respective direction and focus of this paper actually run through all the principles of "TQM" and their integral , essential and indispensable part. They must be constantly present and uncompromisingly applied in every aspect of "TQM". Only in this way, "TQM" will contribute to the continuous improvement of the overall aspects in their work, and to bring the system to achieve perfection and solid company competitiveness.

⁵ John R. Boatright: „Ethics and the Conduct of Business” PEARSON, Prentice Hall 2007

REFERENCES

1. Akimovska Polenak Mirjana, Anastasovska Dabovich Jadranka, Buckovski Vlado, Pepeljugin Valentin, "*Intellectual Property and Intellectual Property Rights*", Skopje: Faculty of Law "Justinian I", 2004
2. Brewer, L., Chandler, R.& Ferrell, O.C. (2006). *Managerial Risks for Corporate Integrity: How to Survive an Ethical Misconduct Disaster*. Mason OH: Texere/Thomson;
3. Buchholtz, K. Ann. Carroll. B., Archie. (2008). *Business & Society: Ethics and Stakeholder Management*. 7th Edition. Cengage Learning;
4. Business for Social Responsibility, <http://www.bsr.org>
5. Caux Round Table, <http://www.cauxroundtable.org>
6. Ch. Zimmerli, Walther. Holzinger, Markus. Richter, Klaus. (2007). *Corporate Ethics and Corporate Governance*. Springer. Verlag Berlin Heidelberg;
7. Collins, Denis. (2009). *Essentials of Business Ethics: Creating an Organization of High Integrity and Superior Performance*. John Wiley & Sons, Inc. New Jersey;
8. Cory, Jacques (2005). *Activist Business Ethics*. Springer Science + Business Media. Inc.;
9. Council For Ethical Leadership, <http://www.businessethics.org>
10. Cowton, Christopher. Haase, Michaela. (2008). *Trends in Business and Economic Ethics*. Springer. Verlag Berlin Heidelberg;
11. Crane, Andrew. Matten, Dirk (2007). *Business Ethics*. 2nd Edition. Oxford University Press, Inc. New York;
12. Dzhukleski Goce (2004). *Music piracy*, Skopje;
13. Daft, R.L., & Lane, P.G. (2008). *The Leadership Experience*, 4th Edition, USA: Thomson South-Western;
14. Duska, Ronald (2007). *Contemporary Reflections on Business Ethics*. Springer;
15. Ethics Resource Center, <http://www.ethics.org>
16. Fotov, Risto PhD (2006). *Small Business Management*. European universities. Skopje;
17. Ferrell, O.C. Fraedrich, John. Ferrell, Linda. (2009) *Business Ethics: Ethical Decision Making and Cases*. 7th Edition. South-Western. Cengage Learning;
18. Flynn, Gabriel (2008). *Leadership and Business Ethics*. Springer;
19. Jones, Campbell. Ten Boss, Rene. Parker, Martin. (2005). *Business Ethics: A critical approach*. Taylor & Francis e-Library;
20. Lawrence, Anne T. Weber, James. Weber, James S.J. (2007). *Business and Society: Stakeholders, Ethics, Public Policy*. McGraw-Hill Irwin.
21. Miceski Trajche PhD, (2009). *Management. Internal copyrighted material*. Faculty of Economics, Shtip;
22. Miceski Trajche PhD, (2009). *Health Statistics and data analysis*. University "Goce Delchev". Shtip;

22. Machan, Tibor R. (2007). *The Morality of Business*. Springer Science + Business Media. LLC;
23. Peterson, Robert A. Ferrel, O.C. (2005). *Business Ethics: New Challenges for Business Schools and Corporate Leaders*. M.E. Sharpe, Inc.;
24. Suklev Bobek PhD (2004) *Management*. Fourth edition. Faculty of Economics. Skopje
25. Sims, Roland R. (2003). *Ethics and Corporate Social Responsibility - Why Giants Fall*. Praeger Publishers. Westport;
26. Trevino, L.K. & Nelson, K.A. (2007). *Managing business ethics: straight talk about how to do it right*. 4th Edition. Hoboken, NJ: Wiley;

STRATEGIC PLANNING BY MANAGING STRATEGIC ISSUES AND WEAK SIGNALS IN THE ENVIRONMENT

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Abstract: The increasing turbulence in the environment causes reduction of the time framework that strategic plans are created in. Regardless of the tools and software solutions that are used in the process of strategic planning, predicting the future and the context in which the organization operates is complicated and difficult. Strategic managers have tried to solve the problem by creating more variant strategic plans, but practice shows that not even this is enough for the future of the organization and its competitive positioning.

Strategic managers find solution in a totally new concept that is based on managing strategic issues, i.e. true real time concept that is simple and falls into the existing structure and systems.

This paper gives an overview on the necessity and procedure for early identification of changes in the internal and external environment of the particular organization, but also the need for rapid response to change, and keeping in mind that strategic issues are condition or problem that can have a significant effect on the functioning of the organization and its future results [4].

Keywords: strategic planning, strategic issues, weak signals, environment.

1. INTRODUCTION

Today, organizations operate in highly complex and frequent changes in the environment, which in turn impose new ways in the process of strategic planning. The action of general knowledge and new scientific disciplines, particularly the impact of technology, the growing dynamism of production factors and intensive exchange of experiences and ideas, influence rapidly changing scale of priorities and criteria [6]. In such conditions, each organization needs to find its own formula how to succeed in the market, to maintain and improve its competitive position in the environment. It is not at all a simple task, precisely because of the existence of many factors on which depends the positioning of the organization in the market, i.e. its success. When we add the changes that occur in the attitudes and perceptions of the customer, then the organization often does not know which of its actions or decisions that it regularly undertakes/makes contribute to its success or lead to failure of the organization. Therefore, for the successful functioning of the organization, it is essential to take the necessary measures and procedures that will enable well informing about developments in the market, and also the security risks of the organization will be reduced to the lowest possible level [8]. In such a way, by constantly monitoring the environment, especially the weak signals that may seemingly have no impact on the organization performance, we lessen the incidence of "cheating" and using outdated strategic plans and avoidance of the syndrome "success-begets failure" (once

formulated strategic plan that has had important effects on the organization, does not mean it will now bring the same effects, precisely because of the different contexts in which to implement the plans). Only in this way strategic planning together with operational management will gain primacy of the real milestones for the organization providing its maximum effectiveness and efficiency.

2. STRATEGIC ISSUES

Strategic planning is related to the design of the future. Organizations should not wait for the changes in the environment to occur, and then respond to them. Therefore, the most important reason why we are assessing the environment is the need for analysis of the likely potential impacts on the organization [5]. Organizations, considering its position in the market, are needed to choose appropriate indicators that will follow. In this direction, the organization should not focus on too broad analysis of the environment, but the analysis should focus on those elements that would be considered to have the greatest impact on future strategy and organization development [9]. Ansoff and Hayes point of view is that the main consideration in strategic planning should be directed to adaptation to external changes by internal configuration of the organization. In this sense, addressing emerging problems imposed by the external environment is of primary character, and implementation and control are secondary activities [1].

When formulating organizational strategies or when reviewing them, organizations should try to answer a number of key issues including this primary:

- Where is the organization now?
- Where do we want to get, which is our desired position?
- What should we do to get there?
- How to do it?

To answer these questions we need to take several steps including:

- Continuous analysis of the business environment, technical-technological development, economic, social and political trends by using tools for analyzing the general external environment;
- Assessment of trends, estimated as key strategic issues by the team for strategic planning by using Kotler matrix of opportunities and threats [2].

To obtain this information, in recent times, the work position business observer is more widespread as well as the application of methods of organizational intelligence, whose main goal is to enable the management team to make proper assessment of market conditions and from the decisions made to create high competitiveness strategy for the organization [8].

Good insight when it comes to the necessary information about "key intelligence points" according to which the organizational strategy will further be adopted or revised gives a survey conducted in 18 countries in 2005 by the "Global Business Intelligence Alliance". The order is as follows:

- The first is the data and information from the competition with 28 %;
- The second is the data and information on the industrial area in the particular acting area of the company with 25 %;
- Then follow the data and information about the end users with 24 %;
- Information about global trends with 9 %;
- Information about certain states with 3 %;
- Information about consumers globally with 3 %;

- Information about the industrial environment with 3 % and
- Other information accounts for about 1%.

All information provided is necessary to be considered in terms of its importance to the organization by a team for strategic planning, i.e. to be categorized in the following categories:

- Information and issues that may cause crucial effects on the organization and which require exceptional attention;
- Information and questions that have lower rank of urgency than the first and whose solution can be extended, but not forgotten;
- Issues that are not urgent, but will be constantly monitored;
- Issues of the “false alarm” type, but with a basis for future consideration.

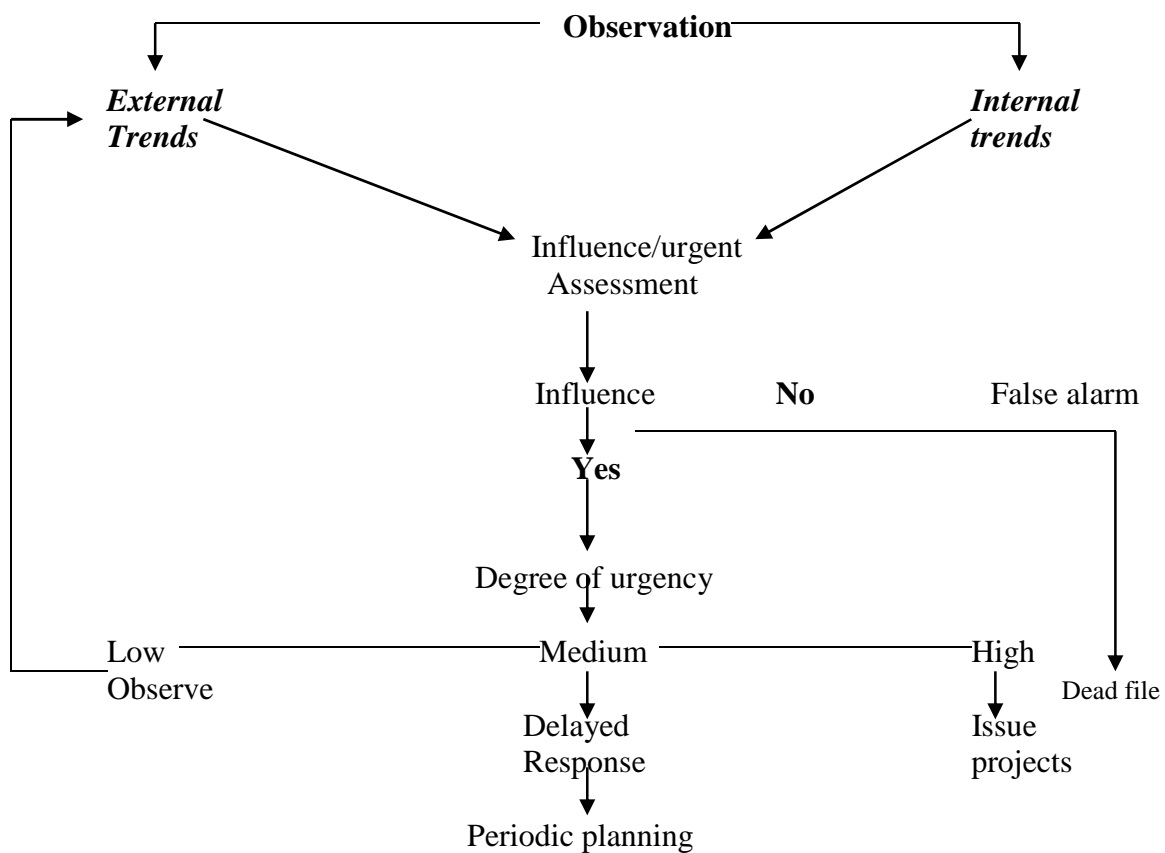


Figure 1. Environment analysis and assessment of the degree of urgency [2]

2.1 ENVIRONMENT AND THE IMPORTANCE OF WEAK SIGNALS

One of the most important segments in the strategic planning process is to determine the current state of the organization in the market. But the following day the organization's position can be changed. It is therefore important for the strategic plan not to be seen as a document that will have no need to change in the next three years, but as a basis for the action of the organization with an opportunity for review in accordance with the changes in the environment.

In this sense it can be concluded that the analysis of the environment is an ongoing process, which aims to predict changes, which are possible to happen, but also to detect changes that are already occurring. It means a continuous process of monitoring changes in

the environment, often with long-term goal, as well as early warning of significant changes, and not just the obvious ones, but also the "weak signals" that announce a change, which in turn is a sign that plans and strategies should be modified. Anticipating and minimizing weak signals can often be a dangerous occurrence, given the fact that the variability of the environment and the development of the technology in a short time interval can turn weak signals into visible and strong, and the organization at that point may have insufficient capacity to undertake certain strategic actions in response to this change. The following table illustrates the areas of possible response of the management.

Table 1. Concept of management using weak signals [2]

Answer	A	B	C	D	E	F
Strength of signals						
I Threats/opportunities are felt	X	X				
II Source of threats/opportunities is known	X	X	X	X		
III Development of threats/opportunities is correct	X	X	X	X	X	
IV Reaction is strategic and understandable	X	X	X	X	X	X
V The result of the action is predictable	X	X	X	X	X	X

Organization response

- A monitoring of the environment
- B identifying the relative strengths and weaknesses
- C reduction of external strategic sensitivity
- D increase of the internal strategic flexibility
- E capable plans and answers
- F responses and action plans

The analysis of the possible answers that the organization can give during the identification of weak signals, can conclude that they range from simple regular monitoring of the environment to creation and implementation of an action plan in response to opportunities and threats.

3. RESEARCH METHODOLOGY

The environment has a huge impact on organizations through a series of specific features. Therefore, before the organization establishes priorities and plans for future operation, it needs to analyze the current situation in the field, i.e. activity in which it belongs. This analysis should include an assessment of current socio - economic situation in the country, a general analysis of the specified area or branch, collecting information on persistent trends, problems and shortcomings in the actual area, separating the critical issues that the organization faces, and influence the fulfillment of the goals. In this direction is the primary objective of the paper, which is to see how much the SMEs in the strategic planning process analyze the environment. In fact the research sets the following research aim:

To see the opinion of managers in organizations about the importance of information needed for the process of strategic planning.

A questionnaire is used as an instrument, which has been conducted in 30 organizations. Managers of highest managerial leadership have filled out the questionnaire. The organizations are within small and medium sized organizations, whose activity is manufacturing and service trade.

3.1 RESULTS AND THEIR ANALYSIS

To get a picture of how much the SMEs consider strategic planning as an important factor contributing to the successful positioning of the organization in the market, this question has been asked: "How important do you hold the quality strategic planning for the future of your organization?" The results of this question are given in the table below.

Table 2. Relation of strategic planning and the future of the organization

	Manufacturing		Service trade	
	Frequency	Percent	Frequency	Percent
Very important	7	70,00	13	65,00
Important	3	30,00	6	30,00
Not important	0	0	1	5,00
Not important at all	0	0	0	0
Total	10	100,0	20	100,0



Figure 1. Summary display of the question "How important do you hold the quality strategic planning for the future of your organization?"

The results presented in the table above and in the summary chart 1, point to the conclusion that organizations from the manufacturing and service sector share almost identical opinion that good strategic planning is particularly important for the future of the

organization. Given that the survey has been conducted among SMEs, we are glad that this kind of organizations which sometimes have a small staff, as a significant segment of the organization consider the formulation and revision of organizational strategy.

The question "Does strategic planning often "rely" on your intuition?" the following results were obtained:

Table 3. Intuition in strategic planning

	Manufacturing		Service trade	
	Frequency	Percent	Frequency	Percent
Always	4	40,00	2	10,00
Often	4	40,00	14	70,00
Rarely	2	20,00	3	15,00
Very rarely	0	0	1	5,00
Total	10	100,00	20	100,00

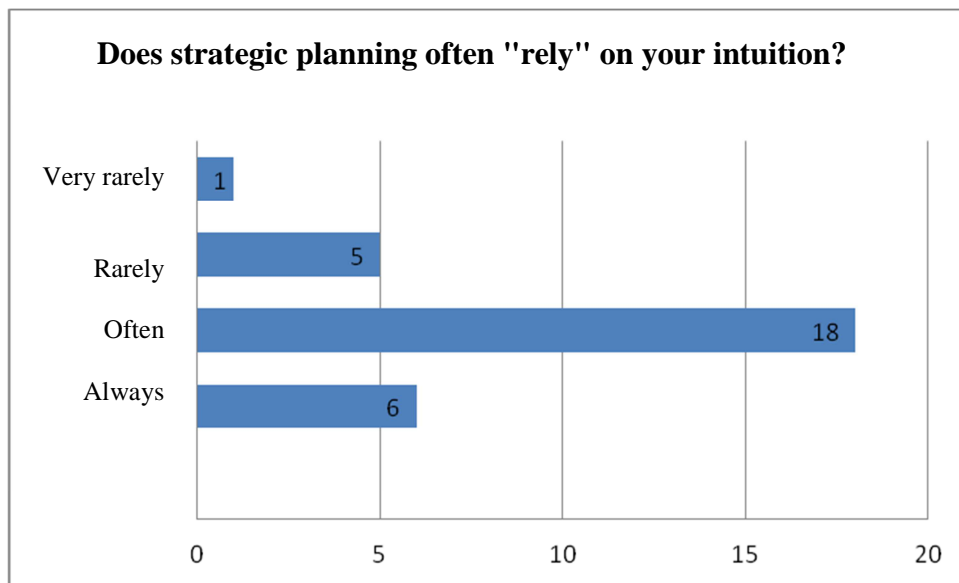


Figure 2. Summary display of the question "Does strategic planning often "rely" on your intuition?"

The results presented in the table and graph above, point to the conclusion that very often a lack of information about the special and general environment, makes managers rely on their own intuition. From the research conducted so far it has been confirmed that very few organizations have a person in charge of analyzing the environment, as well as the application of specific software programs for processing and storing the received information into databases to be used in the strategic planning process. Hence, it can be concluded that in the absence of sufficient information, managers and teams for strategic planning rely on their own intuition.

To the question "Do you believe that with accurate and timely submitted information the organization can gain an advantage over the competition?" the results are given in the table below:

Table 4. Relation between information and competitive advantage

	Manufacturing		Service trade	
	Frequency	Percent	Frequency	Percent
Yes	9	90,00	16	80,00
No	0	0	0	0
Probably	1	10,00	3	15,00
No opinion	0	0	1	5,00
Total	10	100,0	20	100,0

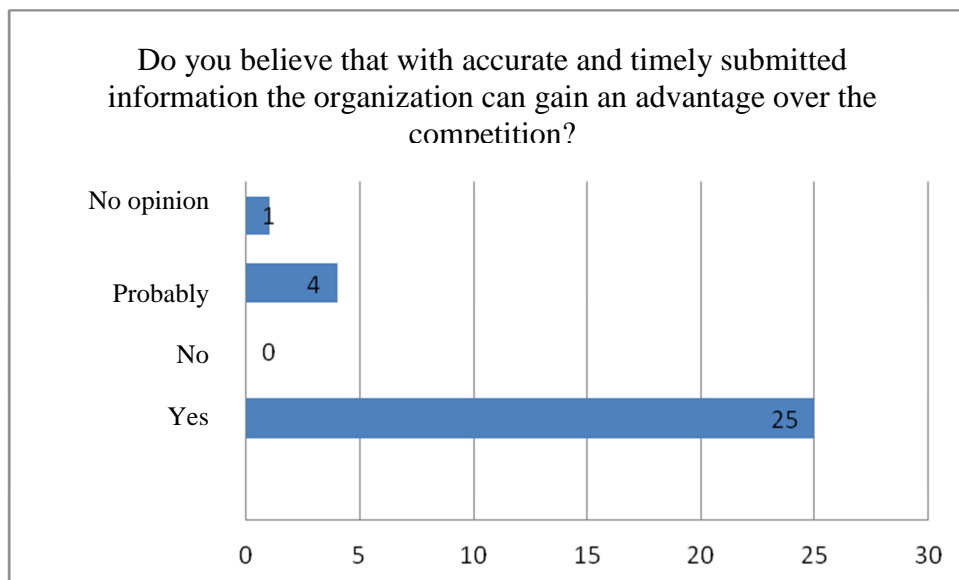


Figure 3. Summary display of the question "Do you believe that with accurate and timely submitted information the organization can gain an advantage over the competition?"

The results presented in the table and graph above point to the conclusion that managers believe that to achieve competitive advantage in the market they need timely and accurate information. The answer to this question in fact gives the answer to the research question, and it can be concluded that of primary importance for achieving competitive advantage in the market is the organization to track the changes in the environment, and the information obtained from such activity to be taken into account in the formulation of strategic plans or in their review.

4. CONCLUSION

One of the basic premises in the strategic planning process is the involvement of employees in the process of creating the future direction of the organization. Researches done in the field and placed in the literature provided the following results: On average

95% of employees in the organization do not know or do not understand the organizational strategy" [3]. Then clearly we ask the question how well you can implement a goal that is not known. The employees cannot only contribute the planning process with their ideas, moreover their involvement can lead to another dimension, and that is increased motivation and commitment to achieve organizational goals.

By analyzing the results of the survey pushed another recommendation to managers of SMEs. The sooner introduction of practice to train experts for business monitoring and development of business intelligence is a basic prerequisite for the integration of the Macedonian organizations in the emerging trends of strategic management, because the decisions that will be formulated with the strategic plan will determine the future and the viability of the organization [7].

REFERENCES

1. Ansoff H. I, Hayes, Declerk P. R., Naves L. R., From Strategic planning to Startegic management, John Wiley & Sons, 1976;
2. Ansoff I., McDonnell E., Implanting Strategic Management, Prentice Hall, 1990, pp. 19-20;
3. Kaplan R.S., Norton D. P., The office of strategy management, Harvard Business Review, 2005, 83:8p.
4. King, W.R., Issue Management, u Strategic Planning and Management Handbook, ed., by King, W.R. and Cleland, D.J., New York, 1987, according to: Milisavljević, M., Todorović, J., Strategic management, University of Belgrade, Faculty of Economy, Belgrade, 1991., pp. 19.
5. Kotler Ph., Marketing management: analysis, planning, implementation and control, Prentice-Hall, New Jersey, 1988;
6. Simonovski Z., Management and decision-making in companies, 2010, pp.23;
7. Soluncevski M., Stefanovska L., The role of information in the strategic management process in terms of globalization, Proceedings of the Fourth International scientific conference, International Dialogue: East - West Corporate International Slavic University, 2013, pp. 577;
8. Vasilevski G., Impact of globalization on organizational competitiveness through the prism of organizational intelligence and corporate security, Proceedings of the Second International Scientific Conference, BAS Institute of Management Bitola, 2013, pp. 698 – 712, www.basim.edu.mk;
9. Zivkovic Z., Jelic M., Popovic N., Muhic S., Strategic management, DSIP – Bakar, Bor, 2004, pp. 55;

MANAGEMENT OF ENVIRONMENTAL SECURITY IN LIBYA

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Abstract: Ecological crisis is the result of large global changes in production, consumption model and growth, with parallel loss of basic human values. Such human life was brought out of balance with nature. Environmental protection encompasses virtually all segments of society and it is for these reasons it is necessary to engage all, as researchers (multidisciplinary approach), and the relevant ministries, businesses, local governments, etc. How best to manage ecology in Libya while preserving the environment, and with appropriate to the development of society is an issue that is set before all social factors. Water as the first oil and gas as well as the following is the two most urgent Libyan environmental problems. Obtaining energy upon their wind energy and solar energy are a challenge for environmental management. The national policy of environmental protection Libya should make its products more attractive for export. Libya has become an attractive destination for ecotourism. That is very commendable that Libya wants to persevere in efforts in preserving the environment, and highlights the importance of preserving the Mediterranean belt.

Keywords: Libya, Ecology, Environmental protection, Management, Energy

1. INTRODUCTION

During the last decades, our global environment is under serious threat from the consequences of human activities that lead to a comprehensive water and air pollution, depletion of natural resources such as forests and fish stocks, destruction of plant and animal species and their habitats, and the growing threat of global warming. Despite numerous laws in the field of environmental protection, Libya faces major environmental problems, due to non-compliance with laws passed, and because of the lack of long-term strategies in all areas of conservation of natural resources. United pollution of natural resources, primarily water, soil and air in Libya, and the fact that climate changes occur much faster than predicted indicate the need for this area included in the priorities in the strategy of scientific and technological development. The application of research results in order to improve the environmental situation of the utmost importance for the future development of the country. It is crucial and establishing stronger cooperation between scientific research organizations and users of research results. Environmental protection encompasses virtually all segments of society and it is for these reasons it is necessary to engage all, as researchers (multidisciplinary approach), and the relevant ministries, businesses, local governments, etc. Priority research related to the issue of environmental protection and climate change can be grouped into the following main parts:

- a) Development of technologies to protect the environment,
- b) Scientific monitoring of ecosystems,

- c) Integrated management in the field of environmental protection (water quality, air, land) and the protection of biodiversity,
- d) Hazards of the environment and ecosystem risk assessment,
- e) Researching climate change and their impact on the environment - monitoring of impacts, adaptation and mitigation.

An increasing number of multidisciplinary studies and the team at the same time engage the natural-mathematical, technological but also social and humanistic disciplines. Complex problems as a rule require a holistic approach, where the strict boundaries of scientific disciplines must retreat before demanding objectives set before the scientific and economic community. Such an approach is still an exception in Libya. Rows are teams that include several social sciences, let alone unite the entire spectrum of science and technology. However, issues such as environmental protection, food safety, energy efficiency, biomedicine, etc. can not be solved without the contribution of social sciences and humanities.

2. ENVIRONMENTAL SECURITY IN LIBYA

In Libya, a national environmental policy makes its products more attractive for export. Libya has become an attractive destination for ecotourism. That is very commendable that Libya wants to persevere in efforts in preserving the environment, and highlights the importance of preserving the Mediterranean belt. The nation is now faced with the challenges of building modern institutions, repairing infrastructure, and diversifying the economy, according to the report of the IMF. [1] The aim of this study is to identify opportunities for EGA (Environmental General Authority Directorate-General for Environmental Protection) and other decision-makers to provide guidelines for environmental management in Libya and moves towards sustainability. The main objectives are to safeguard Libya main natural resources, water, oil and the Mediterranean area. The preservation of these resources will be a catalyst in Libya of implementing a stable economy, a thus improving the quality of life. [2] Water as the first oil / gas as the next two most urgent Libyan problems. It is the fastest manageable rapid removal of diesel pumps, water desalination and electricity generation using wind energy and solar energy. One of wind power plants in Libya from 25 MW i.e. will save 80,000 tons of CO₂ emissions annually. [3] Virtually all (about 96 percent) Libyan fresh water is underground; mostly (75 percent) is derived from GMR (Great Man-Made River). The average rainfall is only 28 mm / yr. Most (95 percent) of Libya receives between 0 and 25mm/yr precipitation. Surface water contributes 2.3 percent, while the recycled wastewater comes 0.9 percent. Water from desalination is about 0.7 percent. Agriculture consumes 3,800 MCM of water per year, or 85 percent of the Libyan translation of fresh water. Urban settlements consume about 400 MCM, or 11.5 percent. Economy, including in the oil sector consumes about 150 MCM, about 3.5 percent. There are two starting points in the Libyan pursuit of stability:

- a) Choice of how fresh water is pumped and how to run desalination, either fossil fuels or solar energy,
- b) Identification of the maximum possibilities of conservation and utilization water, agriculture, Libya's largest consumer of water.

Libya is in danger caused by climate changes, due to the current severe water scarcity and high temperatures and due to depression of the soil in relation to the Mediterranean Sea. The consequences of that can cause climate change are as follows:

- a) Climate change may reduce the amount of rainfall, increase the intervals between rainfalls and shorten the duration of rain. For dry Libya will become even drier. The need to conserve water will become even more necessary.
- b) The deadly heat waves around the Mediterranean, who in 2003 was responsible for the deaths of 18,000 people. It is anticipated that the number of extremely hot days increased by 200-500 percent in the area of the Mediterranean. [3] High temperatures will up the degree of evaporation, and contribute to the greater fertility of the land. Higher temperatures reduce the organic matter in the soil, reducing their permeability and water holding capacity. Permeation rate decreases, leading to increased swelling and less availability of moisture in the soil profile. It undermines the already fragile Libyan agricultural production. [4]
- c) A large part of Libya is low relative to sea level. A significant increase in the level of the Mediterranean could lead to flooding of seawater inland belt. Storm surges will increase significantly. A large part of Libyan agriculture is above the lowest point of the mainland, but could be in danger. Management and protection of sensitive landscapes depression coastal belt would be a smart move.
- d) Higher temperatures and less rain make certain that food production will become more difficult than it is already. Higher temperatures increase the need for water for crops and reduce yields. Quality pasture will decline, so that livestock production can be stopped. Only the rich will be able to afford cattle. The water in the wells is decreasing at an alarming level. This supports the argument already pointed out, the need for increased irrigation and continuous investment in water conservation. Libya has to adapt food production to a maximum of withstanding climatic changes. Per urban food production, which is mainly based on exploiting of waste water, will probably become even more cost-effective when the cost of climate change rested to feel stronger.
- e) To the extent that the temperature is rising and droughts become more severe, food prices will rise along with prices for water. Price of energy required for cooling and energy in general will also increase. Organizations and networks organized in the fight against poverty must conscientiously work on finding solutions that need to protect the poor from climate change.

In addition to oil depletion, the main limitation of the use of oil has just climate change. One can argue that climate change may not necessarily represent more directly limit of Libya exhaustion of reserves of this energy. Opinions differ on this crucial point, because oil reserves are still not exactly known and the rate of extraction are permanent. Oil stocks still look great, and the rates of extraction are still relatively low. On the other hand, the risk of climate change is intensifying rapidly. Stabilization of climate change already looks like it has become imperative, not a choice. Governments running out of time to solve climate change to be able to avoid the worst effects of temperature increase, according to the UN report. [5] It takes an organized international action to reduce emissions of harmful gases. Libya should be primarily to tackle the binding international agreements, rather than the problem of depletion of oil reserves. [6] An increasing number of scientists are warning that the use of oil to be constrained by international agreements to prevent climate change

from the side of the use of oil. Convinced that the adoption of policies to slow climate change is inevitable, operators who are responsible for the generators that run on hydrocarbon plant, reviewed structural plans, various fund managers are investing billions of dollars in projects to combat climate change. It discusses the introduction of extra taxes for corporations in their work broadcast these harmful gases. [7] Corporations that have a vision of the future adopt a strategy for neutralizing hydrocarbons. If Libya fails to accelerate the transition to a solar energy source for the production of exports and ensure sustainable water supply, the faster its citizens feel the improvement of living conditions. Libya may be the world leader in this regard, if so desired.

3. LIBYA MEASURES FOR REDUCING EMISSIONS OF GREENHOUSE EFFECT

The government can limit the consumption of hydrocarbons in three ways:

- a) The standards or regulations,
- b) Raising the price of GHG (GHG - GreenHouse Gas, mainly carbon dioxide from the combustion of hydrocarbons, which cause climate change)
- c) The removal of subsidies. [8]

Adopt standards and regulations related to increased use of solar energy, a predetermined speed to reduce the emission of GHG gases. Some experts claim that the new standards set by the government for emissions less effective than investing the funds for this purpose. However, given the interests and concerns of society in the removal of waste, the standards will be necessary, though not sufficient, as long as the market begins to strictly reduce waste. With urgency is directed all electricity generators to:

- a) Accelerate the use of renewable energy,
- b) Determine that the increase in the use of solar energy to be determined specific rate per annum,
- c) Implement energy efficiency codes in the construction of buildings and making the air conditioner,
- d) The introduction of appropriate standards to reduce fuel consumption in pumping stations and vehicles,
- e) Accelerate the elimination of the application of ordinary light bulbs with bulbs, a switch to fluorescent and LED lighting,
- f) Establish standards through increasing hydrocarbon prices and the introduction of subsidies for renewable energy,
- g) Increasing energy prices seems the most effective way to reduce carbon dioxide emissions. The best way to get the proper price is just the tax on emissions of greenhouse gases. [9]

Scientists working on climate change argue that the concentration of CO₂ must be kept at a safe level of 350 ppm, that there would be any possibility to meet international goals to keep the increase in average temperature below 2°C annually, while concentrations above 400 ppm put the planet on a global level warming, which is considered "dangerous " by the international community. Stabilize the level of atmospheric CO₂ concentrations at a safe level of 350 ppm (2013 levels are 395 ppm and rising), and rates of hydrocarbon emissions

of gases that far to the greenhouse effect will reach the range of \$ 5 to 30 \$ per tonne by 2025, a 20 to \$ 80 dollars in 2050. [10] A growing number of large corporations that call on their governments to immediately enact "CAP" that is upper limit for emissions and then divide firm's licenses for the program and one of the licenses sold at auction. Then the company can trade rights to emit CO₂ and other greenhouse gases. This scheme is popular among politicians because they can propagate as a market mechanism, and hide the fact that it is a tax on CO₂ emissions. Major emitters, such as auto, oil and chemical companies are among the new members of the Climate Change Partnership (Partnership for Climate Change). [11] It is recommended to determine the tax to help curb carbon dioxide emissions. All proceeds will stay in Libya, and to protect the poor and vulnerable sections of society from taxes on hydrocarbons with lifeline measures. Subsidies will be needed temporarily to encourage transition to renewable energy. The main subsidy to encourage solar electricity generation. Thus electricity produced will be used, among other things, as a fuel for water pumps, desalination and ensure a stable water supply. Then solar power should quickly become the most profitable and safest export goods Libya. EU countries (such as Germany) who want to become independent from hydrocarbon fuels may well invest their own resources in accelerating the Libyan transition on solar electricity. [12] The private sector has an important role in this transition. Manufacturers of solar generators could get affordable loans at the expense of generating solar electricity to be exported from Libya.

4. CONSERVATION OF THE MEDITERRANEAN REGION

Of the three Libyan most valuable natural resource the sun, water, hydrocarbons, in the Mediterranean region, the first is in excellent condition, water and hydrocarbons in relatively good condition. Third, the Mediterranean area is in poor condition, which is deteriorating rapidly. [13] Although the majority of Libyan oil comes from the inside, there are a lot of new activities at sea. Within five years there could be a migration of oil from land to sea. Sensible coexistence between oil and fishing is the goal. If oil producers operating in accordance with the regulations, and fishing and eco-tourism can thrive undisturbed. Currently, less than 1 percent of the Mediterranean Sea is protected. EGA (Environmental General Authority) is trying to preserve the Libyan coast without pollution. [14] The main way to achieve this is through a process of continuous assessment of the state of the environment. All new projects of oil and gas at sea must be in accordance with the law. EGA can contribute to it greatly, ensuring that all oil companies must obey the law. The priority here is work upstream (inland part) and ensuring cooperation between local authorities, private companies and civil society. Later EGA can implement the method name - and - shame blaming on a systematic basis. One model of such a process is the TRI (Toxics Release Inventory). It is a publicly available EPA database in the United States, which contains information on the release of chemical waste and other waste management activities from the annual reports submitted by certain industry groups, and federal institutions in the United States. This list is based on U.S. law, Emergency Planning and Community Right - to- Know Act of 1986 and the Pollution Prevention Act of VAT in 1990. Nowadays everyone in the U.S. can enter their ZIP code and get data from the database that are most risky pollutants close to them. Bays Sirte and Cyrenaica were hotspots that require special protection:

- a) EGA must be controlled by coastal construction (including hotels), industrial pollution, intense pollution from agriculture and oil spills,
- b) Ensure that the collection and treatment of waste water is done efficiently,
- c) Avoid erosion of the coast with the help of the design and construction of appropriate infrastructure,
- d) WWF (World Wildlife Fund) proposes a ban on fishing nets in the 13 priority areas in the Mediterranean. [15]

Within SAP UNEP / MAP (United Nations Environment Programme), EGA has prepared National Action Plan in line with the national strategy, where the proposed priority actions to be implemented by the year 2010:

- a) Maintenance of waste treatment plants and construction of new cities: Azzavia , Janzur, Tripoli, Misrata, Sirte, Benhazi, Derna and Tobruk (the estimated cost of 109 million Libyan dinars for funding under the National Programme for water and waste water),
- b) The creation of sanitary landfills for cities: Azzavia, Janzur, Tripoli, Misrata, Sirte, Benhazi, Derna and Tobruk. Improving the collection of solid waste in cities (this will cost 42.75 million Libyan dinars),
- c) Create a regional area for treatment and disposal of hazardous chemical waste (cost 7 million Libyan dinars; funding from the Government),
- d) Introduction of standard specifications for the release of industrial waste (estimated cost of 1.5 million Libyan dinars; funding from the Government),
- e) Repair and modernization of equipment for reducing air pollution in concrete industry (cost of 49 million Libyan dinars; funding from various sources),
- f) Central Laboratory for Environmental Protection (cost of 39 million Libyan dinars; funding from the Government),
- g) Environmental education and awareness (cost of 43 million Libyan dinars in funding from the Government),
- h) Capacity building program (estimated 33 million Libyan dinars; funding from the Government. [16]

5. CONCLUSION

People only recently realized that the question is still coping strategies different attitude towards the environment. In fact, the environmental crisis is just part and parcel of the great civilization events. First of all, a profound crisis of a mode of production, consumption patterns and economic growth, while the loss of basic human values. That life took a man out of balance with nature, of which he is a part, and it can restore fundamental socio-cultural alternatives in production and consumption patterns. We can say that mean adjustment of production to the limits of nature, but in a way that does not occur to her that devastation. It does mean that we must limit the exploitation of natural resources, forests, minerals, water, and mining in a way that would be detrimental to the human future. Consequently, at each step, choose things that will not damage the ozone, that his "wounds" that 2000th year was of 30 million km². According to the ideas and plans of signatories to the Montreal Protocol, is whether mankind complied with further instructions that could happen 2050. World has to recover from the severe damage that have caused major changes in the country, must be taken first on your habits and then

borrowed. People just his good conscience can preserve the nature of further and bigger catastrophe, which could lead to global destruction of nature around us. All countries have a great responsibility and must take advantage of the potential that they have, which will give results not only conserve energy, but also money, and ultimately the planet. The ecological crisis is a large scale has not yet occurred, if humanity still has a will there is a way to live with the existing natural resources. The system of collection and treatment of hazardous waste which has a market value of which is partially developed, but the control of the system is limited. Separate collection and treatment of hazardous waste which has no market value has yet to be developed on the basis of precise development plans and a clear definition of the rights and obligations of participants in the system. One of the main drivers of sustainable and proper waste management is to ensure sufficient funds for operating expenses are funded by citizens who are customers of Waste Management. Recycling in certain segments, such as batteries for vehicles has reached about 80 percent, but the overall rate of recycling of household waste is still low and is estimated to be only about 8 percent. In Libya there are no facilities for incineration of certain types of waste, and a small number of plants for processing of waste generated during the production of fertilizers. It is urgent to introduce primary separation of waste immediately at his disposal, as well as procedures for preliminary processing in the regional waste sorting facility , in order to obtain material for recycling that can be offered to the market . It takes a combined strategy to achieve the objectives of reducing the amount of biodegradable waste disposed of in landfills, for processing into fertilizer in rural households to separate organic waste when throwing garbage, and processing the waste into fertilizer in central plants in large cities. . There is also a significant problem of hazardous waste in temporary storage. You will also need cooperation among relevant inspections (environmental, water resources, health, and trade), and cooperation with police and prosecutors should be formalized. It is also necessary to increase public access to information, as well as the population in which it is possible to largely educate on issues of waste management. This paper deals with the problem to Libya could become a viable and stable, if it so chooses. Libya is a unique nation in many ways: in particular, its geographical location, which enables the greatest isolation in the world. Libya has the highest priority to conduct stable supply of water and to make the transition renewable energy as quickly as possible. Both resources and water and oil slowly disappear and there will be shortages if we do not invest in their preservation. Two urgent needs of the stability of water supplies and energy are related. Sustainability of water supply means go to desalination solar-powered pumps are powered by energy from solar sources. Conservation of water is essential for the supply of water and food. Preservation of hydrocarbons is essential to increase oil and gas exports to finance solar electricity. How is climate change intensify, Libya is in a good position to become independent of hydrocarbons and can help Europe to reduce greenhouse gas emissions by importing Libyan solar energy.

REFERENCES

1. Ali, Issa and Charles Harvie, Oil and economic development: Libya in the post-Gaddafi era, Ecological Modelling, 2013
2. Walther, G. R., Post, E., Convey, P., Menzel, A., Parmesan, C., Beebee, T., Fromentin, J., Hoegh-Guldberg, O. & Bairlein, F, Ecological responses to recent climate change, 2002

3. Walther, G. R., Post, E., Convey, P., Menzel, A., Parmesan, C., Beebee, T., Fromentin, J., Hoegh-Guldberg, O. & Bairlein, F., Ecological responses to recent climate change. *Nature* 416, 2002
4. Diffenbaugh, N. S., Pal, J., Giorgi, F. & Gao, X. , Heat stress intensification in the Mediterranean climate change hotspot. *Geophys. Res. Lett.*, 2007
5. Walther, G.R., Post, E., Convey, P., Menzel, A.,Parmesan, C., Beebee, T., Fromentin, J., Hoegh-Guldberg, O. & Bairlein, F. 2002. Ecological responses to recent climate change. *Nature*, 2002
6. Ali, Issa and Charles Harvie, Oil and economic development: Libya in the post-Gaddafi era., *Ecological Modelling*, 2013
7. Giupponi, Carlo and Mordechai Shechter, (Eds.), *Climate change and the Mediterranean: socio-economic perspectives of impact, vulnerability and adaptation.* Edward Elgar UK., 2003
8. Goodland, R., *More Crucial than Oil Scarcity: Climate Change Policies for a Sustainable Libya*, *Climate Policy Journal* 7, Goodland, R., *Sustainability for Libya*, London, the Society for Libyan Studies, 2008
9. El Serafy, Salah, *Macroeconomics and the Environment: Essays on Green Accounting.* Edward Elgar, Cheltenham, UK, 2013
10. de Coninck, H., Fischer, C., Newell, R. & Ueno, T., *International technology-oriented agreements to address climate change.* Washington DC., RFF Discussion Paper, 2007
11. Raupach, Michael R., Gregg Marland, Philippe Ciais, Corinne Le Quéré Josep G. Canadell, Gernot Klepper, and Christopher B. Field. *Global and regional drivers of accelerating CO2 emissions.* Washington DC., The National Academy of Sciences of the USA 104 (24):10288, *International Sustainable Energy Review*, 2013
12. Faraj, B., *Alternative energy sources and its role in the production of electric power in Libya* Research Centre for Renewable Energy and Water Desalination, Tajoura, 2009
13. http://ec.europa.eu/environment/enlarg/med/pdf/communication_en.pdf
14. Giorgi, F., & P. Lionello, *Climate change projections for the Mediterranean region.* *Global and Planetary Change*, 2008
15. Benoit, G. & Comeau, A. (eds.), *Sustainable Future for the Mediterranean, The Blue Plan's Environment and Development Outlook.* London, Earthscan 2005, p 450
16. http://ec.europa.eu/environment/enlarg/med/pdf/libya_en.pdf

DEVELOPMENT AND POSITIONING STRATEGY OF A TOUR PRODUCT

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Abstract: The goal of this article is propose strategy tour product forming. It can be divided into the period of tourism product planning and the period of its implementation to the market (the service of travelers). One of the fixtures of the tourism industry is the use of outsourcing, meaning the involvement of other companies, whose services will be provided to tourists under the brand of the company the manager is acting for, as none of the tour companies are able to have in their ownership the objects of accommodation, restaurants, transport. The strategy selection of subcontractors can be achieved only if the manager is able to evaluate the quality of the tour product from a tourist point. The positioning of the tourist product is also extremely important. The criteria for partners searching among different objects of tourism infrastructure have to go along with the concept of the tourism company which is making this search. When the decision is taken, the manager has to make tourist know why the following place of accommodation (for instance) was offered to him instead of the others available. It may sound paradoxical, but the right presentation of tourist product can make tourist feel happy with the fact he was not accommodated in the city center. For the development of these skills the authors of this article have created an interactive game that will allow future managers to approve the presentation and positioning skills.

Keywords: Positioning strategy, tourism

The industry of the incoming tourism can be proclaimed as one of the main priorities for social-economics development in the North-West region of the Russian Federation. On the international trade market the allotment of tourism services excides 30 %, and the tour industry is sharing leading position together with oil industry. Tourism is one of the most profitable ways of making business and at present occupies 7% of the globe's budget. Being one of the most attractive tourist destinations on the planet, Saint Petersburg demands special affords put into development of incoming tourism as an industry, as officially around 50% of tourists visiting Russia shows interest in its Northern Capital, spending at least several days there. Even during the year 2009, when the international economy crisis was in progress, Saint Petersburg was visited by 2.35 million tourists and in the year 2010 this figure was excided 2 fold. The city managed to get the position of one of the leading tourist destinations due to the following factors: constant addition of tourist sights into the list of cultural heritage of the globe, the development of new routes and places that show tourist attraction, cultural events annually taking place in the city, the development of tourism infrastructure in general.

The tourist attraction is mainly caused by the variety of tourism services, available in Saint Petersburg. The Federal Law “About the Basics of Tourism Industry in the Russian Federation”, issued on the 24th of November, 1996, gives the following definitions to different ways of tourism:

- Internal Tourism – traveling of citizens, constantly living on the territory of the Russian Federation inside the territory of the Russian Federation
- Outcoming Tourism – traveling to the other countries of citizens, constantly living on the territory of the Russian Federation
- Incoming Tourism – traveling of citizens, constantly not living on the territory of the Russian Federation to the territory of the Russian Federation
- International tourism – incoming or outcoming tourism
- Social tourism – tourism, which is fully or partly supplied by the budget accounts, accounts of Non-Commercial Funds (as well as money, given as a social support from the authorities), and the accounts of Employees.
- Tailor-made tourism – tourism, that is organized individually by travelers

Considering the fact that Saint Petersburg possesses the cultural and historical heritage, has its own culture and quality of service, the variety of different objects of tourism infrastructure, and is famous for the welcoming of citizens, it can be claimed that among all the ways of tourism the incoming tourism is the main priority for the city authorities. Moreover, this way of tourism provides the local budget with an extra income. The specific fixture of incoming tourism is that travelers are not taking money out of the region, but come to Saint Petersburg to purchase the tourism services and to use the infrastructure in the recreation areas and business centers.

Nowadays, one of the most acute issues in incoming tourism is the lack of professionally trained staff. This can be explained with the fact that on contrast with Europe, where tourism have been under development for centuries, Russia got acquainted with tourism as the business industry in the 90th of the XX century only. The problem is obvious: the absence of a long-term practical experience results into the inability of the manager to rank the quality of service according to the standard that tourists require. In fact, this is the main fixture of the tourism industry in general: if in machinery it is possible to start the engine and to see whether it functions or not before the car goes to the open market, in tourism the result of affords put into the development of the product will be seen only after the product is consumed. In other words there is no way to see if the service functions or not, as the only criteria is the evaluation given by tourists after.

Based on their experience, the authors of this article would highlight the following keys to the success of a manager in tourism industry:

- The experience and the presence of professional competence of the manager, which allows to evaluate the quality of service / product, meaning the understanding what will be required by the tourist
- The skill of manager to make a presentation for his own product. Obviously, to make a perfect product in tourism is an impossible mission. Therefore, a successful manager has to know how to convert the disadvantages of his product into competitive advantages, has to realize that each product has its own conception. The real art of manager is to combine the presentation skills and the ability to foresee the quality of the product before it is consumed in order to be able to act ahead.

What every businessman in tourism industry is doing can be divided onto the **period of tourism product planning** and **the period of its implementation** to the market (the service of travelers). Another fixture of the tourism industry is the use of outsourcing, which means the involvement of other companies, whose services will be provided to tourists under the brand of the company the manager is acting for. None of the tour companies are able to have in their ownership the object of accommodation, restaurants, transport, and for this reason are destined to deal with the services provided by the other companies. The use of both “keys” will make it possible for manager to make the right selection of subcontractors and to adjust the operation process with them.

The positioning of the tourist product is also extremely important. The criteria for partners searching among different objects of tourism infrastructure have to go along with the concept of the tourism company which is making this search. When the decision is taken, the manager has to make the tourist know why the following place for accommodation (for instance) was offered to him instead of the others available. It may sound paradoxical, but the right presentation of the tourist product can make tourist feel happy with the fact he was not accommodated in the city center.

For example, one of the American travel companies that specializes in the river cruises around the globe for senior Americans can be considered. The company is one of the leaders on the US market in terms of sales of tour packages. One of the destinations is Russia, where the company offers a river cruise from Moscow to Saint Petersburg with 4 days stays in both capitals. In the year 2008 the company made an experiment: one cruise the passengers were accommodated on board the ship far away from the city center, while they were in Saint Petersburg. The other cruise travelers were placed in the Ambassador Hotel, 25 minutes away from the busiest thorough fair of the city – Nevsky Prospect. At the end of every cruise passengers were asked to fill out the evaluation forms answering the question how satisfied they are with the trip overall. At the end of the year it was estimated that the best satisfaction was achieved within the group that stayed on board the ship far away from the city center. The reason is the concept of American company, which takes into consideration that they are dealing with senior Americans, and, therefore, when presenting the product it highlights the comfort as the main concern. Staying on board the ship, the passengers received 3 meals a day, personal touch and the staff fluent in English and trained under the standards of US hospitality system and this was achieved because the ship is the property of the company. At the same time, the consumers of tourism product, who were accommodated at the hotel, were complaining about the lack of attention from the staff and misunderstanding. This simple example shows that the success of the developed tourism product depends on the manager’s ability to understand what the consumers require, what their expectations and priorities are.

This example also demonstrates the main principals that manager has to follow, and these principals are based on intuition and the skill to present the product. In order to develop it, the business game was created, **the aim of which is** to form the skills of development and presentation of tourism product among the future managers in tourism industry, to approve the team cooperation of the group inside the auditory.

The way of participants’ cooperation: The game is intended for students who study courses of “Tourism and hotel management”, “Economy and service in tourism industry”, etc. The game provides the approving of communication and administrative skills of the participants and gives a field for the development of intuition and forms the ideas about the stages of making tourism product.

From 12 to 20 students **can participate in the game.**

Table 1. The structure and the regulations of the game.

Element of structure	Description
1	2
<i>Introduction lecture</i>	In the interactive form the following subjects are discussed with group: <ul style="list-style-type: none"> • The specific fixtures of forming of the tour flow to St. Pete depending on wealth, age, duration of stay and other criteria tourists can be highlighted. • Interrelation between the categories of tour groups and “the assumed expectations” from the tour. • The tourism potential of Saint Petersburg to be discussed and the main objects of tourism infrastructure of the city and the ways manager have to cooperate with them.
<i>The explanation of the game idea to the participants</i>	On this stage the participants get to know that they will act in teams of 4-5 students. Their goal will be to develop their own tourism product for passengers of the river cruise arriving to Saint Petersburg. When the time is out, one speaker from each team will have to present the product to the audience.
<i>Immersing of the participants into the game (5 minutes)</i>	In 4 corners of auditorium the lector puts statements: “Fully agree” “Probably yes”, “Probably no”, “Completely disagree”. The game participants gather together in the center. The lector gives a statement: “ <i>Smoking kills</i> ”. Depending on how fully the participants agree or disagree with it, they take place in different corners of auditorium. After the choice is made and the “teams” are formed, each team has to speak for a minute in order to support their point of view. Apart from smoking, 4 other statements will be given to discuss: “Walking tours are better than bus tours”, “Client is always right”, “2 days are the best to spend in Saint Petersburg”, “Group tours are better than individual”. The goal for warm-up is not to find out the winner, this part of the game is over when the last statement is discussed.
<i>Group tasks</i>	American company offers river cruises on the Russian market. The tour starts in Moscow and goes along Uglich, Yaroslavl, the Kizhi Island, Petrozavodsk and is finished in St. Pete. The concept of the company is to show the real life, not just typical tourist attractions. The tour of St. Pete includes: The Hermitage, Peterhof and the Catherine’s palace. The age of passengers starts from 70. The amount of passengers in a group – 35. The task is to develop a program for 3 full days in the city, considering that tourists expect unusual program with the chance to see how people live. How busy the program is has to be decided within the teams. The goal is not just to create a tour, but also to present in to the lector as it is presented to tourist.
The end of the game process	Presentation of the product after the time for discussion is over (20 minutes).
1	2
Summarizing	The lector discusses with the participants the advantages and disadvantages of each product. At the end of the game the best tour following the criteria has to be formed.

The expected result of the game: improvement of knowledge of tourism infrastructure of Saint Petersburg among participants, development of analytics skills and the skills of positioning and presentation of the tour product in front of the consumers of services, the experience of development of own tourism products following the criteria.

REFERENCES:

1. Nikolaev V. A. (2010), “What is the tourism industry”, Vsesезony Journal, Vol. 6, pp 32-35
2. Karmanova T. E., Kaurova O.V. and Malotenko A.N. (2009), Tourism statistics, KnoRus. Moscow.
3. The Federal Law “About the Basics of Tourism Industry in the Russian Federation”, (1996)

DIFFERENTIATING MICROCREDITING SERVICES IN BOSNIA AND HERZEGOVINA

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Abstract: The paper is aimed at determining elements based on which microcredit services can be differentiated. The differentiation strategy is used by microcredit organizations that focus on the marketing mix individual elements that a client deems important and that, as a result, provide a powerful basis for achieving competitive advantage.

Equality elements in microcredit services are based on the global approach of microcredit, which is reflected in client's taking out a microcredit from a microcredit organization, drawing up a microcredit contract, negotiating the interest rate, payment terms, annuity level, etc. Comparative advantages of a microcredit organization over another should be sought in differentiating microcredit services, which will be built upon distinction elements. In microcredit services, the distinction element is related to attributes that a microcredit organization provides to its clients when they are taking out a microcredit, and is incorporated in the microcredit organization's corresponding marketing strategy.

In this context, the paper tests the hypothesis that by differentiating microcredit services, which the client can observe and recognize, one can make the client opt for long-term cooperation with the microcredit organization. By differentiating its microcredit services, a microcredit organization creates its service strategy focused on retaining clients and building long-term relations based on differentiated services and accompanied by monitoring and focusing on individual clients.

Primary data collection was done using survey questionnaires and interviews with microcredit organization clients. Besides the described primary data, the analysis also used secondary data of local and international organizations involved in microcredit issues. Primary research will lead to the insight into how the clients have used the microcredit, and what are the elements that make a client opt for long term cooperation with a microcredit organization.

Keywords: microcredit organizations, microcredits, services, differentiation strategy, marketing.

1. INTRODUCTION

Microcredits are a (form of) financial service created in countries and regions with a high share of poor population, as a rule unemployed and without a steady source of income. Their position and the material and financial conditions are typically due to war

operations and other transition processes that result in the disturbances of economic and social nature (Vujić, 2008, pp.15-16).

Expansion of microcredits is particularly visible through the increase in the number of granted microcredits and the number of microcredit users. The production economy of economy itself is very dependent on the conditions of global economy (Moutinho, 2005, p.45). Strengthening the purchasing power of microcredit users, i.e. their families, alleviates poverty effects. In parallel to this process, one can observe the strengthening of microcredit sector in B&H and individual microcredit organizations in the sector.

Microcredit organizations⁶ operate in line with the marketing business philosophy. In order to be successful, they expanded their 4P marketing mix (product, price, distribution / place and promotion) with additional 3P's. The core product of microcredit organizations is the "microcredit service", and therefore the additional 3P's are of extreme significance. The 3P's include:

- people / human resources (qualification, expertise, motivation, appearance, friendliness, etc.)
- physical environment (place of providing the service, offices, availability to clients, client visits, etc.)
- processes (application submitting procedures, credit approving procedures, funds disbursements, ways of credit repayment, etc.).

Microcredit organizations' marketing goal is successful satisfaction of credit users' (customers') needs, as well as covering their own business costs. Credit users repay the microcredit out of their businesses and the assumption is: if they can repay the credit successfully, the started business is successful. The microcredit organization has thus achieved its business goal, since it provided microcredits to clients who have serviced them successfully. The completion of the first credit cycle creates the starting pre-requisites for a new credit cycle. Having repaid the credit, the credit users cleared the space for a new credit debt.

By purchasing the service, the customer purchases experience, which has been created in the process of providing the microcredit service. Microcredit service provides a set of benefits to microcredit organizations' customers. The value is formed through the customer's experience. The way in which the customer acquires the "set of benefits" varies considerably from one microcredit organization to another. The customer thus assesses what he acquired by purchasing the service compared to what he expected of the purchase. Needs and expectations differ depending on individual consumers and situations, which results in the fact that service quality is ultimately a highly subjective matter (Babić – Hodović, 2006, p. 281). Essentially, service quality refers to the difference between the perceived (actual) service and the expected service.

2. DEVELOPMENT OF MICROCREDIT ORGANIZATIONS

Immediately after the war, in 1996, World Bank launched the microcrediting project entitled "Local Initiative Project" LIP I⁷, with the following objectives:

⁶ „Microcredit organizations (MCOs) in B&H are aimed at the core activity of providing microcredits to socially neediest population, in order to develop entrepreneurship.“

⁷ LIP I and LIP II are the World Bank projects implemented in the Federation of Bosnia and Herzegovina and Republika Srpska through LOIN foundations in Federation and Republika Srpska (LIP I) and through Micro-

1. Allowing access to entrepreneur-aimed credits to the needy population (poor population),
2. Encouraging the development of independent, financially viable microfinancing institutions that would continue to provide access to these credits, and
3. Creating the suitable legal framework for providing credits and other financial services to low-income entrepreneurs.

Upon the completion of the LIP project, in June 2000, the project managed to achieve all the described objectives. The financed microfinancing institutions (MFI) granted a total of 50,261 credits in the value of 148.37 million KM. As a result of the first, LIP I project experience, the second local initiative project (LIP II) was launched in March 2002. LIP II had two specific objectives:

1. Finance the growth and the institutional development of highly efficient microcredit organizations which have the capacity to serve a significant number of low income clients, who are considered by the classic, commercial banks as “non-banking”, taking into account their low income and limited capital assets
2. Support the transition of the microcredit sector towards sustainable sources of financing.

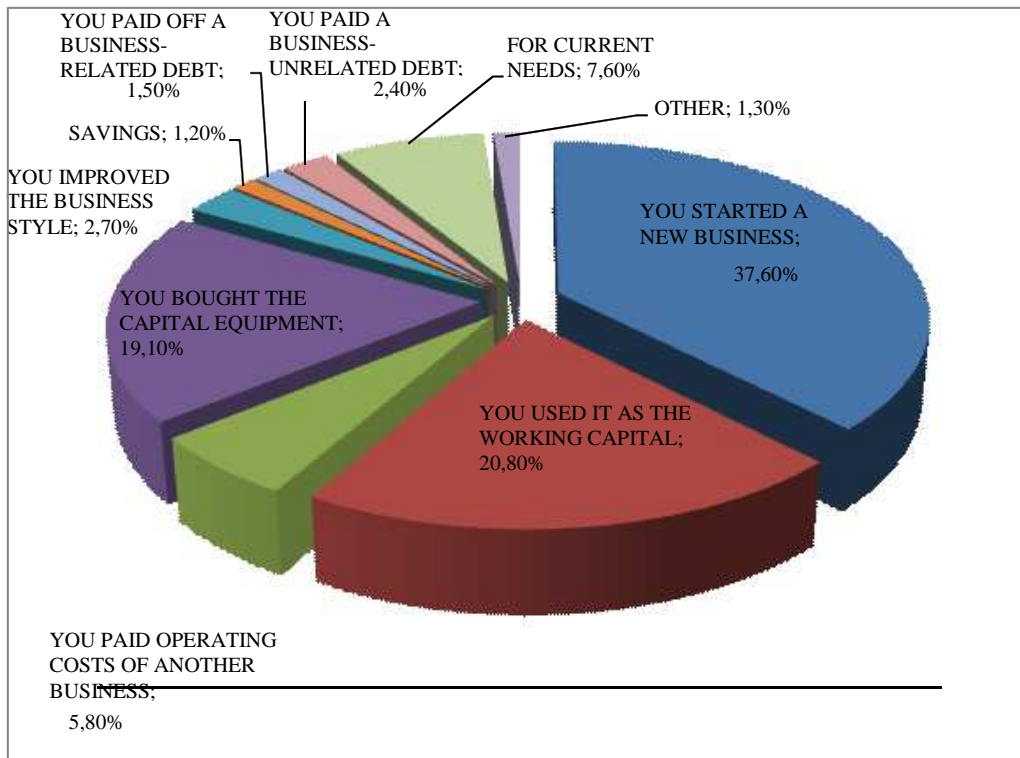
The idea behind these projects was the attempt to strengthen the microcredit sector. It implies the orientation to create pre-requisites, on a long-term basis, for maintaining this specific supply of microcredits, and to allow support to specific population categories (who have no access to commercial credits) in a long term.

In 2007, US magazine *Forbes* published part of a study and ranked the 50 most successful microcredit institutions in the world. Five B&H-based microcredit organizations were included among the fifty world-best microcredit organizations. Reasons for the high-quality rank of B&H microcredit organizations stem from their achievement of set goals: employment, increase in household income, poverty alleviation, starting business, etc.

Obtaining a high-quality insight into microcredit organizations requires the analysis of why potential users of microcredit organization services want to use services of such organizations. What is the purpose and motive for taking a credit? In order to obtain the answer to this question, the primary research has been conducted.

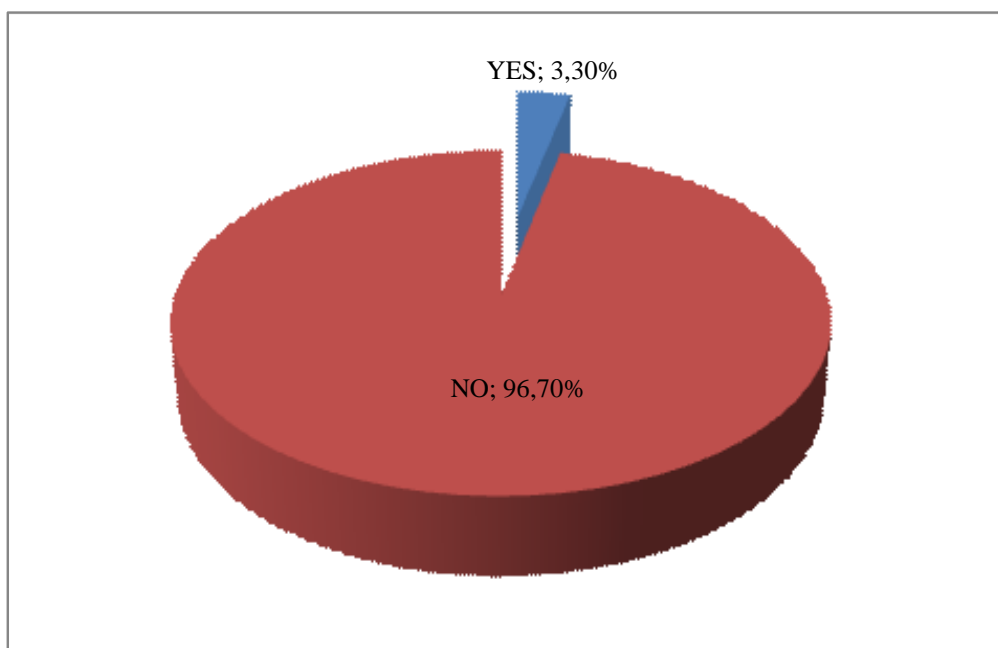
To the question as to how you used or how you will use the latest microcredit you obtained from the microcredit organization, ten possible responses were offered. Most clients (37.6%) replied that they used the credit to start a new business. The second most frequent response points out that the credit was used as working capital (20.8%), and the third – that the credit was used for purchasing the capital equipment (19.1%). The remaining responses were far less frequent, as follows:

- paid operating costs of another business (5.8%),
- paid a business-related debt (1.5%),
- used it for current needs (7.6%), etc.



Graph 1. How the clients used or will use the latest credit

In order to assess the quality of cooperation between the microcredit organization and the client, it is important to analyze whether the clients took out a credit from any other source (bank or another MCO) over the past year. Most clients are loyal to the microcredit organization, since 96.7% did not take out any other credits, while only 3.3% took out a credit from another microcredit organization or a bank.



Graph 2. Client loyalty

In order to study the advantages of dealing with microcredit organizations compared to banks, primary data were collected. The sequence of microcredit organization advantages over banks is as follows:

- good partnership (21.1%)
- credit amount (19.1%)
- possibility of obtaining credit (18.2%),
- relationship with MCO staff (17.0%),
- collateral (14.8%),
- possibility of direct communication (9.8%).

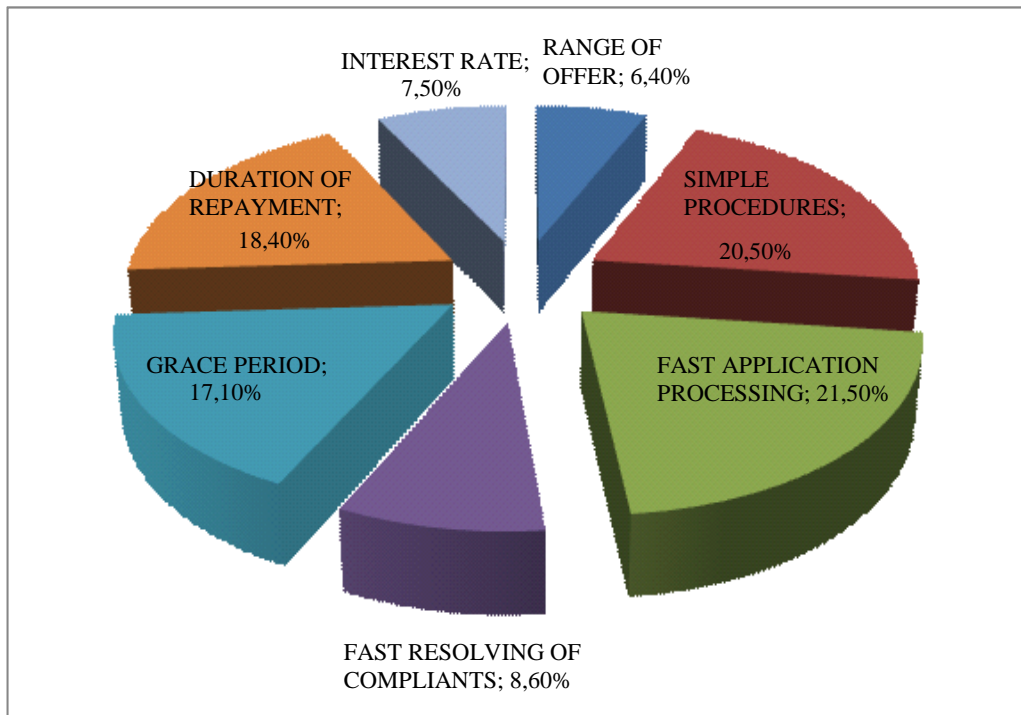
3. DIFFERENTIATING MICROCREDIT SERVICES

From the global aspect, the concept of microcredit services is fairly unified. Comparative advantages of one microcredit organization over another should be sought in differentiating the marketing services, which will be built on the elements of difference

Elements of equality in microcrediting services are based on the global approach of microcrediting, which is reflected in client's taking out a microcredit from a microcredit organization, drawing up a microcrediting contract, negotiating the interest rate, terms of payment, annuity amount, etc. (Kotler, Keller, 2006, p.313). The element of difference in microcrediting services is related to the attributes offered by a microcredit organization to clients when they take out the microcredit, and is incorporated into the microcredit organization's suitable marketing strategy (Kotler, Keller, 2006, p.313).

The collected primary data revealed the following responses obtained about clients' willingness for a long-term cooperation with a given microcredit organization:

- fast application processing (212.5%),
- simple procedures (20.5%),
- duration of credit repayment (18.4%),
- grace period (17.1%),
- fast dealing with complaints (8.6%),
- interest rate (7.5%), and
- range of offer (6.4%).



Graph 3. Elements for clients' long-term cooperation with MCO

Elements of difference should be prominent and recognized by clients as offered only by a given microcredit organization. It is on this basis that the differentiation of microcrediting services is developed. "Service quality determinants are: reliability – ability to provide a promised service accurately and in line with expectations; responsiveness – willingness to help customers and provide fast services; assertiveness – staff's knowledge and friendliness, as well as their ability to instill trust and security; empathy – care for customers and devoting individual attention to customers; tangibility – appearance of premises, equipment, personnel and promotion material" (Berry, Parasuraman, 1991, p. 16).

"Differentiation strategy is used in organizations that stress individual marketing mix elements that a client deems important and, as a result, create a strong basis for achieving competitive advantages. The differentiation strategy can prove to be very expensive if the selected basis for differentiation is not appropriate. It means that there will be no (significant) differences among customers, or willingness for extra efforts, i.e. willingness to remember something, if there was nothing to remember" (Babić – Hodović, Šestić, 2006, p.205).

Microcredit service differentiation can be based on five groups of elements:

1. differentiating the service as a product,
2. differentiating based on the small business selection,
3. differentiating based on the MCO staff quality,
4. differentiating sales channels, and
5. differentiating the MCO image.

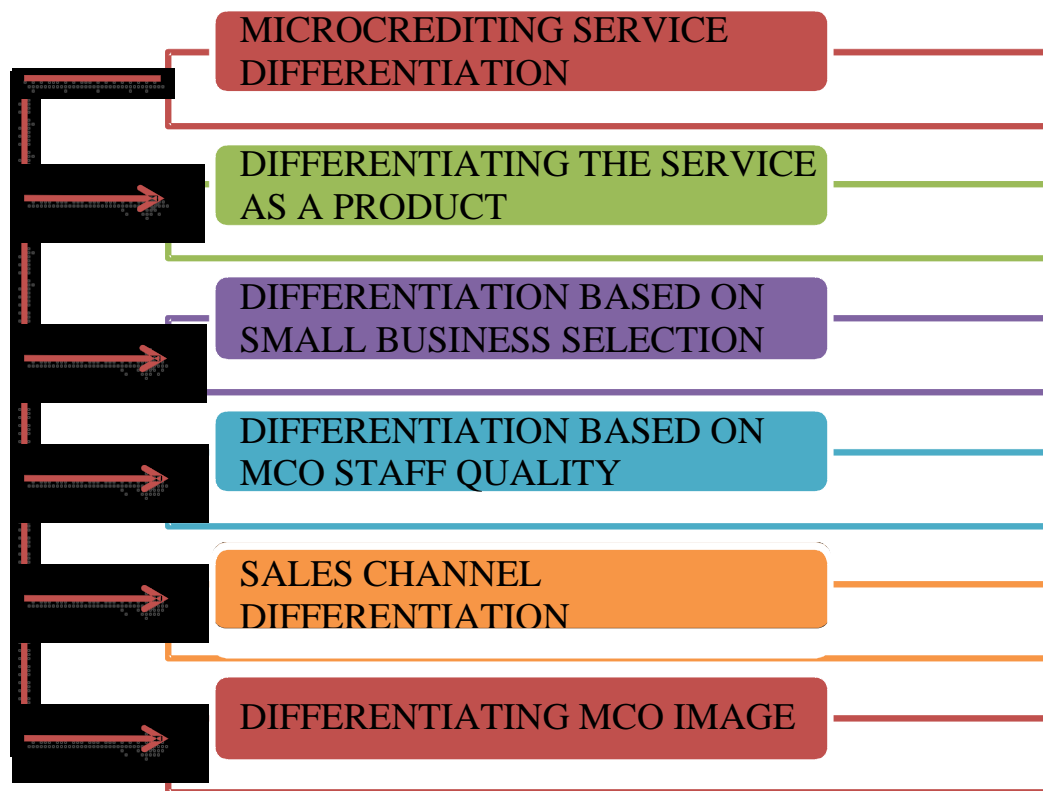


Figure 1. Microcrediting service differentiation

Differentiation of services as products is based on differences related to the service quality, simple forms and procedures, fast application processing, client advising, direct communication, help with registering the small business, etc.

Differentiation based on the small business selection is founded on the selection of a small business that is interesting and specific, with great chances to succeed in order to justify the purpose and goal of taking out the microcredit.

Differentiation based on the microcredit organization staff quality is a significant advantage of a microcredit organization. Staff quality is associated with their expertise, knowledge, reliability, establishing friendly relations, problem-solving skills, communication skills, honesty, hard work, etc.

Sales channels differentiation is based on the principle of getting business offices closer to the existing and potential clients. It is desirable to have offices in the centre of the market segment being served, or else offices that will be open to clients on given days, when the microcredit organization representatives will be present. In this way, clients can establish a fast and efficient contact with the person in charge and resolve a problem that has arisen without travelling to distant microcredit organization offices. "Personal sales involves a two-way communication between the customer and the seller, frequently in a direct meeting, designed in a way that affects an individual's or a whole group's purchasing decision. The sales process is a complex activity that involves building the relationship between the seller and the customer. Although the seller-customer interaction is crucial for personal sales, many sales-related activities are accomplished before their meeting and continue after it" (Babić-Hodović, Šestić, 2006, pp. 411-312).

Differentiation of the microcredit organization's image is based on the way in which public and clients perceive the microcredit organization and its microcrediting services. The favorable image will differentiate one microcredit organization from another. For this reason, the difference should be built upon improving the microcredit organization's image.

By differentiating microcrediting services based on long-term relations, the microcredit organization creates the service strategy aimed at retaining customers and building long-term ties, based on differentiating services through monitoring and focusing on individual clients.

4. PERSONAL SALES SIGNIFICANCE IN MICROCREDIT SECTOR

Service quality implies clients' satisfaction with services provided by a microcredit organization. It, in turn, involves providing timely information on the microcredit by credit officers, support and help in the form of advice and information, particularly in the sector of production, sales, collection, tax payment, etc. Clients highly admire and deem as important their ties and relationship with microcredit organization staff.

Personal sales are obligatory in microcrediting business, since clients want to get certain responses and advice through direct communication, as they want to make decisions related to the entire future life of the client and his family. Taking out a microcredit and starting a small business is a permanent life decision, which requires client's consideration and assessment from various aspects; in this process, the microcredit organization representative's view and recommendation are essential, since the client accepts it both as advice by a professional and by a friend and a person with rich experience in the area.

Personal sales of microcrediting service have the following stages:

1. collecting and grouping segments of potential or latent customers,
2. developing interest through presentation,
3. personal interaction, developing trust and creating friendship,
4. negotiating the microcredit service sale, and
5. help in developing the small business.

Sales force must be professional, high-quality, creative and competent, since they have to:

- sell microcrediting services,
- turn potential clients into real (existing) clients,
- discover latent clients and turn them into real clients,
- develop new offers and create demand,
- create new markets for microcrediting services,
- offer solutions for clients' problems and needs,
- present small business development, etc.

Microcredit organization sales force has a far broader function and task than the sale itself, and therefore the permanent education of sales personnel is necessary. A special sales force role is to monitor the microcredit return through annuity payment: it has to be in

line with goals set at the microcredit organization level, since it is ultimately focused on contributing to the achievement of the microcredit organization's goals and mission.

Since credit users have a great trust in credit officers who conduct personal sales, microcredit organizations must necessarily take all possible measures to make their credit officers do their jobs as properly and successfully as possible, both when granting microcredits and doing activities related to starting micro-businesses and successful business operation.

5. CONCLUSION

A number of stimuli affect microcredit organization's clients. Clients accept only some stimuli from their environment, and therefore microcredit organizations must act in the direction of improving the quality of their operations, to make clients satisfied and thus develop the positive perception, in order to satisfy their motives and needs.

When deciding upon the choice of microcredit organization, a client considers a few factors. Most pertain to the dimensions of microcrediting service quality, and on this basis it is possible to assess them only after the service-providing process has been completed; thus, they are included in the category of "visible service attributes": service quality, microcredit organization's image, efficiency, availability and ambience (Babić – Hodović, 2002, p.206).

The microcrediting service consists of two parts. The first part is granting the credit, while the second pertains to providing different sorts of information related both to taking out a credit and its use. In this way, microcredit organizations may operate in the sphere of basic service or differentiate their offer from other microcredit organizations' offer by improving the "secondary services" (Babić – Hodović, 2002, p. 228). In doing so, one must not ignore the fact that the service quality is the key element of service nature, since it is a dimension through which a customer perceives the successful service provider compared to its competitors, and that service quality is often also related to the quality of the microcredit organization offering the services" (Babić – Hodović, 2006, p. 281).

REFERENCES:

1. Babić-Hodović V., Šestić M., Marketing menadžment, Ekonomski fakultet, Sarajevo, 2006
2. Babić-Hodović V., Strategija i implementacija marketinga usluga, Ekonomski fakultet, Srajevo, 2002
3. Babić-Hodović, V., Strategija proizvoda, usluge i marke, Ekonomski fakultet, Sarajevo, 2006
4. Kotler P., Keller K., Marketing menadžment, 12 izdanje, prevod Data status 2006
5. Berry L.L., A. Parasuraman, Marketing services: Competing Through Quality, New York, The Free Press, 1991
6. Moutinho L., Strateški menadžment u turizmu, Masmedia, Zagreb, 2005
7. Tihi, B. et al., Marketing, Ekonomski fakultet Sarajevo, 2006
8. Vujic S., Mikrokreditne organizacije i mikrokrediti, Ekonomski fakultet, Sarajevo, 2008
9. World bank, Projekt FBiH i RS LIP I i LIP I, 1996 – 2010

OPERATION MANAGERS IN COMPANIES WITH MANUFACTURING ACTIVITY

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Abstract: The research concerns the discovery of the extent of the perception of the term operation managers in companies with manufacturing activity. Research has shown that knowledge, abilities, skills and competencies required to have their job properly.

Using questionnaires, interviews and observation protocol collected the opinions of supervisors and general managers or owners for their operation managers.

Direct observation of workplaces operations managers and interviews with all levels of management and employees contribute to define the necessary competencies and requirements set in the work of operations managers.

In the literature, researchers operation management increasingly suggest building a position of operation manager on the level of professionalism. The ability to respond to challenges posed between the top management and line management lying in building a larger number of competences of operation manager.

As a recommendation of this study is to invest in operation managers because it will result in a high level of return on invested capital.

Keywords: operation management, operation manager, companies.

1. INTRODUCTION

The concept of competence or competency ('competence' generally refers to functional areas and 'competency' to behavioural areas but usage is inconsistent, as shown below) dominated the management strategy literature of the 1990s, which emphasized 'core competence' as a key organizational resource that could be exploited to gain competitive advantage (e.g. Campbell and Sommers Luchs, 1997; Mitrani *et al*, 1992; Nadler and Tushman, 1999). Hamel and Prahalad (1994) defined core competence as 'the collective learning in the organisation, especially how to co-ordinate diverse production skills and integrate multiple streams of technologies' (Prahalad and Hamel, 1990: 82). From the perspective of a resource-based theory of the firm, sustained competitive advantage is seen as deriving from a firm's internal resources if these can add value, are unique or rare, are difficult for competitors to imitate and are non-substitutable (Cappelli and Crocker-Hefter, 1996; Ellestrom, 1992; Foss and Knudsen, 1996). The virtue of the core competence approach is that it 'recognises the complex interaction of people, skills and technologies that drives firm performance and addresses the importance of learning and path dependency in its evolution' (Scarborough, 1998: 229).

It is paradoxical that, while management strategists were emphasizing competences that are unique and firm-specific, the HRD literature was more concerned with developing highly transferable generic competences that are required for most jobs or particular occupations or job roles (Levy-Leboyer, 1996; Stasz, 1997). There is an inherent tension

between the strategy and HRD approaches. If concentrating on core competences that are 'distinctive and specific to each individual organisation' is what gives competitive advantage (Bergenhengouwen *et al.*, 1996), the scope for generic competence frameworks is limited; as Thompson *et al.* (1996) note, rigid adherence to a generic list for managers of a small firm may undermine the very things that have led to its current success.

2. ANALYSIS AND INTERPRETATION OF SURVEY RESULTS

All data are processed with statistical program SPSS and on the best way with numerical indicators is shown, the defined methodology as an indicator of a phenomenon.

In order to realize our research which aims to assess the common and specific competencies of operational managers in the manufacturing industries in the R. Macedonia, 224 were surveyed, from which- **40 top managers, 104 - operations managers and 80 - line managers** (supervisors, controllers, people in-charge) who are directly responsible and competent to respond to their superiors (operational managers) and who are potential neutralizers of the possible occurrence of socially desirable answers / biased responses by top management. Operations managers are found mostly in the organization with over 30 employees.

The questions were practically distributed in two parts, one of which relates to the competencies that need to have managers and the second relating to the requirements to meet operational managers to carry out their duties.

The results and discussion of the questionnaire will be presented in two parts. The first part will be a graphical representation of the identified indicators (survey questions) in all subjects , i.e. each area separately. The second part will be showing statistical processing of the identified indicators determined by gender and work experience, as well as the connection of competence requirements of managers.

Levels of statements made by the assessment scales in survey questions.

Table 1. Scale in survey questions

COMPETENCES	REQUIREMENTS		
	Statement	assess	statement
Never	1	Not relevant	1
Rare	2	useful	2
Often	3	necessary	3
Always	4	crucial	4

From the above parameters of the survey, following profile operations managers in Macedonia is formed:

PROFILE OF OPERATIONS MANAGER IN COMPANIES IN MACEDONIA

Gender: Male-production activities (from 10: **7** male, **3** female)

Age: **41-50**

Working experience: **11-15** years

Working experience as operational manager : **6- 10** years

Education: **Faculty**, 26% **High school** (21 - 80 surveyed)

Competencies (mutual and separate)

Requirements (knowledge, skills, capability, working style)

2.1. DETERMINING THE DIFFERENCES BETWEEN COMPETENCE REQUIREMENTS AND MANAGEMENT LEVELS (TOP, OPERATIONS, LINE) – UNI-VARIATE ANALYSIS OF VARIANCE (ANOVA)

From the inspection in Table. 2, based on the applied univariate analysis (ANOVA) of variance, it can be concluded statistically significant difference at 0.05 level between the three levels of management (top, operational and line managers) in the research:

- a. *Competencies required to execute the tasks*, differences between the three levels of management of the significance of the coefficient $F(2, 221) = 62.43$, and $p = .000$ (Sig. = .000).
- b. *Competencies required to execute the work activities*, differences between the three levels of management of the significance of the coefficient $F(2, 221) = 80.57$, and $p = .000$ (Sig. = .000).
- c. *Competencies required in the context of work*, differences between the three levels of management of the significance of the coefficient $F(2, 221) = 5.55$, and $p = .004$ (Sig. = .004).

From the inspection of Table 2 and schematic representation (Chart 14.) you can see the differences of the means at levels of managing (*Top managers, Mean = 3.63; Operations managers, Mean = 3.92 and Line managers, Mean = 3.79*) and the ratio of a. Competencies required to execute the tasks.

From the inspection of Table 24 and schematic representation (Chart 15) you can see the differences of the means at levels managing (*Top managers, Mean = 3.47; Operations managers, Mean = 3.91 and Line managers, Mean = 3.66*) in the ratio of b. Competencies required to execute the work activities.

From the inspection of Table 50 and schematic representation (Chart 16) we can see the differences of the means at levels managing (*Top managers, Mean = 3.57; Operations managers, Mean = 3.49 and Line managers, Mean = 3.49*) in the ratio of c. Competencies required in the context of work.

Table 2. Differences in competencies between levels of management (top, operations and line)

ANOVA	Levels of management	Sum of Squares	df	Mean Square	F	Sig.	
	top	Between Groups	2,528	2	1,264	62,430	,000
a. comp.	operations	Within Groups	4,475	221	,020		
	line	Total	7,004	223			
	top	Between Groups	6,749	2	3,375	80,572	,000
b. comp.	operations	Within Groups	9,256	221	,042		
	line	Total	16,006	223			
	top	Between Groups	,250	2	,125	5,552	,004
v. comp.	operations	Within Groups	4,970	221	,022		
	line	Total	5,220	223			

Table 3. Differences in arithmetic levels of management

a) competencies	N	Subset for alpha = 0.05		
		1	2	3
1.top managers	40	3,63		
3. line managers	80		3,79	
2.operations managers	104			3,92

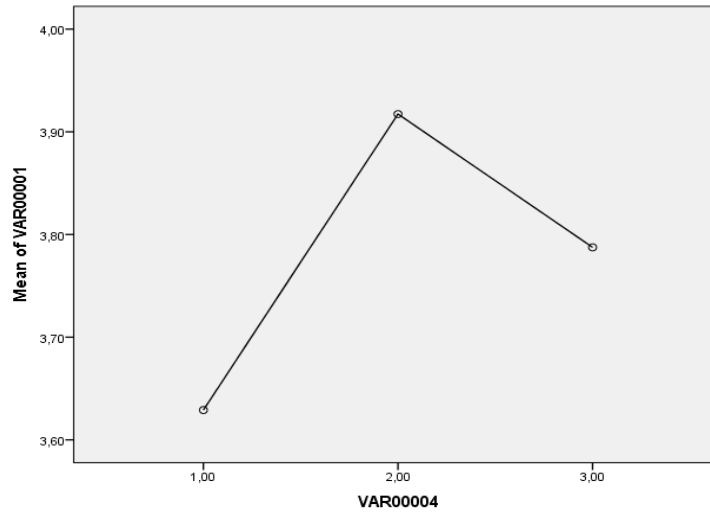


Figure 1. Competencies required to execute the tasks - differences between top, operations and line managers

Table 4. Differences in arithmetic levels of managing

6) competencies	N	Subset for alpha = 0.05		
		1	2	3
1. top managers	40	3,47		
3. line managers	80		3,66	
2. operations managers	104			3,91

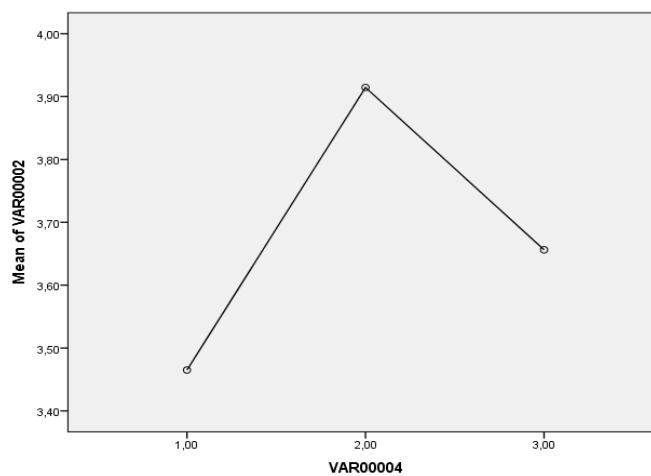


Figure 2. Competencies required to execute the work activities - differences between top, operations and line managers

Table 5. The differences of the means at levels of managing

Г) competencies	N	Subset for alpha = 0.05		
		1	2	3
3. line managers	80	3,49		
2. operations managers	104		3,49	
1. top managers	40			3,57

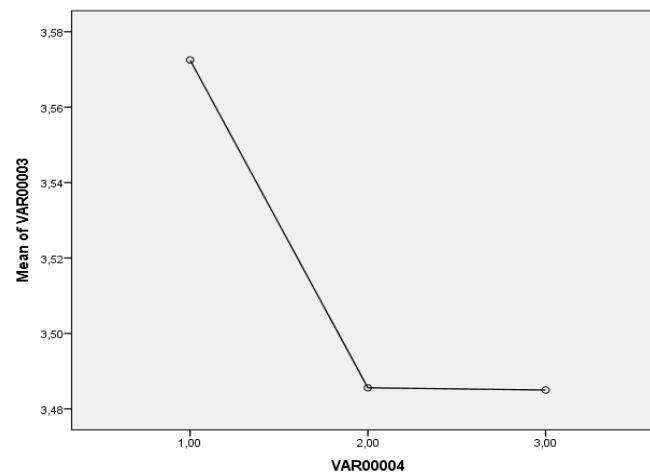


Figure 3. Competencies required in the context of work

3. CONCLUSION

Competences of operation manager are combination of personality, knowledge, skills and abilities. There are following indicators: ability for analyzing, organizing ability, ability to plan, to inspire others, ambition to realize, knowledgeable with economy, understanding society, ability to teach others, ability to gather and perform information, ability to solve problems and make decisions, ability to influence others. Unsatisfactory results in more organizations in the world, among other things, are due to inadequate management of human resources in terms of competencies and behaviors necessary for the efficient operation and effective implementation of organizational strategy. The main disadvantage of organizations in our region is the lack of a functioning system for operational management. The subject of the research is to define the impact of competence as an important factor for the successful execution of professional and operational functions in the relevant operational areas in manufacturing organizations.

REFERENCE

1. Hamel, G. and Prahalad, C. K., Competing for the Future, Harvard Business School Press, Cambridge, 1994.
2. Campbell, A. and Sommers Luchs, K. S., Core Competency-Based Strategy, Thomson, London, 1997.
3. Toni Soklevski, The common and special competences of operations managers in Republic of Macedonia, ISPPI, Skopje, 2014.
4. [William J. Stevenson](#), Operations management, NY, 2008.

CANDIDATES RANKING FOR THE PROJECT MANAGER JOB POSITION: ABSOLUTE MEASUREMENT

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Abstract: This paper aims at constructing AHP Model for ranking of candidates eligible for a job position of a Project Manager. For the purpose of candidates ranking absolute measurement shall be used. According to both the interview carried out with the owner who is at the same time a manager of a consultancy company, the interview being about the criteria that are considered to be important for the job position of a Project Manager, as well as the results from the survey questionnaire submitted through e-mail to 30 owners and/or managers of small and medium enterprises, there were selected seven criteria. There were also established the intensities of the criteria, whereas as alternatives shall be considered the candidates who shall apply for this job position. The constructed AHP Model is presented in this paper together with the hypothetical example for ranking of four candidates.

Keywords: AHP, absolute measurement, criteria, intensities, ranking, project manager

1. INTRODUCTION

The most important resource in one company is the man. Choosing the best candidate for certain job position is of crucial importance to the development of the company. The multi-criteria method analytic hierarchy process (AHP) enables that the best alternative is chosen out of the available ones which are evaluated on the basis of several criteria/subcriteria.

It is crucial to structure the complex decision problem into a hierarchy, details of which are further available in (Saaty and Vargas, 1994, p. 2). When doing this, it is recommended that there are 7 ± 2 elements at one same level, see more in (Miller, 1956).

Within this paper there is constructed AHP Model for ranking of candidates for the job position of a Project Manager, and there is also given an example of the such ranking of four candidates.

The paper is structured as follows: apart from the Introduction that is given in Section 1, Section 2 refers to the structuring of the decision problem. The analytic hierarchy process is explained in Section 3, whereas the results are presented in Section 4, and the Conclusion is given in Section 5.

2. STRUCTURING THE DECISION PROBLEM

The person who is owner and manager of a consultancy company in the Republic of Macedonia is in a need of employing a Project Manager. In order to choose the best

candidate for this position, he engaged an operational researcher the assistance of whom shall be further used to construct AHP Model for ranking the applicant candidates.

The goal is to rank the candidates who shall apply for the job position of a Project Manager. In order to identify the criteria that are important for this job position an interview had been made with the person who is both owner and manager of the consultancy company. He defined 14 criteria, the criteria being the following ones: education, level of English proficiency, team work, communication skills, specific work experience, computer skills, attended trainings in the required field of expertise, recommendations, PM software usage skills, leadership, PMP Certificate, overall working experience, driver's license and attended trainings in fields different than the required field of interest. Also, there was determined to send this list of 14 criteria to 30 owners and/or managers of small and medium enterprises and require that they widen the list with criteria which they find important for the job position of a Project Manager, and which are not given on the list. The interviewees added the following 7 criteria: multi-tasking, negotiation skills, networking and establishing new contacts, motivation of the candidate, managing the interests of the stakeholders, organization skills and analytical skills. There was a survey questionnaire made which lists all the 21 determined criteria, and the interviewees were required to select seven of them that they find as being the most important ones for this job position. The representative sample of the interviewees remains that same one (i.e. 30 owners and/or managers of small and medium enterprises).

The results from the survey questionnaire are given in Table 1. This Table shows that the mostly chosen criteria is education (it was selected 20 times), after which follows the specific work experience (selected 19 times), then the next one in the row is the level of English proficiency and the PM software usage skills (selected 15 times) etc. whereas the motivation of the candidate and the attended trainings in fields different than the required field of interest were not selected at all. Because of the fact that the person who is both owner and manager of the consultancy company has a remarkable accumulated experience in the field, there was determined that for the criteria which shall be selected intensities shall be established.

Table 1. Results from the Survey Questionnaire

Criteria	The number of times this criteria was selected by the total of 30 interviewees
1. Education	20
2. Specific Work Experience	19
3. Level of English Proficiency	15
4. PM Software Usage Skills	15
5. Organization Skills	14
6. Analytical Skills	14
7. PMP Certificate	13
8. Leadership	13
9. Team Work	12
10. Attended trainings in the required field of expertise	12
11. Computer Skills	11
12. Multi-tasking	11
13. Communication Skills	11
14. Recommendations	8
15. Networking and establishing new contacts	8
16. Managing the interests of the stakeholders	7
17. Overall Working Experience	3
18. Negotiation Skills	3
19. Driver's License	1
20. Motivation of the Candidate	0
21. Attended trainings in fields different than the required field of interest	0

3. THE ANALYTIC HIERARCHY PROCESS

Developed by Thomas L. Saaty at the beginning of the 70's of the XX century (Saaty, 1977, 1980), AHP is a systematic procedure which enables a hierarchical presentation of the elements of any decision problem (Saaty and Vargas, 1991, p. 19). The decision-maker compares, in pairs, the elements of each of the levels of the constructed hierarchy and expresses his/her preferences by using the scale of relative importance (Saaty and Vargas, 1991, p. 27), (Table 2). In order to calculate the weights of the criteria and the priorities of the alternatives, appropriate mathematical model is used; see more in (Saaty, 1990), (Saaty and Vargas, 1991).

The focus of this paper is the absolute measurement. *“After setting priorities for the criteria (or subcriteria, if there are any), pairwise comparisons are also made between the ratings themselves to set priorities for them under each criterion and dividing each of their priorities by the largest rated intensity to get the ideal intensity. Finally, alternatives are scored by checking off their respective ratings under each criterion and summing these ratings for all the criteria. This produces a ratio scale score for the alternative. The scores thus obtained of the alternatives can in the end be normalized by dividing each one by their sum.”* (Saaty and Vargas, 1994, p. 5). See more on absolute measurement in (Saaty and Vargas, 1994, p. 17-19), (Saaty, 2005, pp. 20-23).

Table 2. Scale of Relative Importance (Saaty and Vargas, 1991, p. 27)

Intensity of relative importance	Definition	Explanation
1	Equal importance	Two activities contribute equally to the objective.
3	Moderate importance of one over another.	Experience and judgment slightly favour one activity over another.
5	Essential or strong importance.	Experience and judgment strongly favour one activity over another.
7	Demonstrated importance.	An activity is strongly favoured and its dominance is demonstrated in practice.
9	Extreme importance.	The evidence favouring one activity over another is of the highest possible order of affirmation.
2, 4, 6, 8,	Intermediate values between the two adjacent judgments.	When compromise is needed.
Reciprocals of above non-zero numbers.	If an activity has one of the above numbers (e.g. 3) compared with a second activity, then the second activity has the reciprocal value (i.e., 1/3) when compared to the first.	

The information on whether the decision-maker was consistent or not in the process of comparing the elements of the hierarchy can be checked by calculating the Consistency Ratio (C.R.), $C.R. = C.I./R.I.$, where the Consistency Index (C.I.) = $(\lambda_{\max} - n) / (n - 1)$, λ_{\max} represents the largest eigenvalue of the matrix of pairwise comparisons (A), (Saaty and Vargas, 1994, p. 8-9). The values of the Random Index (R.I.) are given in Table 3. The decision-maker is considered to be consistent if it is obtained that the Consistency Ratio is about 10% or less; if that is not the case then the consistency should be improved (Saaty, 1990, p. 13).

Table 3. Average Random Consistency Index (Saaty and Vargas, 1994, p. 9)

n	1	2	3	4	5	6	7	8	9	10
Random Consistency Index (R.I.)	0	0	.52	.89	1.11	1.25	1.35	1.40	1.45	1.49

The analytic hierarchy process is a method that is most widely accepted, (Triantaphyllou and Mann, 1995), and for its application see more in (Saaty and Vargas, 1994, p. 24).

3.1. AHP MODEL FOR CANDIDATES RANKING FOR THE POSITION OF A PROJECT MANAGER

In this paper, the decision problem is decomposed into: goal (candidates ranking for the position of a Project Manager), seven criteria were determined, the criteria being those that were the mostly chosen ones by the interviewees (Table 1), such as: education (criterion 1), specific work experience (criterion 2), level of English proficiency (criterion 3), PM Software usage skills (criterion 4), organization skills (criterion 5) analytical skills (criterion 6) and PMP Certificate (criterion 7). The criteria PMP Certificate and leadership, which are listed under 7 and 8 respectively in Table 1, are selected equal number of times by the interviewees (13 times each), whereas the owner and the manager of the consultancy company chose the criterion PMP certificate.

On his behalf there were also established so called intensities of the criteria, the intensities being the following ones: regarding the education criterion the intensities are: PhD degree, Master's Degree, Bachelor's Degree and secondary education graduate certificate; regarding the specific work experience criterion the intensities are: exceptional, large, average, small; regarding the level of English proficiency the intensities are: A1, A2, B1, B2, C1 and C2 (according to the Common European Framework of Reference for Languages (CEFR)⁸); regarding the PM Software usage skills criterion the intensities are: excellent, very good, average, below-average and insufficient; regarding the criteria organization skills and analytical skills same intensities were established: excellent, average, below-average, weak and unsatisfactory; and regarding the PMP Certificate criterion, if the person has this Certificate he/she shall be given the priority value of this criterion; whereas if he/she does not have it then he/she shall get 0. The constructed model is shown in Figure 1.

Comparisons of the elements in pairs are made by the person who is both owner and manager of the consultancy company, and the obtained results are given and interpreted in the following section.

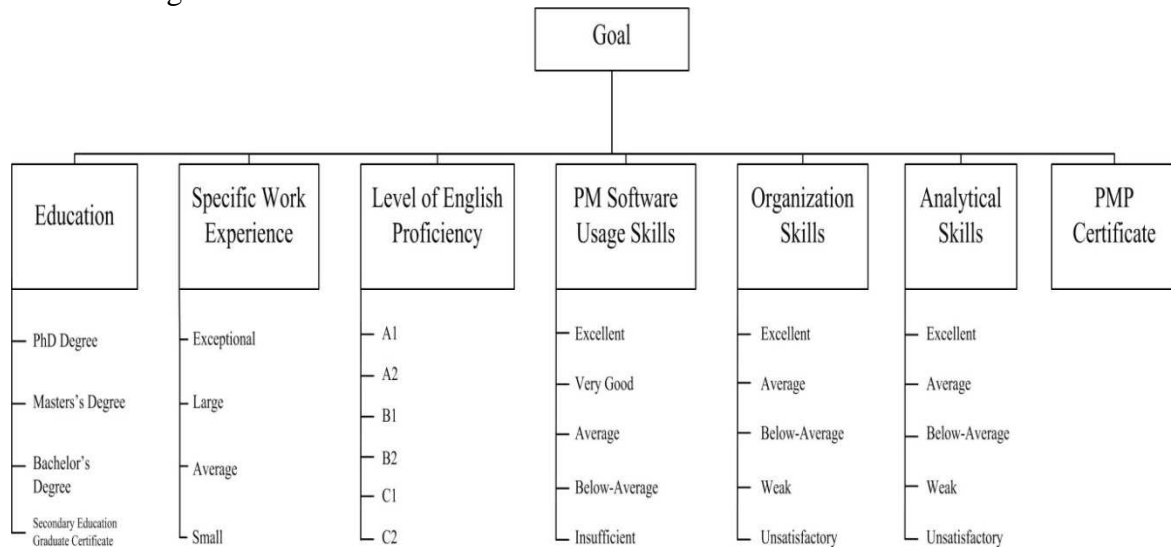


Figure 1. AHP Model for Applicant Candidates Ranking for the Job Position of a Project Manager

⁸ http://www.coe.int/t/dg4/linguistic/Source/Framework_en.pdf (accessed: 9 March 2014).

4. RESULTS

The matrix of pairwise comparisons of the criteria is shown in Table 4, whereas the normalized matrix and the priorities are given in Table 5. Table 5 shows that the second criterion i.e. the specific work experience has the highest priority (0.284), and after this criterion follow the fifth and the sixth criterion i.e. the organization and analytical skills with 0.187 priority, etc.

The matrix of pairwise comparisons of the intensities with respect to the first criterion i.e. education, the priorities and the idealized priorities are given in Table 6, whereas the matrix of pairwise comparisons of the intensities with respect to the second, third, fourth, fifth and the sixth criterion are given in Appendix 1.

The person who is both the owner and the manager of the consultancy company was consistent in the process of comparing the elements of the constructed hierarchy (Consistency Ratio is less than 10%, i.e. less than 0.10).

Table 4. Matrix of pairwise comparisons of the criteria

	C1	C2	C3	C4	C5	C6	C7
C1	1	1/5	1/2	1/5	1/6	1/6	1/5
C2	5	1	7	1	3	3	2
C3	2	1/7	1	1/6	1/6	1/6	1/6
C4	5	1	6	1	1/2	1/2	1
C5	6	1/3	6	2	1	1	2
C6	6	1/3	6	2	1	1	2
C7	5	1/2	6	1	1/2	1/2	1

Table 5. Normalized matrix and priorities

	C1	C2	C3	C4	C5	C6	C7	Priorities
C1	0.033	0.057	0.015	0.027	0.026	0.026	0.024	0.030
C2	0.167	0.285	0.215	0.136	0.474	0.474	0.239	0.284
C3	0.067	0.041	0.031	0.023	0.026	0.026	0.020	0.033
C4	0.167	0.285	0.185	0.136	0.079	0.079	0.120	0.149
C5	0.200	0.095	0.185	0.271	0.158	0.158	0.239	0.187
C6	0.200	0.095	0.185	0.271	0.158	0.158	0.239	0.187
C7	0.167	0.142	0.185	0.136	0.079	0.079	0.120	0.130

C.I. = 0.076 C.R. = 0.057

Table 6. Matrix of pairwise comparisons of the intensities with respect to the criterion 1, priorities and idealized priorities

Criterion 1	PhD Degree	Master's Degree	Bachelor's Degree	Secondary Education Graduation Certificate	Priorities	Idealized Priorities
PhD Degree	1	2	3	4	0.466	1.000
Master's Degree	1/2	1	2	3	0.277	0.595
Bachelor's Degree	1/3	1/2	1	2	0.161	0.346
Secondary Education Graduation Certificate	1/4	1/3	1/2	1	0.096	0.206

C.I. = 0.010 C.R. = 0.012

A short version of how the applicant candidates ranking for the job position of a Project Manager shall be made is given in Table 12.

Into consideration are taken four alternatives i.e. four candidates (A, B, C, D), and in the following lines there is an illustration how the total score for Candidate B is calculated:

$$0.030 \times 0.346 + 0.284 \times 0.472 + 0.033 \times 0.642 + 0.150 \times 0.590 + 0.187 \times 0.518 + 0.187 \times 0.518 + 0.130 = 0.578$$

In an analogical way there is calculated the total score for the rest of the candidates. Then, the normalized priorities are calculated, and the last column in Table 12 (Ranking) shows that first ranked is the Candidate B, after which follow the Candidates D, A and C.

Table 7. Ranking Candidates

	C1 0.030	C2 0.284	C3 0.033	C4 0.150	C5 0.187	C6 0.187	C7 0.130	Total score	Priorities (norma- lized)	Ranking
A	Bachelor	Average	B2	Average	Average	Below average	No	0.284	0.180	3
B	Bachelor	Large	C1	Very Good	Average	Average	Yes	0.578	0.366	1
C	Master	Small	B2	Below average	Below average	Below average	No	0.190	0.121	4
D	Master	Average	C2	Very Good	Average	Average	Yes	0.525	0.333	2

5. CONCLUSION

This paper aimed at constructing AHP Model for ranking of applicant candidates for the job position of a Project Manager. For that purpose there is used the absolute measurement approach of the analytic hierarchy process.

Through the carried out interview with the person who is both owner and manager of a consultancy company and also on the basis of the obtained results from the survey questionnaire that was submitted via e-mail to 30 owners and/or managers of small and medium enterprises, there were seven criteria selected: education, specific work experience, level of English proficiency, PM software usage skills, organization skills, analytical skills and PMP Certificate. On behalf of the person who is both owner and manager of the consultancy company there were established intensities of the criteria, whereas as alternatives shall be considered the candidates who shall apply for this job position.

According to the obtained results, the criterion specific work experience has the highest priority, after which follow the organization skills and analytical skills criteria which have the same priority; and after these follows the PM Software usage skills criterion, then follows the PMP Certificate criterion, then the level of English proficiency, after which is the education.

Through the hypothetical example there is illustrated how the applicant candidates ranking shall be made for the job position of a Project Manager, and how this process shall enable the person who is both owner and manager of the consultancy company to choose the best candidate for this position.

REFERENCES

- Miller, G. A. (1956). The magical number seven, plus or minus two: some limits on our capacity for processing information. *The Psychological Review*, 63, 81-97.
- Saaty, T. L. (1977). A scaling method for priorities in hierarchical structures. *Journal of Mathematical Psychology*, 15(3), 234-281.
- Saaty, T. L. (1980). *Multicriteria decision making: The analytic hierarchy process*. Pittsburgh: RWS Publications.
- Saaty, T. L. (1990). How to make a decision: The analytic hierarchy process. *European Journal of Operational Research*, 48, 9-26.
- Saaty, T. L. (2005). *Theory and applications of the analytic network process: Decision making with benefits, opportunities, costs, and risks*. Pittsburgh: RWS Publications.
- Saaty, T. L., & Vargas, L. G. (1991). *The logic of priorities*. (Vol. III). Pittsburgh: RWS Publications.
- Saaty, T. L., & Vargas, L. G. (1994). *Decision making in economic, political, social, and technological environments with the AHP*. (Vol. VII). Pittsburgh: RWS Publications.
- Triantaphyllou, E., & Mann, S. H. (1995). Using the analytic hierarchy process for decision making in engineering applications: Some challenges. *International Journal of Industrial Engineering: Applications and Practice*, 2(1), 35-44.
- http://www.coe.int/t/dg4/linguistic/Source/Framework_en.pdf (accessed: 9 March 2014).

APPENDIX 1

Table 7. Matrix of pairwise comparisons of the intensities with respect to the criterion 2, priorities, and idealized priorities

Criterion 2	Exceptional	Large	Average	Small	Priorities	Idealized priorities
Exceptional	1	3	5	7	0.558	1.000
Large	1/3	1	3	5	0.263	0.472
Average	1/5	1/3	1	3	0.122	0.218
Small	1/7	1/5	1/3	1	0.057	0.102

$$C.I. = 0.039 \quad C.R. = 0.044$$

Table 8. Matrix of pairwise comparisons of the intensities with respect to the criterion 3, priorities, and idealized priorities

Criterion 3	A1	A2	B1	B2	C1	C2	Priorities	Idealized priorities
A1	1	1/2	1/3	1/4	1/5	1/7	0.042	0.108
A2	2	1	1/2	1/3	1/4	1/5	0.065	0.168
B1	3	2	1	1/2	1/3	1/4	0.102	0.263
B2	4	3	2	1	1/2	1/3	0.159	0.413
C1	5	4	3	2	1	1/2	0.247	0.642
C2	7	5	4	3	2	1	0.385	1.000

$$C.I. = 0.021 \quad C.R. = 0.017$$

Table 9. Matrix of pairwise comparisons of the intensities with respect to the criterion 4, priorities, and idealized priorities

Criterion 4	Excellent	Very Good	Average	Below Average	Insufficient	Priorities	Idealized priorities
Excellent	1	2	3	5	7	0.443	1.000
Very Good	1/2	1	2	3	5	0.262	0.590
Average	1/3	1/2	1	2	3	0.153	0.344
Below Average	1/5	1/3	1/2	1	2	0.089	0.201
Insufficient	1/7	1/5	1/3	1/2	1	0.053	0.119

C.I. = 0.007 C.R. = 0.006

Table 10. Matrix of pairwise comparisons of the intensities with respect to the criterion 5, priorities, and idealized priorities

Criterion 5	Excellent	Average	Below Average	Weak	Unsatisfactory	Priorities	Idealized priorities
Excellent	1	3	5	7	9	0.503	1.000
Average	1/3	1	3	5	7	0.260	0.518
Below Average	1/5	1/3	1	3	5	0.134	0.267
Weak	1/7	1/5	1/3	1	3	0.068	0.135
Unsatisfactory	1/9	1/7	1/5	1/3	1	0.035	0.069

C.I. = 0.061 C.R. = 0.055

Table 11. Matrix of pairwise comparisons of the intensities with respect to the criterion 6, priorities, and idealized priorities

Criterion 6	Excellent	Average	Below Average	Weak	Unsatisfactory	Priorities	Idealized priorities
Excellent	1	3	5	7	9	0.503	1.000
Average	1/3	1	3	5	7	0.260	0.518
Below Average	1/5	1/3	1	3	5	0.134	0.267
Weak	1/7	1/5	1/3	1	3	0.068	0.135
Unsatisfactory	1/9	1/7	1/5	1/3	1	0.035	0.069

C.I. = 0.061 C.R. = 0.055

MEASURING THE EFFICIENCY OF CERTAIN EUROPEAN COUNTRIES IN TOURISM: DEA WINDOW ANALYSIS

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Abstract: The purpose of the paper is to measure the efficiency of fifteen European countries in tourism over the period 2004-2013 using the Window analysis technique. Sample includes destinations which are competitors on the international tourism market. Two inputs are selected and they are: visitor exports and domestic travel and tourism spending, while travel and tourism total contribution to GDP and travel and tourism total contribution to employment are outputs. The results have been obtained using the software package DEA-Solver-Pro 7.0. According to them, there is no country that is efficient in every year in every window, and the least efficient country is Montenegro.

Keywords: Relative efficiency, data envelopment analysis, window analysis, European countries, tourism

1. INTRODUCTION

In this paper we measure the relative efficiency of 15 European countries in tourism, using the data envelopment analysis (DEA) methodology which was introduced by Charnes et al. (1978). DEA is a data-oriented approach (Cook and Zhu, 2008) for measuring the efficiency of homogenous entities which are known as decision making units (DMUs), and they use the same inputs and produce the same outputs.

DEA is frequently used method for evaluating the micro-and macro-efficiency in tourism. Some of the authors who have been dealing with this issue are Barros and Mascar, 2005; Bell and Morey, 1995; Sigala, 2004 etc. The results of these studies can not be compared because they use different DMUs, as well as different periods of time, but these works are interesting for understanding the selection of inputs and outputs to which DEA is extremely sensitive.

In our research two inputs and two outputs were selected and data was collected for a period of 10 years (2004-2013) that allow us to apply the DEA technique window analysis. This technique allows to observe the changes in the efficiency of DMUs i.e. countries over time.

The paper is organized as follows. Section 2 relates with tourism and its economic impacts. In section 3 methodology has been described, while in section 4 the data. The results are presented and discussed in Section 5 and the conclusion is given in Section 6.

2. TOURISM AND ITS ECONOMIC IMPACTS

Tourism has gained status as one of the biggest, most dynamic and complex socio-economic phenomena in modern world. Given that, tourism in generally interferes in

almost all spheres of social and economic development. Simultaneously it operates complexly and complementary and is deeply incorporated into the flows of everyday life. Due to the fact that tourism belongs to younger socio-economic phenomena, it has become the subject of severe scientific researches in mid-twentieth century, when begun its dynamic growth and development. At the same time, it has been recognized that tourism can only be studied as interdisciplinary scope, because with merely equal evaluation of its social and economic impact and research of its positive and negative influences it is possible to get into its essence (Cavlek et al., 2011, pp. 23-24).

Definitions of tourism exist almost as much as their authors from various scientific disciplines. One of the oldest is the one designed by the Swiss theoreticians of tourism W. Hunziker and K. Krapf in 1942, and it reads: "Tourism is the sum of the phenomena and relationships arising from travel and stay of non-residents, insofar as they do not lead to permanent residence and are not connected with any earning activity" (Markovic and Markovic, 1970, p. 10). The basic characteristics of this definition are reflected in the interpretation of tourism as a "tangle of relations with social and economic character" (Pirjevec, 1998, p. 20). So, there is a warning that tourism is not only the economic activity by which people achieve and promote their human qualities, either in their views and cognition, or in their relation with the world and nature (Alfieri, 1977, p. 15).

Today, in most of the countries there is a general acceptance of conceptual definition of tourism proposed by UNWTO (1999) which states: "Tourism comprises the activities of persons traveling to and staying in places outside their usual environment for not more than one consecutive year for leisure, business and other purposes". Whatever criteria we use in attempt to define tourism, the most common in all definitions is that tourism is placed in the general concept of traveling for pleasure outside the usual environment. From an economic point of view, the crucial is the act of consumption of financial assets obtained in domicile, and consumed in a tourism destination (Cavlek et al., 2011, p. 31).

As the role of tourism derives from its economic functions, the theorists of tourism Markovic and Markovic (1972, p. 28) state that the economic functions of tourism comprehend all activities which are aimed to achieve the set of economic goals and which result in certain economic impacts. Economic impacts of tourism can be defined as changes that occur in the economic structure of tourism generating, transitive and receptive destinations as a result of tourism movement and spending, and ultimately tourism development (Cavlek et al., 2011, p. 316).

With analyse of the tourism economic impacts it is possible to understand the structure complexity and relationships that rule at the tourism market (Kesar, 2006, p. 499). In different socio-economic environments and circumstances economic impacts of tourism can be manifested in different ways, especially when it comes to their size, structure and intensity of the impacts which they have on the economy. For the macroeconomic analysis of tourism impact on the economy, commonly are used three approaches in classification of the economic impacts of tourism. According to the first approach, economic impacts of tourism can be divided into physical and financial impacts. Physical economic impacts are related with the quantitative indicators of development, such as the number of overnight stays, while financial economic impacts refer to those impacts that can be expressed in monetary value (e.g. travel and tourism total contribution to GDP). Second approach divides economic impacts of tourism to direct and indirect impacts. Direct economic impacts of tourism occur in the initial stage of economic development at the regional and national level as a result of direct tourist spending (e.g. increase in income). Indirect economic impacts of tourism arise as a result of the previously generated direct economic impacts of tourism, and for its recognition in practice is required a longer lapse of time

(e.g. influence on regional development). The third approach classifies the economic impacts of tourism on the positive and negative impacts which is considered to be the simplest classification. The example of the positive economic impact of tourism is its total contribution to employment, while the negative is excessive economic dependence on tourism (Cavlek et al., 2011, p. 320).

3. METHODOLOGY

The CCR model (Charnes et al., 1978) and the BCC model (Banker et al., 1984) are basic DEA models. The first one has been built on the assumption of constant, while the second one on the assumption of variable returns to scale (VRS) of activities.

The DEA model may be oriented on input reduction or may be oriented on output augmentation, the first type of model is known as the input-oriented model, while the second is known as output-oriented model. Within the paper is used window analysis under VRS assumption, based on BCC model.

The envelopment form of the output-oriented BCC DEA model is given in (1)-(5), (Cooper et al., 2007, p. 93):

$$(BCC - O_o) \quad \max_{\eta_B, \lambda} \eta_B \quad (1)$$

$$\text{subject to} \quad X \lambda \leq x_o \quad (2)$$

$$\eta_B y_o - Y \lambda \leq 0 \quad (3)$$

$$e \lambda = 1 \quad (4)$$

$$\lambda \geq 0 \quad (5)$$

where η_B is a scalar. The input data for DMU_{*j*} (*j*=1,...,*n*) are $(x_{1j}, x_{2j}, \dots, x_{mj})$, and the output data are $(y_{1j}, y_{2j}, \dots, x_{sj})$; the data set is given by two matrices *X* and *Y*, where *X* is the input data matrix, and *Y* is the output data matrix, λ is a column vector and all its elements are non-negative, while *e* is a row vector and all its elements are equal to 1 (Cooper et al., 2007, p. 22, pp. 91-92). See more about the BCC DEA model in (Banker et al., 1984) and (Cooper et al., 2007, pp. 90-94).

The changes in efficiency of the decision making unit over time can be observed by using the window analysis technique. This DEA technique is explained in Cooper et al., 2007, p. 324-328; Neralic, 1995, p. 207; Savic et al, 2012, p. 6-7, and the used symbols and formulas in the paper are given in Cvetkoska, 2013, p. 3.

4. DATA

In this paper are covered fifteen European countries that appear to be competitors on the tourism market, i.e. Austria, Bosnia Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, France, Greece, Italy, Macedonia, Montenegro, Portugal, Serbia, Slovenia and Spain.

Authors select two inputs: visitor exports (input 1) and domestic travel and tourism spending (input 2), and two outputs: travel and tourism total contribution to GDP (output

1) and travel and tourism total contribution to employment (output 2). The description of inputs and outputs is given in table 1.

The data have been taken from World Travel and Tourism Council for a period of ten years (2004-2013) (WTTC, 2014). WTTC is the forum for business leaders in the travel and tourism industry. It works to raise awareness of travel and tourism as one of the world's largest industries, which advocates partnership between the public and private sectors, delivering results that match the needs of economies, local and regional authorities and local communities with those of business.

Statistics on input/output data for the observed period obtained using the software package DEA-Solver-Pro 7.0⁹ is given in appendix 1.

Table 1. Description of inputs and outputs (WTTC, 2012)

Inputs	Description
Visitor exports	Spending within the country by international tourists for both business and leisure trips, including spending on transport, but excluding international spending on education. This is consistent with total inbound tourism expenditure in table 1 of the TSA: RMF 2008.
Domestic travel and tourism spending	Spending within a country by that country's residents for both business and leisure trips. Multi-use consumer durables are not included since they are not purchased solely for tourism purposes. This is consistent with total domestic tourism expenditure in table 2 of the TSA: RMF 2008. Outbound spending by residents abroad is not included here, but is separately identified according to the TSA: RMF 2008.
Outputs	Description
Travel and tourism total contribution to GDP	Total contribution to GDP – GDP generated directly by the travel and tourism sector plus its indirect and induced impacts (see below). Direct contribution to GDP – GDP generated by industries that deal directly with tourists, including hotels, travel agents, airlines and other passenger transport services, as well as the activities of restaurant and leisure industries that deal directly with tourists. It is equivalent to total internal travel & tourism spending within a country less the purchases made by those industries (including imports). In terms of the UN's Tourism Satellite Account methodology it is consistent with total GDP calculated in table 6 of the TSA: RMF 2008.
Travel and tourism total contribution to employment	Total contribution to employment – the number of jobs generated directly in the travel and tourism sector plus the indirect and induced contributions (see below). Direct contribution to employment – the number of direct jobs within the Travel & Tourism industry. This is consistent with total employment calculated in table 7 of the TSA: RMF 2008.
	Indirect and induced impacts
	<p>Indirect contribution – the contribution to GDP and jobs of the following three factors:</p> <ul style="list-style-type: none"> • Capital investment – includes capital investment spending by all sectors directly involved in travel and tourism. This also constitutes investment spending by other industries on specific tourism assets such as new visitor accommodation and passenger transport equipment, as well as restaurants and leisure facilities for specific tourism use. This is consistent with total tourism gross fixed capital formation in table 8 of the TSA: RMF 2008. • Government collective spending – general government spending in support of general tourism activity. This can include national as well as regional and local government spending. For example, it includes tourism promotion, visitor information services, administrative services and other public services. This is consistent with total collective tourism consumption in table 9 of TSA: RMF 2008. • Supply-chain effects – purchases of domestic goods and services directly by different sectors of the Travel & Tourism sector as inputs to their final tourism output. <p>Induced contribution – the broader contribution to GDP and employment of spending by those who are directly or indirectly employed by travel & tourism.</p>

TSA – Tourism Satellite Account

⁹ <http://www.saitech-inc.com/>

5. RESULTS AND ANALYSIS

The sample consisted of 15 European countries ($n=15$), ten years are considered ($k=10$), the length of the window is 5 years ($p=5$), and the number of windows is 6 ($w=6$). In each window there are 75 ($= np = 15 \times 5$) DMUs, and the number of “different” DMUs is 450 ($= npw = 15 \times 5 \times 6$).

Each of the windows cover 5 years and they are presented below:

window 1	2004	2005	2006	2007	2008					
window 2		2005	2006	2007	2008	2009				
window 3			2006	2007	2008	2009	2010			
window 4				2007	2008	2009	2010	2011		
window 5					2008	2009	2010	2011	2012	
window 6						2009	2010	2011	2012	2013

In appendix 2 are presented the relative efficiency results for each country in every year in every window, and the results of overall efficiency. The results of overall efficiency are calculated using the average of efficiency in 6 windows for every country and also we used the average of annual efficiency.

According to the results it can be seen that there is no country that is efficient in every year in every window, and the least efficient country overall is Montenegro.

The row-wise averages of results for every country in the sample are presented in Figure 1, while in Figure 2 are presented the column-wise averages of results for each of the fifteen countries. The highest and the lowest efficiency results are achieved in 2004 and 2011 respectively.

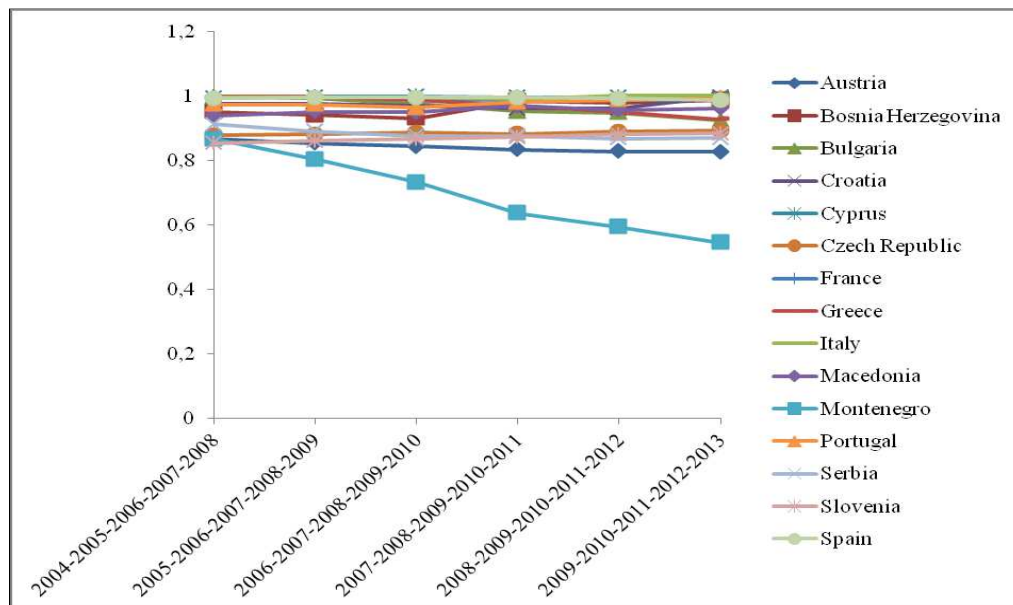


Figure 1. Variations through Window

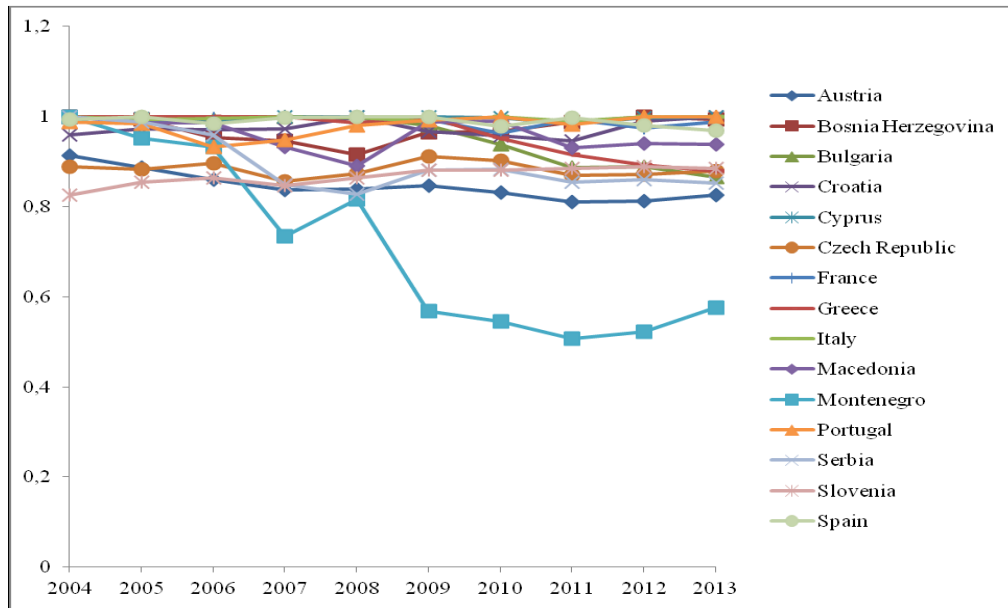


Figure 2. Variations by Term

6. CONCLUSION

In order to measure the efficiency of 15 entities, i.e. European countries in tourism in the period of ten years (2004-2013) the window analysis technique is used. The sample consists of the following countries: Austria, Bosnia Herzegovina, Bulgaria, Croatia, Cyprus, Czech Republic, France, Greece, Italy, Macedonia, Montenegro, Portugal, Serbia, Slovenia and Spain. Visitor exports and domestic travel and tourism spending are inputs and travel and tourism total contribution to GDP and travel and tourism total contribution to employment are outputs.

The software package DEA-Solver-Pro 7.0 is used to obtain the results. In the paper are shown the relative efficiency results for each of the fifteen countries, the results of overall efficiency (by windows and by years), and also are presented the row and column-wise averages of results for each country in the sample.

According to the obtained results it can be concluded that no one of the countries is efficient in every year in every window. In 2004 are achieved the highest efficiency results, and in 2011 are achieved the lowest efficiency results. Based on the presented results of overall efficiency (by years) it has been found that 10 of 15 countries show efficiency results over 95%. Montenegro is identified as the least efficient country, while the following 4 countries: Italy, Cyprus, France and Spain show the highest efficiency results.

REFERENCES

Alfier, D. (1977). The role of tourism in the resocialization and desocialization of modern people. *Proceedings of Humanities value of tourism*. Zadar: The pedagogical academy (in Croatian).

- Banker, R. D., Charnes, A. & Cooper, W. W. (1984). Some models for estimating technical and scale inefficiencies in data envelopment analysis. *Management Science*, 30(9), 1078-1092.
- Barros, C. P., & Mascarenhas, M. J. (2005). Technical and allocative efficiency in chain of small hotels. *International Journal of Hospitality Management*, 24, 415-436.
- Bell, R., & Morey, R. (1995). Increasing the efficiency of corporate travel management through macro benchmarking. *Journal of Travel Research*, 33(3), 11-20.
- Charnes, A., Cooper, W. W. & Rhodes, E. L. (1978). Measuring efficiency of decision making units. *European Journal of Operational Research*, 2(6), 429-444.
- Cook, W. D., & Zhu, J. (2008). *Data envelopment analysis: Modeling operational processes and measuring productivity*. CreateSpace Independent Publishing Platform.
- Cooper, W. W., Seiford, L. M., & Tone, K. (2007). *Data envelopment analysis: A comprehensive text with models, applications, references and DEA-solver software*. (2 ed.). New York: Springer Science + Business Media, LLC.
- Cvetkoska, V. (2013). Using DEA window analysis to evaluate the efficiency of bank branches within one bank. *International Journal of Business and Management Tomorrow*, 3(10), 1-6. Retrieved from: www.ijbmt.com.
- Cavlek, N., Bartoluci, M., Prebezac, D., Kesar, O. & associates (2011). *Tourism: Economic fundamentals and organizational system*. Zagreb: School book (in Croatian).
- Kesar, O. (2006). *Economic impacts of tourist spending*, Doctoral thesis. Faculty of Economics and Business – Zagreb, Zagreb (in Croatian).
- Markovic, S. & Markovic, Z. (1970). *Basics of Tourism*. Zagreb: School book (in Croatian).
- Markovic, S. & Markovic, Z. (1972). *Economics of Tourism*. Zagreb: School book (in Croatian).
- Neralic, L. (1995), About one application of data envelopment analysis in agriculture. *In Proceedings of the Fifth Conference on Operational Research*, T. Hunjak, Lj. Martić and L. Neralic (eds.), Croatian Operational Research Society, Rab, 204-214. (in Croatian).
- Pirjevec, B. (1998). *Economic characteristics of tourism*. Zagreb: Golden marketing (in Croatian).
- Savic, G., Radosavljevic, M., & Ilievski, D. (2012). DEA window analysis approach for measuring the efficiency of Serbian banks based on panel data. *Management*, 65, 5-14.
- Sigala, M. (2004). Using data envelopment analysis for measuring and benchmarking productivity in the hotel sector. *Journal of Travel & Tourism Marketing*, 16(2), 39-60.
- UNWTO (1999). World Tourism Organization, World Conference on the Measurement of the Economic Impact of Tourism. Nice.
- WTTC (2014), World Travel and Tourism Council. Retrieved from: <http://www.wttc.org/>, accessed: February 21, 2014.
- WTTC (2012), World Travel & Tourism Council, *Travel & Tourism Economic Impact 2012, Croatia*. Retrieved from: http://www.wttc.org/site_media/uploads/downloads/croatia2012.pdf, accessed: June 12, 2012.

APPENDIX 1

Statistics on Input/Output Data

Time period 2004

	Input 1	Input 2	Output 1	Output 2
Max	49.123.000.000,00	122.046.000.000,00	239.391.000.000,00	3.344.400,00
Min	102.000.000,00	20.000.000,00	262.000.000,00	19.600,00
Average	12.596.466.666,67	22.402.533.333,33	50.696.733.333,33	895.540,00
SD	16.530.355.289,05	39.568.418.728,18	79.497.159.145,44	1.125.949,67

Time period 2005

	Input 1	Input 2	Output 1	Output 2
Max	52.302.000.000,00	124.247.000.000,00	235.251.000.000,00	3.242.200,00
Min	115.000.000,00	30.000.000,00	289.000.000,00	21.500,00
Average	13.171.066.666,67	23.061.600.000,00	52.123.533.333,33	907.620,00
SD	16.947.270.590,34	40.206.318.879,50	80.198.289.747,24	1.128.667,71

Time period 2006

	Input 1	Input 2	Output 1	Output 2
Max	56.693.000.000,00	130.543.000.000,00	243.447.000.000,00	3.202.100,00
Min	154.000.000,00	116.000.000,00	340.000.000,00	26.400,00
Average	14.211.733.333,33	24.420.133.333,33	54.507.533.333,33	909.706,67
SD	18.151.218.205,09	42.379.186.081,32	83.428.187.666,49	1.131.562,12

Time period 2007

	Input 1	Input 2	Output 1	Output 2
Max	64.024.000.000,00	144.233.000.000,00	270.709.000.000,00	3.229.200,00
Min	215.000.000,00	134.000.000,00	423.000.000,00	27.400,00
Average	16.389.733.333,33	27.342.600.000,00	61.600.066.666,67	899.500,00
SD	20.662.624.091,07	47.203.588.279,99	93.968.856.629,89	1.139.117,48

Time period 2008

	Input 1	Input 2	Output 1	Output 2
Max	69.337.000.000,00	154.369.000.000,00	285.665.000.000,00	3.234.000,00
Min	259.000.000,00	168.000.000,00	516.000.000,00	28.700,00
Average	17.933.000.000,00	29.109.533.333,33	66.017.600.000,00	884.546,67
SD	22.187.986.443,12	49.681.807.230,77	99.077.115.443,68	1.107.185,89

Time period 2009

	Input 1	Input 2	Output 1	Output 2
Max	58.546.000.000,00	136.848.000.000,00	259.336.000.000,00	3.004.800,00
Min	228.000.000,00	137.000.000,00	472.000.000,00	28.000,00
Average	15.196.333.333,33	25.829.733.333,33	59.253.533.333,33	843.293,33
SD	18.924.463.520,94	43.847.147.033,71	89.035.217.573,62	1.054.765,18

Time period 2010

	Input 1	Input 2	Output 1	Output 2
Max	57.497.000.000,00	130.092.000.000,00	241.612.000.000,00	2.834.700,00
Min	206.000.000,00	133.000.000,00	429.000.000,00	25.300,00
Average	14.902.866.666,67	24.866.066.666,67	56.168.333.333,33	813.593,33
SD	18.197.762.048,73	42.151.561.888,76	83.613.907.987,18	1.007.639,68

Time period 2011

	Input 1	Input 2	Output 1	Output 2
Max	65.759.000.000,00	139.073.000.000,00	269.510.000.000,00	2.933.000,00
Min	247.000.000,00	152.000.000,00	490.000.000,00	25.100,00
Average	16.887.533.333,33	26.732.800.000,00	61.064.866.666,67	814.813,33
SD	21.120.494.911,71	45.636.334.097,88	92.387.293.785,72	1.032.179,69

Time period 2012

	Input 1	Input 2	Output 1	Output 2
Max	60.749.000.000,00	130.379.000.000,00	253.639.000.000,00	2.924.600,00
Min	242.000.000,00	154.000.000,00	485.000.000,00	28.700,00
Average	16.082.666.666,67	24.383.400.000,00	56.199.866.666,67	805.120,00
SD	19.804.879.996,83	41.881.652.633,42	84.779.714.044,39	1.011.816,01

Time period 2013

	Input 1	Input 2	Output 1	Output 2
Max	58.925.000.000,00	130.199.000.000,00	256.230.000.000,00	2.935.800,00
Min	255.000.000,00	168.000.000,00	523.000.000,00	29.800,00
Average	16.144.733.333,33	24.171.266.666,67	55.812.466.666,67	801.160,00
SD	19.595.800.806,86	41.579.901.164,65	84.101.834.487,22	1.001.889,87

APPENDIX 2

Window analysis results:

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Country	Relative efficiency results										Overall efficiency	
	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	by windows	by years
Austria	0.9143	0.8875	0.8602	0.8376	0.8388							
		0.8863	0.8586	0.8363	0.8388	0.8455						
			0.8590	0.8368	0.8407	0.8456	0.8313					
				0.8368	0.8407	0.8456	0.8313	0.8130				
					0.8373	0.8466	0.8324	0.8097	0.8121			
Bosnia Herzegovina	1	0.9866	0.9480	0.9264	0.8923							
		1	0.9525	0.9299	0.8952	0.9256						
			0.9612	0.9362	0.9003	0.9325	0.9233					
				0.9935	0.9438	0.9960	0.9922	1				
					0.9434	0.9852	0.9774	0.9824	1			
Bulgaria	1	1	0.9903	1	1							
		1	0.9903	1	1	0.9662						
			1	1	1	0.9675	0.9101					
				1	1	0.9678	0.9103	0.8768				
					1	1	0.9656	0.8853	0.8851			
Croatia	0.9602	0.9736	0.9709	0.9723	1							
		0.9736	0.9709	0.9723	1	0.9591						
			0.9709	0.9724	1	0.9594	0.9440					
				0.9724	1	0.9594	0.9440	0.9267				
					1	0.9540	0.9434	0.9264	0.9790			
Cyprus	1	0.9901	0.9815	1	1							
		1	0.9848	1	1	1						
			1	1	1	1	0.9969					
				1	1	1	0.9972	0.9849				
					1	1	0.9973	0.9860	0.9994			
Czech Republic	0.8897	0.8824	0.8951	0.8512	0.8679							
		0.8824	0.8952	0.8512	0.8680	0.9012						
			0.9014	0.8574	0.8731	0.9053	0.8947					
				0.8631	0.8746	0.9058	0.8961	0.8707				
					0.8807	0.9239	0.9076	0.8682	0.8699			
France	1	0.9786	0.9850	0.9996	1							
		1	1	1	1	0.9907						
			1	1	1	0.9907	0.9533					
				1	1	0.9907	0.9533	0.9912				
					1	1	0.9710	0.9919	0.9694			
Greece	0.9988	1	1	1	0.9859							
		1	1	1	0.9859	1						
			1	1	0.9866	1	0.9507					
				1	0.9866	1	0.9517	0.9153				
					0.9812	1	0.9511	0.9158	0.8926			
Italy	1	0.9888	0.9884	1	0.9963							
		1	1	1	0.9963	0.9839						
			1	1	0.9963	0.9839	0.9952					
				1	0.9963	0.9840	1	0.9708				
					1	1	1	1	1	1		
Macedonia	1	0.9729	0.9614	0.8966	0.8655							
		1	0.9945	0.9129	0.8781	0.9653						
			1	0.9228	0.8865	0.9753	0.9606					
				1	0.9112	1	1	0.9305				
					0.9101	1	1	0.9305	0.9400			
Montenegro	1	0.9016	0.8881	0.7308	0.8141							
		1	0.9097	0.7312	0.8120	0.5625						
			1	0.7340	0.8149	0.5645	0.5424					
				0.7403	0.8203	0.5688	0.5460	0.5058				
					0.8210	0.5706	0.5468	0.5068	0.5218			
Portugal	0.9886	0.9857	0.9354	0.9590	0.9957							
		0.9825	0.9361	0.9595	0.9960	0.9936						
			0.9289	0.9311	0.9728	0.9843	1					
				0.9402	0.9724	0.9883	1	1				
					0.9677	0.9941	1	0.9749	1			
Serbia	1	0.9776	0.9303	0.8350	0.8177							
		1	0.9454	0.8364	0.8128	0.8588						
			1	0.8411	0.8163	0.8631	0.8603					
				0.8827	0.8509	0.9013	0.8927	0.8516				
					0.8436	0.8928	0.8879	0.8546	0.8596			
Slovenia	0.8263	0.8560	0.8651	0.8511	0.8694							
		0.8545	0.8630	0.8458	0.8631	0.8798						
			0.8653	0.8465	0.8634	0.8803	0.8798					
				0.8474	0.8640	0.8810	0.8804	0.8849				
					0.8640	0.8810	0.8805	0.8849	0.8889	0.8847		
Spain	0.9928	1	0.9763	0.9941	1							
		1	0.9776	0.9975	1	1						
			1	1	1	1	0.9744					
				1	1	1	0.9780	0.9952				
					1	1	0.9793	0.9952	0.9808			
					1	0.9793	1	0.9807	0.9683			

STRATEGIC MANAGEMENT OF THE INNOVATION AND THE INNOVATION ACTIVITY IN THE SMES IN THE DANUBE REGION OF THE REPUBLIC OF BULGARIA

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Abstract: The report examines the issue of the strategic management of innovation in the SMEs in the Danube region of the Republic of Bulgaria and their innovation activity. The aim of the study is to investigate the demand for knowledge and innovation by SMEs in the region. Based on a survey study, it outlines the status of the strategic management of innovation, information needs and knowledge, as well as the trends in the operating and the innovating activity of the small and medium businesses in the examined region. The survey results show that the demand for innovation and knowledge in the Danube region of the Republic of Bulgaria is insufficient. At the same time, the diffusion of knowledge and innovation stimulates the innovation activity, increases the competitive advantages of the companies and leads to the development of the regions. As a result of the exchange of ideas, information, experience and innovative practices among entrepreneurs and the cooperation of the various stakeholders in the regional innovation system (research institutions, business sector, intermediary organizations, transferring knowledge, local authorities), SMEs can create competitive advantages based on knowledge and innovation, which in their turn condition the competitiveness of the Danube region.

Keywords: innovation management, knowledge, innovation activity, innovation system, competitiveness

1. INTRODUCTION

Under the conditions of interrelation and global changes the interest in knowledge increases thus making it the most strategic resource and asset. The processes of creation, mastering and diffusion of knowledge and innovation, help increase competitiveness in the global, national, regional and company perspective. Therefore, the knowledge economy, as a phenomenon of our times, has been focusing all EU strategic documents, planned measures, actions, initiatives and monitoring practices on the innovative development of the Community, the Member States, the individual regions and business entities.

A number of studies, analyses [1] and evaluations [2] on competitiveness [3] and innovative development found that within the national innovation system of the Republic of Bulgaria there exists incoordination and lack of communication between the individual participants, extremely essential for the development and the implementation of adequate policies, priorities, strategies, programs, measures and specific actions for innovative growth at a national level. And while there is some clarity on the status and the development of the macro-parameters of competitiveness and national innovation profile,

the regional picture remains fuzzy, vague and as if out of the sphere of interest of researchers, economists and politicians.

This provoked our interest and focused our efforts on the study of the Danube region of the Republic of Bulgaria and its development based on knowledge and innovation. The main reason for choosing the Danube region of the Republic of Bulgaria is its lagging behind according to a number of indicators on competitiveness and innovation development, which will undoubtedly hinder the implementation of the objectives set out in the Europe 2020 strategy [4].

For the purposes of this study, the region comprises of 11 Bulgarian administrative units (NUTS 3 level) as part of three planning regions (NUTS 2 level) – the districts of Vidin, Vratsa, Montana, Lovech, Pleven, from the North-West planning region; the districts of Veliko Turnovo, Gabrovo, Ruse, Razgrad and Silistra as part of the North-Central Region and the district of Dobrich belonging to the North-East planning region. These are the slowest developing administrative units and poorest regions, both nationally and within the EU. At the same time, the region is subject to increased attention by the European Commission on cross-border cooperation and is optional on the Danube Strategy [5]. This favours the realisation of a number of constructive ideas and options for implementing a variety of interventions, including those related to the development of innovation, as a part of the core European goals for the development of a competitive South East Europe and economies based on knowledge and innovation.

The **aim** of the report is to present the results from a survey on the demand for knowledge and innovation by the SMEs in the region and their innovation activity.

An **object** of study are the SMEs from different sectors of the economy in the Danube region of the Republic of Bulgaria, local business representatives. The **subject** of study is the demand for knowledge and innovation by SMEs in the Danube region of Bulgaria.

To achieve the formulated aim of the paper, the following tasks are set:

1. To examine the presence of distinct corporate innovation systems for generating innovations and implementing improvements by SMEs.
2. To examine their sources of information and possible innovative solutions.
3. To examine the types of innovations and improvements that the SMEs from the target region used to improve their competitiveness.
4. To examine the sources of financing for innovative projects used by the companies in the Danube region.

The aim of the study and the research tasks have been carried out through a survey process. The data is collected through a structured questionnaire comprising 16 questions, mostly of a closed type.

The questionnaires were addressed mainly to the managers of the companies. This approach is driven by the desire to have a more complete picture of the state of the problem of strategic innovation management, information needs and knowledge and innovation activity of SMEs through consultation with the people who are responsible for the strategic decisions in companies.

To describe the characteristics of the sample used, the following criteria were used: company size; period of establishment and operation; main activity; location of the main activity of the company.

2. SURVEY RESULTS

In the survey conducted, the total number of valid questionnaires is 114.

The distribution by groups of enterprises by number of employees according to the questionnaire survey is as follows: micro enterprises – 41,4 %; small enterprises – 30,6%; medium-sized enterprises – 21,6%; large enterprises – 6,3%.

In terms of turnover, the different in size companies are represented fairly evenly, although the global economic crisis significantly shrank the annual turnover of all businesses. The largest is the number of companies of annual turnover of up to 50 thousand BGN (31 companies, 27.9% of respondents) and of those of turnover between 51 and 500 thousand BGN (29 companies or 26.1% of respondents) Because of their limited innovation activity, the share of micro enterprises is relatively small. However, there is an increase in the share of small, medium and large firms that have more opportunities for generating innovations, thus meeting the objectives of the study according to this criterion.

According to the main activity of the firm, with prevailing share are firms from the processing industry. Their share covers nearly half of the sample and amounts to 48.2%. Next are the SMEs in the field of trade, automobile and motorcycle repair – 28,9%, construction 5,3%, development and distribution of creative goods, telecommunications – 4,4%; agriculture, forestry and fishing – 4,4%; transportation and storage– 2,6%; generation and distribution of electric and thermal energy – 1,8% and others (extraction, financial and insurance activities; education, hotels and restaurants – total of 4,4%).

The first research question related to the management of innovation in SMEs relates to the creation and use of a distinct innovation system to generate innovations and improvements in the business activity of the respondent firms from the Danube region of Bulgaria. This suggests trying to answer the question: "Who is responsible for the strategic decisions in the company?" In almost all of the surveyed enterprises (90,3%) the answer is owners or owners jointly with managers. Only 9,7% of the companies, state that the strategic decisions are made by the manager.

The concentration of power in one entity is typical for the management of the Bulgarian enterprises. Since many of the innovative decisions are closely related to the strategic development of companies, we can conclude that the entity managing the innovative systems will be the owner/ers.

The answers to the question "Who is responsible for managing the innovation in the firm?" confirms the conclusion drawn above. In 79% of the firms, the owner or the manager is in charge of innovations. Only in 17,5% from the surveyed firms, there is a specialized department or a position, responsible for the innovations, and 3,5% state that no one is in charge for them.

The absence of a specialized department or a position in charge of the management of innovations does not give us reasons to believe that innovative systems have been developed in the surveyed SMEs. It is true that the implementation of innovations and improvements in any field of the activity of the company should not be done without the knowledge of the managing entity, but the transfer of the entire task to it, along with other important strategic tasks would shift the innovation activity of the company to the background. The existence of corporate innovation system would mean systematic planning and transfer of innovations, maintenance and development as well as protection of intellectual property of the company and others.

On the question of a registered trademark, patent or license only 29.8% answered positively.

The situation is similar in terms of holding certificates. Only one third of companies surveyed (31.6%) declare that they hold such.

The results show that *two thirds of the studies companies in the Danube region have no significant intellectual property rights*, holding such rights, however, is the basis for competitiveness in the modern economy based on knowledge and innovation.

The absence of a specialized department or a position responsible for the management of innovation in almost 80% of the respondent companies, the absence of intellectual property in any form (trademarks, patents, licenses), and the absence of certificates in nearly 70% of the studies companies in the region does not give us a reason to say that there are corporate innovation systems - whether structured or unstructured ones. Therefore, *only about one third of the studied respondent companies in the Danube region establish and use in their structure, separate systems for managing innovation and for generating innovations and improvements in their operations*.

The absence of an innovation system has an impact on the sources of information for innovation in the industry, too. In their responses (see Table. 1) SMEs rank as a top source Internet (71.7%), followed with very close results by fairs and exhibitions (59.3%) and other companies in the sector (58.4%).

Table 1. Sources of information for innovation

Information for innovation		Responses		% of the cases
		number	%	
Information about innovations collected from:	fairs and exhibitions	67	24,5	59,3
	specialized literature	31	11,4	27,4
	other companies in the sector	66	24,2	58,4
	universities, research organizations, BAS	5	1,8	4,4
	Internet	81	29,7	71,7
	Business centers	19	7,0	16,8
	other	4	1,5	3,5
Total		273	100,0	241,6

Note: The sum exceeds 100% because some of the respondents have chosen more than one answer.

This arrangement in the rankings seems completely logical. Modern information technologies provide information on possible innovative solutions and provide the ability to track multiple changes in competitors, so this source of information is at the top.

In fact, however, the true innovators, research centers and universities, remain far in the background. Only 4.4% of the surveyed SMEs contact them for information. The percentage of the respondents who contact business centers and cooperate with intermediaries of knowledge, innovation and best practice in regional innovation system is small (16.8%).

This actually does not result in a greater increase in competitiveness, but rather in following the trends. Of course, following the leading trends also requires some effort by the firms. This implies maintaining contacts with other businesses, even if they are direct competitors.

Here the results are not encouraging, either. Asked about their membership in professional organizations, industry associations, clusters or other similar entities, 69.9% of them answered that they do not have any (Table 2).

To establish to what extent they keep in touch with other companies in order to collect information about markets, customers, suppliers, sharing of experiences, respondents were asked to identify the contacts which are sources of such information and the firms who

approach to them for such information. The assumption was that companies maintain intensive contacts and the number of firms was limited to 5.

Table 2. Participation in professional organizations, industry associations, clusters

Membership		number	%	validated %
	not a member	79	69,3	69,9
	a member of a professional organization	11	9,6	9,7
	member of a industry associations	15	13,2	13,3
	member of clusters	2	1,8	1,8
	member of others	6	5,3	5,3
	Total	113	99,1	100,0
No answers		1	,9	
Total		114	100,0	

The results show that in the both directions of seeking information, from and by the firm, the contacts of half of the SMEs are limited to two firms. The percentage of those who do not seek information from other companies is 35.1%. Only a quarter of them (24.6%) reported 5 contacts and it is suggested that if there was no limit they would report more contacts.

However, the fact that 75.4% of companies do not provide information on their relationship to the rest of businesses shows a lack of confidence in the business environment. This lack of trust can be interpreted in two ways. This lack can be interpreted in at least two ways. On one hand, firms most probably do not trust enough its partners and contractors, on the other – they do not deem it necessary to share such information. The second explanation is a signal for a lack of trust, too, in this case, to the researchers of the business environment. To a large extent this conclusion is confirmed by the high percentage of non-members in industry associations, clusters and other similar associations - 69.9% (Table 2).

The results in the case when firms are contacted as a source of information depict an even more unfavorable situation. From all the respondents, 41.2% report that no one contacts them for information. Only 22.8% indicated 5 companies that have contacted them for information.

The low percentage of contacts, the low membership in trade and professional groupings of companies indicate one thing - *encapsulation of enterprises and maintaining relationships with other operators in the business environment to the extent of the required minimum*. This kind of isolation can be partly explained with the typical trait of national psychology - distrust in others and the fear that any "valuable" information would be stolen. A possible explanation could be the contribution of the economic crisis and the lack of financial resources that do not sustain development, but rather stimulate survival.

These are serious obstacles which prevent the development of networks (innovative and entrepreneurial), sharing of experience, innovative solutions and practices. Probably the formula of $1 + 1 = 3$ has not been recognized and assessed enough by the surveyed SMEs. For them cooptation [6] is probably only a theoretical concept, inconceivable, unacceptable in most cases even unknown, rather than a really applicable action, from which it may benefit based on the created synergy effect.

The results of this study allow us to conclude that the surveyed SMEs in the Danube region of Bulgaria do not use a variety of sources of information for innovation and possible innovative solutions.

The questionnaire included a list of 14 assumptions about the types of the made innovations (according to the Oslo Manual [7] – product, process, marketing and

organizational) – 1. design of the manufactured products; 2. improving the technical parameters of the manufactured products/services; 3. development and launch of new products / services on the market; 4. organizational structure (optimization of number of personnel, number of departments and the relationships between them); 5. introduction of new methods of accounting and reporting activities; 6. implementation of new control methods; 7. introduction of new technologies and machinery in production; 8. implementation of new methods of staff management; 9. implementation of new methods for staff motivation; 10. introducing systems for environmental protection (green innovation); 11. introduction of systems to reduce energy consumption; 12. development and launch of a new promotional company policy; 13. development and launch of a new pricing policy of the company; 14. development and launch of a new distribution policy of the company.

The surveyed companies were asked whether they used some of the proposed innovations and when it was - over a year ago or less than a year ago. From all the respondents, 64,3% reported that they have never used these types of innovations. From the surveyed firms 20.5% report that they made innovation in some of the areas over a year ago, and only 15.2% of SMEs made innovations or improvements less than a year ago.

According to the results from the survey, SMEs in the Danube region of Bulgaria apply the four types of innovation in their business (Table 3). With the highest percentage are the organizational innovation (77.9%), followed by the process innovations (64.4%). Marketing innovation and product innovation are least used by the companies.

Table 3. Types of innovations made by respondents

Innovations		Answers		% of the cases
		number	%	
	Marketing innovations	56	20,8	53,8
	Process innovations	67	24,9	64,4
	Organizational innovations	81	30,1	77,9
	Product innovations	65	24,2	62,5
Total		269	100,0	258,7

Note: The sum exceeds 100% because some of the respondents have chosen more than one of the 14 possible answers.

These results give us a reason to conclude that the surveyed Danube region companies apply different types of innovation in their business.

Regarding innovation financing, 70.5% of the surveyed Danube region companies prefer to use their own resources, 43.8% of them borrow funds and only 17% use from donor organisations and funds or project financing (Figure 1.).

The results show that the SMEs from the surveyed region, do not use a variety of funding sources for their innovative projects. The European programs, and in particular the Competitiveness Operational Programme are insufficiently used. A possible explanation for these results could be found in the lack of awareness of the companies about the opportunities for grants for innovative projects and initiatives.

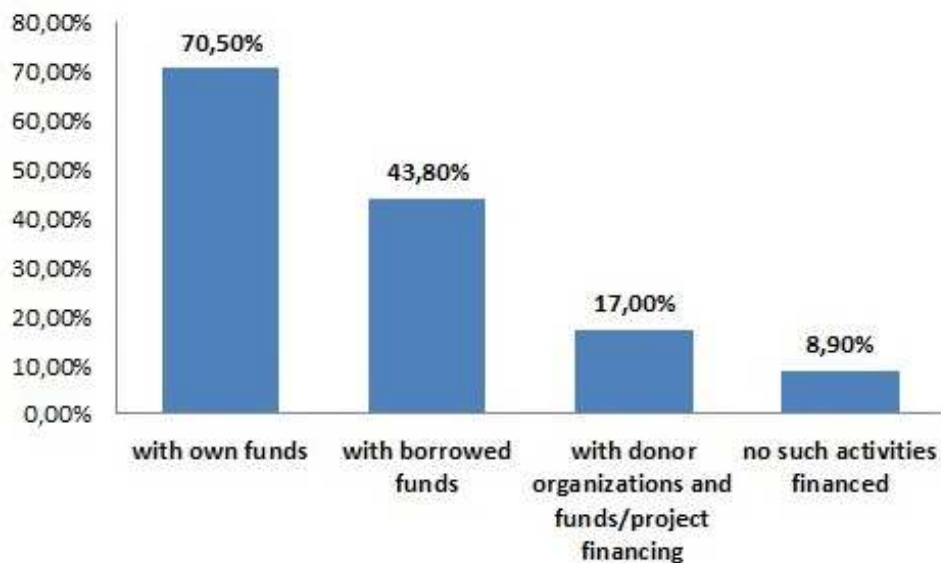


Figure 1. Financing of innovative projects

Note: The sum exceeds 100% because some of the respondents have chosen more than one answer

When asked who they contact when they need advice on innovation, over 80% of the respondents said they have never used the services of universities, BAS, research institutions, business centers in the region, BIA, BCCI agency supporting small and medium businesses, donor organizations and funds, regional organizations - industry clusters, private associations (Table 4); these institutions and organizations are the ones that create and/or transfer innovation.

Independent consultants and credit institutions are the most frequently requested, although less than half of the companies have consulted them.

Table 4. Types of consultants and frequency of their usage

Consultants	How often have you used the services						Total (number)	Total (%)
	Often		Rarely		We have not used their services			
	number	%	number	%	number	%	number	%
Higher education, BAS, scientific organizations	6	5,3	10	8,8	98	86,0	114	100
Business center in the region	1	0,9	6	5,3	107	93,9	114	100
BIA	1	0,9	11	9,6	102	89,5	114	100
BCCI	6	5,3	15	13,2	93	81,6	114	100
credit institutions	10	8,8	38	33,3	66	57,9	114	100
Agency to support SMEs	5	4,4	10	8,8	99	86,8	114	100
Donor organizations and funds	3	2,6	5	4,4	106	93,0	114	100
Regional organizations - industry clusters, private associations.	4	3,5	5	4,4	105	92,1	114	100
Private (independent) consultants	17	14,9	37	32,5	60	52,6	114	100
Total	53	46,6	137	120,3	836	733,4	1596	1400

3. CONCLUSION

To summarise the survey results, we can say that the surveyed companies from the Danube region of Bulgaria do not have an established structure for innovation management and a separate system for the generation of ideas, innovations and improvements. In 70% of cases, there is no department or office that is in charge of innovation management and to monitor the changes in the market and the innovative solutions in the relevant field. The surveyed SMEs from the Danube region of Bulgaria do not have substantial intellectual property. This is supported by the fact that the surveyed companies from the target region do not have registered trademarks, patents, licensing and certification. The innovative efforts of the respondents follow the trends in innovation. There are no relations like companies - scientific research institutions, business sector - intermediaries of knowledge and innovation, too. There is no recognized need of membership in industry associations, professional organizations, clusters; membership in such organizations, namely, implies exchange of ideas, sharing of knowledge, best practices, which could spur innovation, improvements, leading to the development and increasing of the competitive advantage. The outstanding isolation of the companies and absence of contacts with other interested parties in the regional innovation system results in their encapsulation and focusing on survival rather than on development. This hinders the development of networks; cooperation, entrepreneurship, co-competition, sharing of experiences and best practices are actually irrelevant in such an environment. This shifts the vision of innovation as a basis for improving the long-term competitive advantages of SMEs and results in delays in the development of the Danube region of Bulgaria.

REFERENCES

- [1] Analiz na sustoyanieto I faktorite za razvitie na MSP. Bulgarskite MSP v usloviya na kriza. S. IANMSP, Noema, 2011. (Анализ на състоянието и факторите за развитие на МСП. Българските МСП в условията на криза, С. ИАНМСП, Ноема, 2011.)
- [2] The Global innovation index 2012,
<<http://www.globalinnovationindex.org/content.aspx?page=GII-Home>>
- [3] The Global Competitiveness Report 2012-2013, World Economic Forum
<http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf>
- [4] Europe 2020. <http://ec.europa.eu/europe2020/europe-2020-in-a-nutshell/index_en.htm>
- [5] EU Strategy for the Danube Region <<http://www.danube-region.eu/>>
- [6] The term is borrowed from Tapscott, Ticoll, Lowi and the idea about the b-networks, in which between the participants in the B-network there exist co-operation and competition (i.e. pooling of ideas, effort, knowledge, partnerships from many participants improve knowledge transfer and diffusion of innovation and hence improved competitiveness). For more details: **Tapscott, Ticoll, D, Lowi, A.** Tsifrov

kapital. S., Izd. „Klasika i stil“ OOD, 2001, pp. 23-25. (Тапскот, Д., Тикол, Д., Лоун,
А. Цифров капитал. С., Изд. „Класика и Стил“ ООД, 2001, стр. 23-25.)

[7] The Measurement of Scientific and Technological Activities. Oslo Manual.
Guidelines for collecting and interpreting innovation data. Third edition, OECD, 2005
http://epp.eurostat.ec.europa.eu/cache/ITY_PUBLIC/OSLO/EN/OSLO-EN.PDF>

INNOVATE OR DIE? BOB BEAMON VS SERGEY BUBKA

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Abstract: The ambiguity problem of choosing the production strategy is in the focus of the article. Along with classical innovation author examines possible alternative ways of the business development.

Keywords: strategy, strategic management, innovation, minor improvements.

1. INTRODUCTION

The key role of the innovation for the development of various spheres of the society today is unquestionable today. The innovations, as usual, are expedient in terms of the economical issues. Moreover, innovations are very topical today in terms of the politically issues. So we could observe a lot of corresponding discussions.

One of the main figure of the modern management, P. Drucker has repeatedly noted the key role of innovation for the strategic management and for the ensuring the competitiveness of the companies operating in various markets. [1] In particular, he notes the importance of innovation in the financial sector. Drucker discovered three possible alternatives for companies in this sector: survival, based on current practice; withdrawal from the market under the pressure of innovating outsiders and newcomers («creative destroyers»); and innovative. [2]

He also concluded that innovation is a patient, conscientious hard work, which should be organized at every level of management and at each unit of the organization.

But Drucker talked about the traps of innovation also. For example, true «innovation» could be easily confused with the «improvement». In modern Russia we talk about the risks of the so-called “pseudoinnovations” as The Center of The Regional Research does. [8]

So, are the innovations the only way for development and competitiveness of the businesses?

The risks of innovations are well known. Perhaps, the most significant is related to the last stage of the innovation process – the adoption of innovations by consumers. People don't like innovative, but expensive, uncomfortable, non-functional products and services. We could discover some examples. Environmentally friendly electric vehicles, with no doubts, have great potential in terms of the sustainable development. But very limited, 60-80 km, cruising range discredits all the advantages. Moreover, Siberian winter will dramatically reduce this range.

Many European countries desperately looking for the alternative for the Russian gas. Germany, at the same time, going to reject nuclear power and, like many others, tries to find out alternative power sources, such as wind, etc. However, some experts believe that this “new” energy would be 15-20 % more expensive than "traditional". And for most of Germans this future is more frightening than Europe's energy dependence on Russia.

Energy saving lamps are beneficial and durable. But there is a huge problem of disposal. In our city of Omsk, with 1.2 million residents, there is the only point for the

energy saving lamps disposal at the moment. So, the most of people dispose their old lamps with the general household waste.

Our heuristic research made us to believe that there are some possible alternatives to the innovative way of business development. They are as follows:

- the strategy of the limited product lifetime,
- the strategy of the transition to premium price segments,
- the strategies of the minor improvements.

2. THE STRATEGY OF THE LIMITED PRODUCT LIFETIME

According to Russian Federal Law “On Protection of Consumers' Rights” the determination of the product lifetime depends on good will of the producer. There is no such formal obligation. Moreover, limited product lifetime and limited maintainability (repairability) do not fit the concept of corporate social responsibility. These issues are inappropriate in terms of promotion activity.

So this strategy does not appear as a popular or comfortable topic for active discussion, both the scientific and business. Here we observed some activity of consumer rights protection organization or ideological adversary of the modern social and economy paradigm. However, in fact we could see a lot of examples.

Car, printer and copiers manufacturers dictate terms of service, maintenance, replacement of certain parts and so on. So-called “unit’s replacement repair method” is widespread in different industries. Our TV and refrigerator would not work for us for 20 or 25 years like they do for our grandfathers and grandmothers. And here seems to be appropriate to recall the J. Galbraith’s new industrial state concept. [4] As he told us the main enemy of the market is the engineer not the communist ideology. Engineers create technology for mass production, which requires planned mass consumption. Modern engineer find successful decisions which help to planning not only production but also the consumption based on regularly renewed needs.

3. THE STRATEGY OF THE TRANSITION TO PREMIUM PRICE SEGMENTS

Premium or high prices segments traditionally are very attractive for business. Companies could increase profitability and profits there. Moreover, business could reach some reputational benefits.

Interestingly that in addition to the classic marketing concepts, this strategy has been investigated by E. Gerstner, D. Hess and L. Chu in terms of demarketing. [5] They considered demarketing as a tool of differentiation, noting that almost every market has “expensive” and “cheap” (or budget) segments. Companies operating at cheap segments consciously redirect consumers interested in a higher quality, additional characteristics of the goods and services and which are ready to pay for these issues, to another segment. Consumers would find higher quality, but at the same time more expensive goods there. This strategy could help improve the image of the company, which probably would be perceived as fair, open and consumers friendly. This “transferring” strategy could result positive economic consequences also. Inflow of consumers could stimulate higher prices in the premium segment, which some time or other leads to higher prices in the cheap segments. We could state that expensive segments pulling on cheap ones. And all market

participants have higher incomes as a result. The cheap segments company does not attract new customers, but will ensure revenue growth due to higher prices for existing customers in the medium and long term.

We believe that such strategy is successfully implemented by Korean car manufacturers for last 15 or 20 years. They did not try to stand in one image and price range with the German and Japanese companies. But Korean companies systematically and, what a miracle, successfully raise prices on their products at the same time. Interestingly, that in 2004 Hyundai Accent car got “Worst car of the year” award by one the most popular automotive TV shows TopGear. [9] This decision did not surprise and not offend anyone. Hyundai did not discuss this decision, did not instigate the international scandal. Company systematically worked on the design, range of vehicles, developed production and retail and service network. On July 2, 2007 Hyundai announced the formation of “Hyundai Motor CIS” for import and distribution of Hyundai cars in the Russian Federation and some former Soviet state. In 2013, according to the company, there are 144 Hyundai dealers in Russia. And today is quite difficult to imagine the situation which would be similar with 2004. Both functionally and in terms of image Hyundai cars are not outsiders anymore. For example, in the 2013 Hyundai Equus flagship model was priced impressive 3.99 million rubles (almost 125 000 dollars) for the maximum configuration.

There are some examples of the strategy of the transition to premium price segments at the Russian domestic market. This strategy quite successfully implemented by “Sibur” company for its tire business. By 2002, the company owned and managed some of the largest Russian tire factories in cities of Yaroslavl, Omsk, Volzhsky and Ekaterinburg. From 2002 to 2005, “Sibur” company systematically developed production and sales activities. In particular, the company established unified marketing policy for all its products. The main goals of company was elimination of internal competition, moving out of production obsolete models, creating new brands, especially for the new, higher price segment. By 2005, the company has developed and released to market new Tunga and Cordiant brands. Tunga positioned as a tires for the economy segment, and Cordiant - for the middle price segment. As recognized by the company, Cordiant was preferable in terms of both profitability and image. According to industry experts, demand structure on the Russian tire market is rapidly transforming towards products of higher price segments, due to growth of car sales of foreign manufacturers. [6] As a result, the company focused on marketing support for Cordiant brand. Tunga brand has been produced in small amounts and almost leave the market at the moment. Moreover the subsidiary company “Sibur-Russian Tyres” which was created in 2006 for consolidation of tire assets of the Sibur on April 3, 2012 was renamed for “Cordiant”.

Also we believe that the service market offers great opportunities for this strategy. Russia service companies create subdivisions for VIP- service or similar categories of clients. This is a quite common practice for the banking sector, medical and educational services. For example, there is the faculty of elite education at The Omsk State Technical University.

The strategy of the transition to premium price segments is vital not only for big companies. A lot of small and medium businesses in Omsk city implement this strategy at various markets. For example, we could find shop of home textile “Touch Salon-Premium”, the program “Art dentistry” in dental clinic “Elite” and so on.

So we could see that the investigated strategy is essential at the international, national and regional levels for companies of different scales and activities.

4. THE STRATEGY OF MINOR IMPROVEMENTS - THE “SERGEY BUBKA” STRATEGY

Though it could be a little bit paradoxical here we would like to remember the history of sport, particularly – track and field. Let us remember the accomplishments of two outstanding athletes - American Bob Beamon and Ukrainian (former Soviet) Sergey Bubka. Robert (Bob) Beamon entered the history of athletics with his phenomenal jump by 8 m 90 cm in the final of the Olympic Games in 1968 in Mexico City. This result was 55 cm longer than the previous world record of Ralph Boston and was named as a “jump into the XXI Century”. In sporting terms Beamon’s result “killed” several generations of athletes and was surpassed 23 years later by American athlete Mike Powell at the World Championships in 1991 in Tokyo with 5 cm advantage. Beamon’s result remains the Olympic record and still is the second result in the history of the long jump. At the moment Bob Beamon quietly lives in Miami.

Sergey Bubka is a pole vaulter. Throughout his career, in 1984 - 1994, Bubka won six consecutive IAAF World Championships, an Olympics gold and broke the world record for men's pole vaulting 35 times (17 outdoor and 18 indoor records). He was the first pole vaulter to clear 6.0 metres and 6.10 metres. A former president of the International Olympic Committee (IOC) Juan Antonio Samaranch called him the most outstanding athlete of our time.

Of course, Sergey Bubka, unlike Bob Beamon could “choose” or plan the result. He used to break world record for just 1 cm. He jumped higher at training sessions but used another strategy at the official competitions. Here Bubka got the great advantage of pole vault before long jump, but he ingeniously used it. Every Bubka’s world record or winner’s title attracted the attention of media, sports community, politicians and ordinary fans. Today Bubka is one of the leading international sports officials, IOC member since 1999. In 2013, Bubka claimed the president of the IOC, but lost the election. Some experts believe this result is due to his relative “youth” and, obviously, it was not his last election.

What happens at the business fields today? We believe that the “strategy of Sergey Bubka” is very popular, suitable and effective. Minor improvements could be functional (additional options/features/specifications, additional services, packing/dispensers/applicators) and “virtual” (based on marketing tricks). For example, the strategy of minor improvements implemented by car manufacturers (“Hyundai ix35 with heated steering wheel”), manufacturers of household chemistry (“Domestos - 24 hour protection against flying (?) microbes”) and many others.

And now what do we get at modern markets? One of the key factors of minor improvements reasonableness is the continuing fragmentation of different markets, the genesis of new segments and niches. According to the M. Porter’s canonical theory, competitive advantage arises on the basis of providing consumers with products that gives great value for the same cost or differentiation. [7] Minor improvements would give you a possibility to implement differentiated approach to consumers with less financial, organizational, marketing and other resources compared with innovative solutions. Minor improvements could be based on existing customers, their habits and conservatism. Minor improvements have considerable potential in terms of promotion and marketing as a whole. Each the minor improvement (e.g. genius marketing trick of “First winter SUV by Mitsubishi”) could be placed at market as a real innovation. So company could attract the attention of the media, existing and potential consumers. We believe that minor improvements became one of the primary key for modern information and communication area.

However, there is no doubt that the strategy of minor improvements carries certain risks. For example, the lack of “wow- effect” does not attract new customers and may awaken doubts existing ones. Here we could see dramatic example of “Nokia”, which lost significant market share firstly, and even independence later. According to Stephane Richard, the CEO of France Telecom, “The Nokia family in my opinion is nice, but there is no ‘wow’ effect. When you have a market with very steady players like Apple and Samsung, you need to have a ‘wow’ effect.” [3] But also we could state that innovation at the smartphone market successfully coexist with minor improvements today. Though leaders are facing a situation that a significant proportion of consumers with great difficulty identifying the differences of the iPhone 4 and iPhone5, Samsung Galaxy3 and Samsung Galaxy4 and so on. At the same time the marketing potential of this strategy is still evidentiary.

In conclusion, we would like to note that this paper presents empirical arguments which require further theoretical conceptualization. Hopefully these ideas could serve as a starting point for new discussions on strategic management.

REFERENCES

1. P. Drucker, *Management Challenges for the 21st Century*. HarperCollins, New York, 1999.
2. P. Drucker, *Innovate or Die: Drucker on Financial Services*. Economist, September, 25, (1999).
3. France Telecom CEO on Apple («less arrogant») and Nokia («no wow effect»), 2014. Available at: <http://www.whiteboardmag.com/france-telecom-ceo-on-apple-less-arrogant-and-nokia-no-wow-effect>.
4. J. Galbraith, *The New Industrial State*. Houghton Mifflin, 1967.
5. E. Gerstner, J. Hess, L.W. Chu, Demarketing as a differentiation strategy. *Marketing Letters*, Vol. 4(1), (1993), pp. 49–57.
6. S. Kudiyarov, Premium tire passion. *Expert*, №43 (776), (2011), pp. 32–45.
7. M. Porter, *Competitive Strategy: Techniques for Analyzing Industries and Competitors*, Free Press, New York, 1980.
8. The Center of The Regional Research, 2014. Available at: <http://www.i-regions.org/association/news/spotlight/893>.
9. Top Gear Awards, 2005. Available at: http://topgear.wikia.com/wiki/Top_Gear_Awards.

PARTICIPATION OF EMPLOYEES IN COMPANY MANAGEMENT - LEGAL BASIS FOR ITS IMPLEMENTATION IN THE REPUBLIC OF MACEDONIA

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Abstract: The company represents a complex social organism which interests should be different from the interests of various interest groups within the company. Company employees as part of the social structure, have the right to participate in decisions relating to their position in the company and that affect their rights and interests. Participation of employees in management is democratic achievement which reduces inequality based on differences in economic strength and power.

This approach allows direct decision making of employees and their indirect influence through information, counseling, and co-decision processes. It is achieved through different forms and at different levels through which employees are informed or consult.

For the purpose of the business venture of the company, the employees should harmonize and align their own interests to the interests of the company. Starting from this fact, inevitably entails the necessity of participation of employees in decision making of the company, through which will protect their economic and social rights.

The purpose of this paper is to present and clarify the legal basis for the practical realization of the right of participation of employees in company management and decision-making processes in the country.

Keywords: participation, enterprise, information, co-decision

1. INTRODUCTION

The issue of the employee participation in the management and decision-making in the enterprise is a very current issue. It is achieved through different forms and at different levels.

Different systems or countries have different solutions. In some, the participation is governed by law, in other, by collective agreement and the like. Undoubtedly the levels of participation vary in different systems.

Regardless of the differently defined and legally standardized ways of participation in the various systems of the states, the basic and ultimate aim of the participation is the integration of the employees as important stakeholders in the enterprise, primarily in information, participation in management, labor shareholding, conducting social dialogue, etc.

The completion of the business venture of the enterprise requires the need for the employees to harmonize and align their own interests to the interests of the company, and consequently, the company to articulate their interests too. This fact confirms the need for

participation of the employees in the company's decision making process that will protect their economic and social rights and interests.

The relations between the labor and the capital are always opposed and are a cause of possible conflict between them. All modern societies are trying to find legal solutions that will enable the holders of a business enterprise stability of the relations between the labor and the capital, i.e. avoiding situations of conflict and possible side effects. If we bear in mind the undeniable fact that the capital and the labor participate in the creation of the profit, it is realistic that the employees should have the possibility (legal, institutional, etc.) that they can use to oppose the power of the owners and the managers, not to be opposing force, but to represent and to be a part of the overall strength of the relationships while making important decisions for the company.

2. ENTERPRISE

The enterprise¹⁰ represents a very complex and dynamic internal organizational system. The enterprise also represents an economic and social and historical category that tracks changes in the community development and changes and aligns its content and characteristics.

"The enterprise is a set of rights, items and factual relations that have actual property value and belong to the trading activities of the trader, whereupon these elements constitute the sole assets of the trader, but also cover their obligations. The enterprise is an absolute and independent legal object that can be marketed."¹¹

The enterprise is an independent economic, technical and social entity owned by certain subjects that produces goods or services for the market needs, using appropriate resources and bearing the business risk in order to gain profits and achieve other economic and social objectives.¹²

The enterprise is an organized economic entirety consisted of objective, subjective and organizational elements that are components of the enterprise. It is a living organism in which any of these elements cannot be given any priority.¹³

The subjective integral element of the enterprise is that it instigates the performance of the mentioned assets, i.e. the creative ideas, efforts and the skill for the entrepreneurial ideas to be implemented in life. It can be seen in the business forecasting and in the determining of the procedures for achieving business purposes, hiring appropriate people who will work with the labor resources and will use them professionally. That is the reason why inventiveness is important, without it there is no successful economic performance. The objective and the subjective elements provide the enterprise with two important assumptions for its operations, but they also need to be organizationally linked. The organizational element links the objective and the subjective elements into a whole by

¹⁰ For the needs of this paper the term enterprise refers to any of the forms through which the company is being realized according to the relevant legislation. The terms used in the paper: company, joint stock company, limited liability company, corporation, employer, public company, institution, etc. represent an enterprise and are used according to the usage in the appropriate source material.

¹¹ Law on Trade Companies ("Official Gazette of RM no.28/04, 84/05, 25/07, 87/08, 42/10, 48/10, 24/11,166/12 and 70/2013), (Закон за трговските друштва ("Службен весник на РМ" бр.28/04, 84/05, 25/07, 87/08, 42/10, 48/10, 24/11, 166/12 и 70/2013).)

¹² Source, Wikipedia

¹³ Krejci, H, Grundriss des Handelsrechts, Wien, page 77, from Jaksha Barbik, Pravo na drustva, book I, general part, Organizator, Zagreb, 2008, page 195 (Krejci, H, Grundriss des Handelsrechts, Wien, страница 77, узето од Јакша Барбић, Pravo društva, Knjiga prva, Opti deo, Organizator, Zagreb, 2008, stranica 195)

determining the manner by which the merging of the labor and the resources will be achieved, with a goal to achieve business ideas.¹⁴

3. THE CONCEPT OF PARTICIPATION AND OTHER TERMS OF IMPORTANCE TO THE PARTICIPATION OF THE EMPLOYEES IN THE MANAGEMENT AND THE DECISION MAKING IN THE ENTERPRISE

In addition to the term participation the terms co-decision, codetermination, mutual influence, hetero-decision, codetermination, participation, joint consultation, co-managing, workers' control, industrial democracy, workers' democracy, gear or entrepreneurial democracy, economic democracy, a tripartite decision etc. can be found in other countries. In some countries the terms self management or workers' self management are being used, but unlike the traditional understanding of these concepts these countries are using them as forms of participation.¹⁵

The participation should be understood as an umbrella term that sums up all forms of participation of the various professional and working status categories of the employees participating in the management and decision-making regarding the social, personal, economic, environmental and other issues of interest.¹⁶ This includes the issues the employees are informed about, are consulted about or where they co-decide while making decisions with the owners of the enterprises. This also includes the participation of the employees in the boards of directors or the supervisory boards of the enterprises.

3.1 INVOLVEMENT

Involvement of employees means any mechanism, including information, consultation and participation, through which the employee representatives can influence the decision making process in the enterprise.¹⁷

This broad definition encompasses virtually all methods of achieving participation like involvement of the employees in the decision -making through direct and indirect influence through information, counseling and negotiations, it comprises the forms of involvement of the employees in the decision-making that can be institutionalized through a separate body - workers' council, involvement in the supervisory and management boards, specialized involvement regarding certain issues like issues of security, safety at work etc, informal forms of involvement through the establishment of ad hoc advisory bodies, material involvement of the employees, for example, through involvement in the distribution of the capital income, revenue or profits.

3.2 INFORMATION

Information is a possibility to indirectly influence the decision made by the workers. The information is a prerequisite for participation.

¹⁴ Barbik, J, Pravo na drushtva, book I, general part, Organizator, Zagreb, page 195 (Jakša Bartbić, Pravo društva, Knjiga prva, Opti deo, Organizator, Zagreb, 2008, stranica 195)

¹⁵ Nedkov.M, Belichanec. T, Pravo na drushtva, book II, Sigmapres, Skorje, 2008, page 651 (Д-р Милан Недков, Д-р Тито Беличанец, Право на друштва, книга втора, Сигмапрес, Скопје, 2008, страница 651)

¹⁶ Same

¹⁷ Council Directive 2001/87/EC of 8 October 2001 supplementing the Statute for a European company with regard to the involvement of employees; Article 2 (h)

Information implies to informing the representative body of the workers and/or workers' representatives by the competent authority of the LLC about issues relating to the company or any of its subsidiaries or other business units located in another Member State or exceeding the government bodies responsible for making decisions on individual Member State in the manner and content that enable workers' representatives to conduct a thorough analysis of potential impacts and where appropriate, prepare consultations with the competent authorities of the company.¹⁸

Typically, according to the existing legal and other frameworks the representative body or the workers' representatives are informed about the following issues: state, results of operations and organization of work, anticipated business development activities and their impact on the economic and social situation of the workers, wages and wage-related issues, the scope and the reasons for the introduction of overtime, the number and type of workers employed, the employee structure and development of employment policy, health and safety at the workplace, measures to improve the working conditions as well as other issues that are particularly important for the economic and social position of the workers.

The employer is obliged to provide information about these issues. This practically means that by sharing the information, the employer has fulfilled the obligation.

3.3 COUNSELING

Counseling is establishment of dialogue and exchange of views between the representative body of the workers and/or workers' representatives and the competent authority of the Company in the manner and content that allows the workers' representatives, based on the information provided, to express an opinion on the measures envisioned by the competent authority which may be taken into account in the decision-making process within the company.¹⁹

Counseling is a mechanism in which before making a decision on certain issues, the employer is obliged to ask the opinion of the employee representative body which should give an opinion - advice. The opinion/advice does not represent an independent decision but a condition for making a decision by the employer about a certain issue. Regarding an issue that requires opinion and is something the employer intends to make a decision about, he is obliged to submit all relevant data for the decision making and understanding of its impact on the status of the employees to the workers' representative body.

Important decisions that require counseling are: decisions about adopting the rules of procedure, plans and development and employment policies; modification of contracts for expected legal, economic and social consequences for the workers that may arise from the transfer of the business enterprise; the measures related to the protection of health and safety at the workplace; introduction of new technology and changing the organization and method of operation; status changes in the company; transfer of all or a part of the company as well as other matters provided for by law or collective agreement.

3.4 CO-DECISION

Co-decision is a procedure of making a decision by the enterprise bodies on one hand and the employees or their representatives on the other.

¹⁸ Same, Article 2 (i)

¹⁹ Same, Article 2 (j)

The decision being adopted in the enterprise is the result of negotiation and settlement of the stakeholders – the management or the employer on one hand, and the employees or their representatives and organizations on the other. The decision is in a certain sense common, so in this case, one can speak of co-decision. The decisions concerning specific issues may be subject to negotiation and agreement.²⁰

3.5 INVOLVEMENT OF THE EMPLOYEES IN THE SUPERVISORY OR ADMINISTRATIVE BOARDS OF THE ENTERPRISE

The involvement of the employees in the management company implies influence of the representative body of the workers and/or workers' representatives in the affairs of the enterprise through the right to elect or appoint some of the members of the enterprise or the supervisory board, or the right to propose and /or oppose the candidacy of any or all members of the supervisory or management board of the enterprise.²¹

This type of involvement represents direct and indirect decision-making of the employee representatives on all matters pertaining to the jurisdiction of these bodies to manage the company. In this case, despite the dominant involvement of the stakeholders (investors) in these bodies and their crucial role in the decision-making, the employee representatives have the opportunity to get to know and to directly decide on all matters of the utmost importance to the operation of the company, including issues concerning and affecting the economic and social rights of the employees.

4. LEGAL GROUNDS FOR IMPLEMENTATION OF EMPLOYEE INVOLVEMENT IN THE MANAGEMENT AND THE DECISION-MAKING IN THE ENTERPRISE IN THE REPUBLIC OF MACEDONIA

4.1 CONSTITUTION OF THE REPUBLIC OF MACEDONIA FROM 1991

The Constitution of the Republic of Macedonia in terms of its provisions governing foundations of civil and political rights and freedoms and economic relations has set the basis for regulating the issue of the employee involvement in enterprise management. The Constitution of the Republic of Macedonia guarantees its citizens the freedom of association to exercise and protect their political, economic, social, cultural and other rights and convictions.²² The right to property is guaranteed.²³ The exercise of the rights of the employees and their positions are regulated by law and collective agreement.²⁴ In order to realize their economic and social rights, the citizens have the right to establish unions. The unions may establish their own unions and to be members of international union organizations.²⁵ The freedom of the market and entrepreneurship is guaranteed²⁶, and

²⁰ Nedkov.M, Belichanec.T, Pravo na drushtva, book II, Sigmares, Skopje, 2008, page 653 (Д-р Милан Недков, Д-р Тито Беличанец, Право на друштва, книга втора, Сигмапрес, Скопје, 2008, страница, 653)

²¹ Council Directive 2001/87/EC of 8 October 2001 supplementing the Statute for a European company with regard to the involvement of employees; article 2 (k)

²² Constitution of Republic of Macedonia, 1991, Article 20, Paragraph 1, (Устав на Република Македонија од 1991 година, член 20 став 1),

²³ Same, Article 30, Paragraph 1

²⁴ Same, Article 32 Paragraph 5,

²⁵ Same, Article 37 Paragraph 1,

²⁶ Same, Article 55 Paragraph 1,

property and labor are the basis for management and involvement in the decision-making.²⁷

A constitutional foundation for regulating the involvement of the workers in the management of the company is Article 58, paragraph 1 of the Constitution of the Republic of Macedonia, determining that not only the ownership, but the labor too is the basis for management and involvement in the decision making, and is a possibility for the modern trends for involvement and co-decision of the employees to be transferred to Republic of Macedonia as part of the foundations of the new socio - economic system based on private ownership, entrepreneurship and the market.²⁸

Although the Constitution of the Republic of Macedonia explicitly does not stipulate that the involvement in management and the decision-making in the enterprises is regulated by law, starting from this principle today in Macedonia this issue is regulated by the legal regulations in the field of labor law and the collective agreements on all three levels that exist in Republic of Macedonia.²⁹

4.2 LAW ON TRADE COMPANIES FROM 1996

The Law on Trade Companies from 1996³⁰ is the most important legislative project implemented after the adoption of the Constitution of the Republic of Macedonia from 1991.³¹

The Law on Trade Companies of 1996 was the first law that started regulating the issue of involvement of the employees in the management and decision-making in the enterprises in the social economic system based on private ownership, entrepreneurship and market. This law regulated only the involvement of the employees in companies organized in the form of enterprises and not the issue of involvement of the employees in the management of the public enterprises and institutions. The share of the employees was regulated only in the joint stock companies, organized as a single system of management (Board of Directors), and the two-level system of management (management board and supervisory board). The actual involvement of the employees in the structure of the non-executive members of the board of directors or the supervisory board was facultative option and depended on the regulation of this issue with the corporation statute.³²

²⁷ Same, Article 58 Paragraph 1

²⁸ Nedkov.M., Belichanec.T, *Pravo na drushtva*, book II, Sigmares, Skopje, 2008, page 645 (Д-р Милан Недков и Д-р Тито Беличанец, *Pravo na drushtva*, Книга втора, Сигмапрес, Скопје 2008, страница 645)

²⁹ Same

³⁰ Law on Trade Companies ("Official Gazette of RM no.28/96, 7/97, 21/98, 37/98, 63/98, 39/99, 81/99, 37/2000, 31/2001, 50/2001, 61/ 2002, 4/2003 and 51/2003) (Закон за трговските друштва ("Службен весник на РМ"28/96, 7/97, 21/98, 37/98, 63/98, 39/99, 81/99, 37/2000, 31/2001, 50/2001, 61/ 2002, 4/2003 и 51/2003)),

³¹ Nedkov. M, Belicanec.T and Gradishki-Lazarevska.E, *Pravo na drushtva*, book I, Sigmares Skopje, 2003, quoted, page 97, (Д-р Милан Недков, Д-р Тито Беличанец, Д-р Елена Градишки Лазареска, *Pravo na drushtva*, Книга прва, Сигмапрес, Скопје, 2003 дело, страница 97),

³² Same

4.3 LAW ON TRADE COMPANIES FROM 2004³³

Regarding the involvement of the employees in the management bodies of the company, the Law on Trade Companies of 2004, compared to the Law on Trade Companies of 1996 took a step back. This law suggests the regulation of this issue to be regulated by law.³⁴ This provision represents a legal ground for finding the solution for regulating the issue of involvement of the employees in the management bodies of the company also. Such legislation, or changes and amendments to the Law on Trade Companies have not yet been adopted.

4.4 LAW ON PUBLIC COMPANIES FROM 1996³⁵

A Public Company is a legal form established to perform public interest activities.³⁶ "Public interest activities are the activities or certain parts of the activities that would provide public interest. The Public interest activities are performed by the public enterprises or companies entrusted with the performance of activities of public interest."³⁷

The important issue for the employees in the public company in accordance with this law was the opportunity of the employees to participate in the structure and of course in the work of the board of the public company. The Board of the public company is comprised of at least five and up to 15 members. The public company also established an Employee Council. The board founder appointed or dismissed representatives from among distinguished experts in the subject matter of the public enterprise and employee representatives in the public enterprise based on the proposal by the Employee Council. Pending the election of the Employee Council members, the members of the board from among the employees are appointed upon proposal by the majority union in the public company. The number of the representatives of the employees in the public company board was one third of the total number of members. The mandate of the members of the board could not be longer than four years.³⁸ The workers participated in the decision making and management of the public company under the provisions of the Law on Public Companies regarding the participation of the workers in the management of the state enterprises.³⁹

³³ Law on Trade Companies ("Official Gazette of RM no.28/04, 84/05, 25/07, 87/08, 42/10, 48/10, 24/11, 166/12 and 70/2013), (Закон за трговските друштва ("Службен весник на РМ" Бр.28/04, 84/05, 25/07, 87/08, 42/10, 48/10, 24/11, 166/12 и 70/2013)),

³⁴ Same, Article 342, Paragraph 4

³⁵ Law on Public Companies ("Official Gazette of RM no.38/1996, 6/2002, 19/2002, 40/2003, 49/2006, 22/2007, 83/2009, 97/2010 and 6/2012) (Закон за јавни претпријатија ("Службен весник на РМ" бр.38/1996, 6/2002, 19/2002, 40/2003, 49/2006, 22/2007, 83/2009, 97/2010 и 6/2012)),

³⁶ Law on changes and amendments to the Law on Public Companies ("Official Gazette of RM no.49/2006), Article 1, (Закон за изменување и дополнување на Законот за јавните претпријатија ("Службен весник на РМ" бр.49/2006), член 1)

³⁷ Same, Article 2

³⁸ Law on Public Companies ("Official Gazette of RM no..38/1996, 6/2002, 19/2002, 40/2003, 9/2006, 22/2007, 83/2009, 97/2010 and 6/2012), Article 17 ((Закон за јавни претпријатија ("Службен весник на РМ" бр. бр.38/1996, 6/2002, 19/2002, 40/2003, 9/2006, 22/2007, 83/2009, 97/2010 и 6/2012)), член 17,

³⁹ Same, Article 25

The changes and amendments to the Law on Public Companies made in 2006 abolished the possibility of the employees to participate in the work and the decision making of the management board of the public company.⁴⁰

4.5 LAW ON LABOUR RELATIONS ⁴¹

The Law on Labour Relations contains provisions that regulate the issues of the employee involvement in the management and decision-making in the enterprise.

According to the Law on Labour Relations, the workers' representatives are the representatives provided for by law and by the laws of the Member States of the European Union.⁴²

4.5.1 Information and consultation in accordance with the Law on Labour Relations

The categories information and consultation in terms of involvement of the employees in the management and decision-making in the enterprise were introduced to the labor legislation of the Republic of Macedonia in 2010.⁴³

Informing the workers according to the Law on Labour Relations means transfer of data by the employer to the workers' representatives, so the employees can get to know them and inspect them.⁴⁴ Consultation means exchange of views and establishment of a dialogue between the workers' representatives and the employer.⁴⁵ The obligation to inform and consult the workers applies to every company, public company or other legal entity that employs over 50 workers. The obligation to inform and consult applies to the institutions that employ more than 20 workers.⁴⁶

The information includes information about the activities of the company, the public company or other legal entity or institution regarding the economic situation, the state structure and the employment of a company, public company, or other entity or institution, for each planned measure, especially when there is a threat to the employment, and decisions that can lead to substantial changes in the work organization or in the contractual obligations and the like.⁴⁷ The information is given to the workers' representatives at the time, manner and content as appropriate, to enable them to conduct proper analysis and to prepare for consultation where necessary.⁴⁸

⁴⁰ Law on changes and amendments to the Law on Public Companies ("Official Gazette of RM no. 49/2006), Article 18 ((Закон за изменување и дополнување на Законот за јавните претпријатија ("Службен весник на РМ" бр.49/2006)), член 18,

⁴¹ Law on Labour Relations ("Official Gazette of RM no.62/05, 106/08, 161/08, 114/09, 130/09, 149/09, 50/10, 52/10, 124/10, 47/11, 11/12, 39/12, 13/13 and 25/13) (Закон за работните односи ("Службен весник на РМ" бр.62/05, 106/08, 161/08, 114/09, 130/09, 149/09, 50/10, 52/10, 124/10, 47/11, 11/12, 39/12, 13/13 и 25/13)),

⁴² Law on changes and amendments to the Law on Public Companies ("Official Gazette of RM no. 124/2010), Article 2 ((Закон за изменување и дополнување на Законот за работните односи ("Службен весник на РМ" Бр.124/2010)), член 2)

⁴³ Law on Labour Relations ("Official Gazette of RM no.62/05, 106/08, 161/08, 114/09, 130/09, 149/09, 50/10, 52/10, 124/10, 47/11, 11/12, 39/12, 13/13 and 25/13), Article 94 – а, ((Закон за работните односи ("Службен весник на РМ" бр.62/05, 106/08, 161/08, 114/09, 130/09, 149/09, 50/10, 52/10, 124/10, 47/11, 11/12, 39/12, 13/13 и 25/13), член 94 – а)

⁴⁴ Same, Article 94 – а Paragraph 1

⁴⁵ Same, Article 94 – а Paragraph 2

⁴⁶ Same, Article 94 – а Paragraph 3

⁴⁷ Same, Article 94 – а Paragraph 4

⁴⁸ Same, Article 94 – а Paragraph 5

The law prescribes the consultation to be carried out in time, method and content when appropriate at the level of representation and depending on the issues which are subject to consultation.⁴⁹

The Law on Labour Relations regulates the issues of information and consultation in case of transfer of the company or parts of the company.⁵⁰

4.5.2 Information and consultation in case of collective dismissals by the employer because of business reasons

The employers' intent to make a decision on termination of employment of many workers, i.e. at least 20 workers for a period of 90 days at each termination of employment regardless of the total number of workers, is considered a collective dismissal for business reasons. The employer is obliged to proceed with consultations with the workers' representatives about the intention to carry out collective dismissals at least one month before the collective dismissal as well as to provide all relevant and important information before starting the consultations in order to reach an agreement. The consultations cover ways and means of avoiding collective dismissals, reducing the number of laid off workers, mitigating the consequences by taking social measures to help the laid-off workers to return to work or to be trained. In order to enable the workers' representatives to prepare their proposals, the employers will provide the employee representatives with all relevant and important information.⁵¹

5. CONCLUDING OBSERVATIONS

The involvement of the employees in the management and decision making in the enterprise is a democratic achievement. Through the involvement, the employees are becoming an important factor in achieving their social and economic rights.

The subject of the employees' involvement in the enterprise management are the fundamental interests of the employees, job security, the right to wages, acceptable working conditions and safety, etc. Hence, the employees' interests collide with the interests of the employers in increasing the profits, reducing the operational costs, the need for flexible labor relations etc. The interests of employees also depend on the economic elements imposed by the market economy and the logic of capital - relationship. Because of all this, the subject of the employee involvement in the decision-making encompasses the totality of issues related to the economics and the social situation of the workers in the exercise of their rights and interests.

Republic of Macedonia is a country that has built its social political and economic relations in accordance with the recognized civilization and democratic values. Consequently, the question for the involvement of the employees in the enterprise management is being asked. The Constitution of Republic of Macedonia provides all the assumptions for regulating the issue of involvement of the employees in the management and decision making within the enterprise.

In 2005, the Law on Labour Relations of Republic of Macedonia introduced a basic standard of the employee involvement in the enterprise management through information and consultation.

⁴⁹ Same, Article 94 – a Paragraph 6

⁵⁰ Same, Article 68 - b

⁵¹ Same, Article 95

Regarding the issue of involvement we believe that we have made serious advances in its legislation. However, in order to complete its further regulation we needed to incorporate provisions in the Law on Labour Relation, to institutionalize the issue of the involvement of the employees through the representative body – workers' council that would be consisted of representatives of the employees, establishment of a mechanism for election, the rights and duties, methods and procedures of decision making in the area of jurisdiction regarding the protection of the rights and the interests of the employees. The current solutions that address the issues of reporting, counseling and co-decision with the employees also need to be further regulated and upgraded. This requires specifying the content of the norms of the Law on Labour Relation issues that are subject to information, consultation and co-decision. Moreover, there is a need of further regulation of the manner and the process of information, consultation and co-decision. The law should further regulate the issue regarding the consequences of breach of information obligations, consultation and co-decision.

The Law on Public Companies also requires regulation of the question of the involvement of the employees in the enterprise management, through information, consultation and consent in the decisions, and through membership and involvement of the workers in the work of the management body of the public company.

Undoubtedly, the Law on Trade Companies (with its changes and amendments) should be regulated concerning the issue of the involvement of the workers in the management bodies of the company, their number, the method of their election, the rights and the obligations, the remuneration, the termination of membership in the management bodies, the remuneration, their protection and the like.

We hope that with this paper we were able to highlight the key aspects related to the issue of the involvement of the employees in the management and decision-making in the enterprise, to present the legal grounds for its implementation in the country as well as to point out the need and the legal gaps that need to be further regulated on the subject of this issue. We expect that this work will provoke additional incentive for further insights concerning this issue by the expert and the scientific community.

REFERENCES

1. Nedkov. M, Belicanec.T and Gradishki-Lazarevska.E, Pravo na drushtva, book I, Sigmapres Skopje, 2003 (Д-р Милан Недков, Д-р Тито Беличанец и Д-р Елена Градишки-Лазаревска, „Право на друштва“, книга прва, “Сигмапрес“ Скопје, 2003);
2. Nedkov.M, Belicanec.T, Pravo na drushtva, book II, Sigmapres Skopje, 2008 (Д-р Милан Недков и Д-р Тито Беличанец „Право на друштва“, книга втора, “Сигмапрес“ Скопје, 2008);
3. Nedkov.M, Belicanec.T, Gradishki-Lazarevska.E, Pravo na drushtva, Digi Print Skopje, 2009 (Д-р Милан Недков, Д-р Тито Беличанец и Д-р Елена Градишки-Лазаревска, „Право на друштва“, „Диги Принт“ Скопје, 2009);
4. Barbik. J, Pravo na drushtvata, book I, general part, Organizator Zagreb, 2008 (Jakša Bartić, Pravo društva, Knjiga prva, Opti deo, Organizator, Zagreb, 2008);

5. Barbik.J, Pravo na drushtvata, book II, capital companies, Organizator Zagreb 2007 (Jakša Bartbić, Pravo društva, Knjiga druga, društva kapitala, Organizator, Zagreb, 2007);
6. Klimoski.S, Deskoska.R, Karakamisheva.G, Ustavno Pravo second editon, Prosvetno Delo AD Skopje, 2010 (Д-р Саво Климоски, д-р Рената Дескоска, д-р Тања Каракамишева, Уставно право, второ издание, Просветно дело АД Скопје, 2010);
7. Avramoski.M, Ekonomika i organizacija na pretprijatijata, Grafomak Kichevo, 2000 (Д-р Митре Аврамоски, Економика и организација на претпријатијата, Графомак Кичево, 2000);
8. Tomanovic.T, Mihajlovski.Z, Kolektivni dogovori – Teorija i praksa, Selektor Skopje, 2010 (Теофил Томановиќ и Д-р Зоран Михајловски, Колективни договори – Теорија и пракса, “Селектор“ Скопје, 2010 година);

Consulted regulations:

1. Constitution of Republic of Macedonia, November 17, 1991 (Устав на Република Македонија од 17 ноември 1991);
2. Law on Trade Companies (“Official Gazette of RM.28/96, 7/97, 21/98, 37/98, 63/98, 39/99, 81/99, 37/00, 31/01, 50/01, 61/02, 4/03 and 51/03) (Закон за трговските друштва (“Службен весник на РМ“ бр. 28/96, 7/97, 21/98, 37/98, 63/98, 39/99, 81/99, 37/00, 31/01, 50/01, 61/02, 4/03 и 51/03);
3. Law on Trade Companies (“Official Gazette of RM no.84/05, 25/07, 87/2008, 42/2010, 48/2010, 24/2011, 166/2012 and 70/2013) (Закон за трговски друштва (“Службен весник на РМ“ Бр.84/05, 25/07, 87/2008, 42/2010, 48/2010, 24/2011, 166/2012 и 70/2013));
4. Law on Labour Relations (“Official Gazette of RM no бр.62/05, 106/08, 161/08, 114/09, 130/09, 149/09, 50/10, 52/10, 124/10, 47/11, 11/12, 39/12, 13/13 and 25/13) (Закон за работните односи (“Службен весник на РМ“ бр.62/05, 106/08, 161/08, 114/09, 130/09, 149/09, 50/10, 52/10, 124/10, 47/11, 11/12, 39/12, 13/13 и 25/13));
5. Law on Institutions (“Official Gazette of RM no 32/05, 120/05 and 51/11) (Закон за установите (“Службен весник на РМ“ бр.32/05, 120/05 и 51/11));
6. Law on Public Companies (“Official Gazette of RM no. 38/96, 6/02, 40/03, 49/06, 22/07, 83/09, 97/10 and 6/12) (Закон за јавните претпријатија (“Службен весник на РМ“ бр.38/96, 6/02, 40/03, 49/06, 22/07, 83/09, 97/10 и 6/12));
7. Law on Safety and Health at Work (“Official Gazette of RM no. 32/2007, 136/2011, 23/2013 and 25/2013) (Закон за безбедност и здравје при работа (“Службен весник на РМ“ бр.32/2007, 136/2011, 23/2013 и 25/2013));
8. Law on European Works Councils (“Official Gazette of RM no.6/12) (Закон за европски работнички совет (“Службен весник на РМ“ бр.6/12));
9. European Company Law (“Official Gazette of RM no.115/10) (Закон за европско друштво (“Службен весник на РМ“ бр.115/10));
10. Law on European Economic Interest Grouping (“Official Gazette of RM no.158/11) (Закон за европските економски интересни заедници (“Службен весник на РМ“ бр.158/11))

Directives and Regulations:

1. Council Regulation (European Council) no. 2157/2001, of October 8, 2001, for the European Society Act (SE);
2. Council Directive no. 2001/86/EC of 8 October 2001 supplementing the Statute for a European company with regard to the involvement of employees;
3. Directive 75/129/EEC (collective dismissals);
4. Directive 77/187/EEC (transfer of undertaking);

INSIDE ORGANIZATION MARKETING: THEORETICAL APPROACH

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Abstract: The concept of inside organization marketing is becoming more and more popular both in literature and practical activity of marketers. As for literature it implies technology of personnel management, but in practice its introduction often has fiasco. In reality the problem is the following: the essence of inside organization marketing that coincides with the essence of external marketing, i.e. meeting the needs through the exchange process is ignored. We mean the needs in labour that the inner client of the company, namely personnel, has and develops rather than the needs appearing in the market.

Needs in labour are one of some complex needs, such as needs in health, that are not directly represented in A. Maslow's hierarchy of needs hence is the basis for some theoreticians to their denial. But if there exist the needs in labour so the needs to it can't help existing. Namely the system of abilities and requirements characterizing personality, a mechanism of their interaction, ambiguous priority of them both in the development of this system is the basis of studies of labour needs.

Many-sidedness of labour needs is defined firstly by its coincidence with the known classification offering the division of needs into physiological (material), i.e. necessity to work, social, i.e. interest to work, spiritual, i.e. enjoyment in work. Secondly, it is defined by those forms of its subjectiveness that labour needs accept while their maturing and satisfying on every stage of the hierarchy starting with abstract, then come desires and finishing with demand.

For better meeting the needs of the company's personnel in labour it's necessary to carry out its segmentation both by levels and forms of these needs considering all segments as target.

Keywords: inside organization marketing, needs in labour

The concept of inside organization marketing is becoming more and more popular both in literature and marketers' practical activity. However, the essence of inside organization marketing and moreover its conceptual status still raise questions. So without their solution all attempts of marketers to introduce this concept will not be a success. It can be confirmed by loyalty and client orientation programmes that seldom gain the aim and whose connection with inside organization marketing was discovered, and it's true, but poorly grounded by specialists.

Without pretending to final comprehension of inside organization marketing as a phenomenon and basing on the evolution of its interpretation in publications, we'll advance our opinion that as we suppose will result in greater success of realizing the essence of inside organization marketing.

For more than twenty years the definitions of inside organization marketing have passed several stages: from considering it as implementation of hiring, teaching and stimulating personnel to serve the clients on high levels to the technology of running personnel directed to provide satisfaction of an internal and external client. Further authors more clearly formulate the statements concerning the tasks of inside organization marketing towards the personnel including the formation of their client orientation [1, 2, 3, 4].

Thus, an efficient thing in the development of inside organization marketing is an accent on stimulating personnel to serve external customers on a high level that later enriches itself with the idea meeting personnel's needs and forming their client orientation.

So, on the basis of specialists' working out and following the logics of classical marketing, inside organization marketing must have the same essence as external marketing has. In this case inside organization marketing, as external marketing, must be defined as a managerial activity directed to meeting the needs through the exchange process. What needs does inside organization marketing meet? Whose needs are they? Certainly, these are not the needs that appear in the market but the needs that are connected with labour activity performed by an employee.

We have already considered the employee's needs in his labour activity as his needs in labour [5] and found some support in publications [6]. Any needs, in marketing view point, pass the following stages in its development: origin, maturity, satisfaction and take different forms. Needs in labour evolve in the same direction. Being specific needs whose complexity in the development is determined by the mechanism of interaction of abilities and needs, needs in labour on the stage of origin acquire the form of necessity to work. On the maturity stage they evoke interest to labour and on the stage of satisfaction they result in labour enjoyment. Every stage of the development of needs in labour is characterized by the employee's abilities and needs, their disparity and harmonization.

There are evident coincidences of stages of the development of needs in labour with the known classification implying the division of needs into physiological (necessity to work), social (interest in labour) and spiritual (enjoyment in labour). Manysidedness of needs in labour, hence, stimuli of their development is determined not only by the hierarchy of their stages and the state of correspondence to abilities but also by the forms of their subjectivity that needs in labour acquire while being gradually matured on every stage of this hierarchy starting with abstract, then come desires and finally comes demand [7].

Thus, the evolution of needs in labour can be presented as a matrix where the levels of its development are determined on the lines and the forms are shown in columns. But if the levels (physiological, social, spiritual) are typificated more distinctly so that the forms that needs in labour acquire on the levels of their development can be poorly typificated. It's connected with the variety of employee's labour functions and his concepts of values.

This conclusion is confirmed by works of national philosophers, sociologists, economists who touched the problem of studying the needs connected with the labour activity many times and classified them by types and kinds. Following these works man can refer needs in labour as a means of satisfying physiological, basic needs and institutional and consumer's needs to the first level of needs in labour, i.e. physiological; needs of social functioning and communication, needs in role and status can be referred to the second level, i.e. social; and, intellectual and consumer's needs, intellectual and communicative needs, needs in creative work and self-realization can be referred to the third level, i.e. spiritual [8].

However, the attempts of scientists to give a kind characterization to these types of needs in labour activity, in our minds, were not very successful, namely the enumeration of

these kinds was long but still not full because the targets the employee has in labour and the targets that define the forms of these needs on the levels of their development can't be enumerated completely. But the idea of orientation in studying the forms of needs in labour on concepts of values seems us to be fruitful and concrete. Thus, arranging effective organization and convenient working conditions can be referred to the physiological level of the development of needs in labour; needs in professional intercourse, good relations with colleagues and administration, arrangements of definite quality labour can be referred to the social level; directions to professional knowledge and its perfection, to interpersonal and spiritual communication, attention and respect of other members of the working team, to labour as creative work and self-realization can be referred to the highest spiritual level. Such concepts of value can be considered as criteria of segmentation of the company's personnel, namely as a marketers' instrument helping to define and reveal peculiarities of needs in labour for their meeting

It's worth noticing that Russian specialists have already used this instrument of the analysis of companies' inner market, i.e. personnel segmentation [9, 10, 11, 12]. According to their concepts such rather evident attributes of personnel's satisfaction are emphasized as material, non-material, concerning relations [9] that reflect some profits of the inner client characterizing his needs in labour but at the same time they poorly correspond to various forms of their revealing and employee's concepts of values.

Besides, there is practically no marketing analysis of consumer's requirements of the second subject of labour relations, i.e. employee, in Russian publications. The peculiarity of these relations is a dual role of the employee and the employer. They are producers and consumers at the same time. The employee, manufacturing his labour product and putting his requirements to terms, contents and character of labour that express his concepts of value and expectations, must correspond to the requirements of the employer to his labour and product. But such requirements of the employer to employee's labour may not coincide with employee's requirements. We speak about loyalty, client orientation, activity in the innovative field, namely personnel's ambitions that are estimated by marketers as archtopical. But these ambitions are considered more often in the competence rather than needs doctrine. However, if the formation of personnel's abilities that should correspond to the employer's requirements are not accompanied by meeting the needs corresponding to these abilities do in this case the programmes of loyalty and client orientation are likely to fail.

Exceeding the limits of our approach the discussion about the essence of loyalty and client orientation we'll still try to correlate them with an internal and external client explaining them as potential attributes of personnel's needs in labour.

Client orientation of the personnel is traditionally considered as initiatives of leadership. However, making regulations and codes of work of the personnel with clients the arrangements of communications with them for good interaction in the distribution system are not enough to form client orientation of the personnel till it turns into needs, it being on the basis of his loyalty.

Loyalty and client orientation of the personnel are often and fairly considered as pair phenomena. It's confirmed that client orientated personnel interacting with the external client and meeting his needs better forms customer's loyalty and his devotion to the company. In reality, client orientation of personnel in these relations is a stimulus and the loyalty of the external client is a reaction. They have a direct connection though it is not always effective as is fairly mentioned in publications [13]. A subject forming loyalty of the external client is client oriented personnel; an object is an external client. If one considers personnel as an internal client so that his loyalty to the company and his external

client orientation are an object of formation, a dual reaction where the first object of formation may not suppose the second object automatically. In other words, loyal personnel may not be client orientated externally.

An employee can be satisfied with working conditions in the company, follow its values and corporate culture, imagine himself as a part of the company, i.e. being loyal towards the company. But if these conditions, values and communications in a team don't correspond to professional and personal value aspirations of the employee so that his client orientation doesn't occur or in case it occurs it will form the loyalty of the external client poorly.

Here is another example. An employee may not be loyal to the company but he still may be oriented to the external client on the strength of his own values and culture or simply understand the dependence of his income on meeting the needs of the external client even if it is current.

By all appearances, personnel's loyalty can be considered as the degree of meeting the needs in labour on different levels and different forms of its raising and forming loyalty is considered as a function of inside organization marketing connected with its other function, i.e. satisfying the forms of revealing the needs in labour including the needs of personnel in client orientation.

Thus, the main aim of inside organization marketing is meeting the needs in labour rather than all the needs as specialists often write [14]. It's impossible to realize this aim without defining the degree of maturity and meeting the needs in labour, i.e. its forms expressed in demands and definite profits of the personnel. They, in their turn, are the criteria of segmentation of the company's inner market but in contradistinction to external all acquired segments are necessary to be considered as target, working out marketing programmes for each segment where the internal client can feel the connection with his interests.

REFERENCES

1. Ph. Kotler, Marketing Management, Peter Kom, St.Petersburg, 1998, p. 896 (Котлер Ф. Маркетинг менеджмент. – СПб.: Питер Комю – 1998. с. 896)
2. A. Grishakova, In-house marketing for HR and T&D specialists, Electronic source URL, <http://www.trainings.ru/library/articles?id=11216>. (Гришакова А. Внутрифирменный маркетинг для HR и T&D специалистов, [Электронный ресурс]. URL: <http://www.trainings.ru/library/articles?id=11216>)
3. Yu. B. Solovyova, The concept of inner marketing, Marketing in Russia and abroad, 4 (2008) p.125-133 (Соловьева Ю.Б. Концепция внутреннего маркетинга // маркетинг в России и за рубежом. 2008.№ 4 с. 125-132).
4. Forum on the topic of internal marketing, Electronic source URL, <http://www.dis.ru/forum/index.php?PHPSESSID=c5a1f15ca16ac4526E646975dfa35c55&topic=7648.15> (Форум на тему внутреннего маркетинга [Электронный ресурс]. URL: <http://www.dis.ru/forum/index.php?PHPSESSID=c5a1f15ca16ac4526E646975dfa35c55&topic=7648.15>)

5. I.V.Kotlyarevskaya, Mechanism of interaction of abilities and needs as a basis of competence doctrine: marketing approach, Bolone process: realization of the competence approach in the field of education, USTU-UPI, Yekaterinburg, 2009, p. 151-157. (Котляревская И.В. Механизм взаимодействия способностей и потребностей как основа компетентностной доктрины: маркетинговый подход/Болонский процесс: реализация компетентностного подхода в сфере образования: сборник статей/отв. ред. Ю.А.Мальцева. Екатеринбург: УГТУ-УПИ. 2009. с. 151-157).
6. E. S. Lebedintseva, Introducing inside organization marketing in enterprises of consumers' cooperation, Vyatsk State University of Humanities, Kirov, 2009, p.27. (Лебединцева Е.С. Внедрение внутриорганизационного маркетинга на предприятиях потребительской кооперации: автореф. дисс. канд. эконом. наук/ Е.С.Лебединцева. Киров: Вятский гос. гуман. ун-т, 2009. с. 27).
7. I.V. Kotlyarevskaya, Marketing: meeting and developing the needs, Ural University, Yekaterinburg, 1997, p.153. (Котляревская И.В. Маркетинг: удовлетворение и развитие потребностей. Екатеринбург: Изд-во Уральского университета. 1997, с. 153).
8. A.I.Vishnyak Personality: correlations of labour potential and the system of needs / sociological analysis, Naukova dumka, Kiev, 1986, p. 108. (Вишняк А.И. Личность: соотношение трудового потенциала и системы потребностей / социологический анализ. Киев: Наукова думка, 1986, с. 108).
9. N.I.Shatalova, Working potential of an employee: the problem of functioning and development, UrGEU, Yekaterinburg, 1998, p. 235. (Шаталова Н.И. Трудовой потенциал: проблема функционирования и развития. Екатеринбург: УрГЭУ, 1998, с. 235).
10. N.G. Zerkaliy, Working out of effective programmes of inside organization marketing, University named after F.V.Dostoevskiy, Omsk, 2011, p.24 (Зеркалий Н.Г. Разработка эффективный программ внутриорганизационного маркетинга: автореферат дисс. канд. экон. наук/ Н.Г. Зеркалий, Омск: Омский гос. Ун-т им. Ф.М.Достоевского, 2011. с. 24).
11. U. P. Rande, Place and meaning of inner marketing in the activity of the bank, Marketing in Russia and abroad, 5 (2007) p.78-83. (Ранде Ю.П. Место и значение внутреннего маркетинга в деятельности банка.//Маркетинг в России и за рубежом. 2007. № 5 с. 78-83).
12. I.N.Lings, Balancing internal and external market orientations, Journal of Marketing and Management, V. 15 (4), 1999, p. 239-263.
13. www. Research.abs.aston.ac.uk/working_papers/wphome.html.
14. K. Balashov, Making a system of clients' loyalty, 2, 2007, p. 78-90. (Балашов К. Построение системы лояльности клиентов// Маркетинг, 2007, №2, с. 78-90).
15. E.S.Yakhontova, Client orientation as a corporate competence of the personnel, www.edst.ru/leadership/klientoorientirovannost-rfr-korporativnaya-kompetensiya-personala/ (Яхонтова Е.С. Клиенториентированность как корпоративная компетенция персонала/www.edst.ru/leadership/klientoorientirovannost-rfr-korporativnaya-kompetensiya-personala/).

„STRATEGIC DRIFT” AND STRATEGIC CRISIS MANAGEMENT OF ORGANIZATION

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Abstract: The strategic crisis management is a relatively new field of management science. The tools of strategic management solve problems like recognition of the crisis, its tackling and overcoming, and successful recovery and development.

Strategic crisis management is a relatively new field of management science. The tools of strategic management solve problems like recognition of the crisis, its tackling and overcoming, and successful recovery and development.

In connection with the loss of positions of leading global companies are increasingly talking and writing about the so-called „the strategic drift”. The cause of this phenomenon is associated with strategic management, and later with the process of crisis management.

Without proper strategy, an organization can become uncompetitive in their environment, leading to its unprofitability - this phenomenon is known as „strategic drift”. When an organization does not operate in harmony with its environment and begins to fail, the appropriate strategy is a way to remain competitive or means to force to make strategic change.

„Strategic drift” of the organizations leading to serious organizational crisis as the first form that strategic crisis. Practice shows that the management of the organizations that are market leaders often leads to complacency, choosing strategy stability. Soon, as a result of aggressive strategies or implemented innovations of their competitors, they lose their competitive position.

The aim of the publication is to examine how the choice of the organization of behavior „strategic drift” can lead to strategic crisis as a form of manifestation of deepening organizational crisis.

Keywords: strategic drift, strategic crisis, wear of the strategy

1. INTRODUCTION

Each organization in a certain moment of its development is faced in front of a crisis. It is „a situation, in which is a physical person, a group or an organization, which are not capable of coping with the usage of normal routine procedures” [1]. Or in practice the crisis is a change – sudden or permanent – which originates an urgent problem, which requires an immediate intervention for its solution [16].

The crisis management is a comparatively new field in the management science. The investigation of management of crises aroused after large-scale industrial and ecological calamities in 1980. [22] After the appearance of the first book in this field (Steve Fink: *Crisis Management: Planning for the Inevitable*. NY: Blackprint, 1986) are written a lot of scientific publications. The practice proves the affirmation of S. J. Venette, that „the crisis

is a process of transformation, when the old system cannot be maintained anymore” [23]. This means a necessity of a serious change in the strategic conduct of the organization.

The instruments of the strategic management give us a solution of the problems, connected with: identification of the crisis, its mastery and overcoming, the recovery and the successful development of the organization. But the strategic decisions are connected and with the solution of the problem for going out of the crisis through the choice of appropriate strategies.

In the last years in connection with the loss of the positions of leading world companies it is more and more talked and written about the so called *strategic drift*. The reason for the appearance of this phenomenon again is connected with notions from the methodology of the strategic management, and later also with the process of management of crises. Without an appropriate strategy the organization may become uncompetitive within the framework of its environment and this leads to its unprofitability – namely this phenomenon is known as a *strategic drift*. When one organization does not function in harmony with its environment and begins to fail, the appropriate strategy is a way to remain competitive or an instrument to be forced to make a strategic change.

The purpose of the publication is to be investigated how the choice of a conduct of the organization „strategic drift” may lead to a strategic crisis as a form of manifestation of the deepening organizational crisis.

2. THE STRATEGIC CRISIS AS A FIRST FORM OF THE ORGANIZATIONAL CRISES

In the specialized literature there does not exist a uniform attitude regarding the notion „crisis” in the contemporary science, since the theory is far behind the practice in the field. The scientists suggest different interpretations, depending on the aspects, in which they investigate it. But they can be generalized in the following: the crisis is *each event, which is or is expected to lead to an unstable and dangerous situation, to a critical moment, in which should be made a choice and to be taken important decisions*.

The levels of manifestation of the crises are global, state (national), organizational and crises of the individuals. Each one of them has its characteristic peculiarities and forms of manifestation. In the last years is paid special attention to the organizational crises, since they become more frequent because of the unstable, dynamic and turbulent environment.

Already Charles Hermann [8] points that the crisis is „an unusual phenomenon, which threatens the organization, requires a fast reaction for a short period of time and is a threat for its basic values”.

One of the best researchers in the field Steve Fink [5] argues that in contrast to the generally accepted understanding, the crisis may not at all costs be a bad phenomenon – it only is characterized by a certain degree of risk and insecurity.

The prominent scientists in the field of crisis management P. Shrivastava and I. Mitroff [21] indicate that crises develop simultaneously through a chain of events in several areas in and outside the organization. The managers do not have at their disposal control on these situations and frequently they have very little time in order to react to them. There should not be forgotten and the usually strong pressure from the government, the agencies, media and the public for urgent coping with the crisis and softening of the consequences.

A. Mishra [17] proves in his research that notwithstanding the result from the crisis – whether it is positive or negative, it depends on the nature of the organizational conduct during a crisis.

M. Seeger, T. Sellnow and R. Ulmer [20] generalize that the crisis has four determining specific peculiarities. They specify that the first three are: 1) unexpectedness (surprise), 2) formation of insecurity and 3) threat. They adopted the affirmation of S. Venette [23] that „the crisis is a process of transformation, when the old system cannot be maintained anymore”. Therefore the fourth characteristic according to them is 4) the necessity of a change.

R. James and B. Gilliland [11] suggest one summarized contemporary characterization of the crises in the organizations on the grounds of investigations of a big volume of specialized literature – „the representation of the crises as a threat and an opportunity – the reason is that the distress makes the people look for a way out”.

Despite that in depth the definitions for the crisis differ between themselves, each one of them is based on the affirmation that *the crisis is an event, which may drastically influence on the ability of the organization to maintain itself in condition of equilibrium and/or to develop itself*.

In this aspect may be drawn up as a generalization the following interpretation for a crisis of the organization – „*this is appearance of dramatic phenomena and processes in the external and/or internal environment, which have direct or indirect impact on it, when the used up to this moment methods of management become ineffective and violate its capacity for living*”. On this basis for the surviving in conditions of a crisis, the returning towards the normal functioning of the system and its further development is necessary a change in the management and in the organization as a whole.

Parallel with this, the crisis situations in the organizations must be considered not as a concentration of unfavorable events, and as some general regularity, which is innate of the market economy and the organizational development. Being based on this, the management of the organization is obliged to have a direction towards preparation and prevention of a potential crisis.

We may accept the indicated generalizations as a basis for the investigation of the processes, which pass in the organizations, connected with the crisis. But a special interest for their management is the changes, which occur from point of view of the crisis process. They display in different forms of manifestation of the crises.

3. FORMS OF MANIFESTATION OF THE CRISES IN THE ORGANIZATIONS

In order and the management of the organization to react duly is necessary to be known the basic phases of the crisis process from point of view of its forms and manifestation. This shall help about the taking of right management decisions.

In the specialized literature are known several specific forms of the crises, depending on the phases, through which they pass. Zgonnik [25] drew the following forms, which are and the most frequently met in the specialized literature:

A. *A strategic crisis*, which affects all components of the social-economic life. It acts, by rule, on long-term base and characterizes the efficiency of the actions of the manager in a strategic plan. The strategic crisis arises at the loss in the management of the „strategic vision” – an untimely change of the production, a refusal of transition towards new technologies or in new regions, reduction of the investments in new techniques, technologies or training of cadres and so on.

B. *The crisis of „the success”* is observed at originating of losses in the organization in connection with the defects of the management, for example as a result of decrease in the turnover, growth of the maintenance, lowering of the prices, and decrease of the turnover

capital. *The crisis of „the success”* leads to consecutive lowering of the share of the equity in the sources of funds for the organization. At the first stage the lowering is to the level of the statute capital, and further it may lead to negative values of the own sources of funds. This crisis is average-term as a time interval.

C. *Crisis of liquidity* – at it the organization is incapable of paying off its debt obligations. As a result of this it continues to work for a certain time, accumulating debts or shall be liquidated. This crisis has a short-term character. With it the problems cannot be solved independently by the management of the organization.

Ulrich Krystek [14] differentiates the crisis of *operative* (it refers to business crises) and *strategic*. He defines *the strategic crisis* as mistakes in the finding out, identifying and prognostication of changes in the environment. And *the operative crisis*, according to him, most frequently shows decrease of the individual carrying out of the indexes of the business systems (for example decrease of the incomes from sales, market share, profits, or loss of clients and so on). This classification is accepted and by other scientists – Vrečko and Mulej [24].

Orehov, Baldin and Gaponenko [18] divide *the crisis of „the success”* in *tactical crisis* and *crisis of the collateralization* and this way they differentiate four forms of the crisis. They are characterized with the following peculiarities:

A. *Strategic crisis*, when the organization does not react at the warning signals for a future crisis and it stays indifferent to the changes in the environment, loses the strategic orientation and direction.

B. *Tactical*, at which the first serious symptoms of the crisis begin to manifest, but yet not affecting seriously the financial condition: decrease of the market share, discharging of personnel, decrease of the capacity because of decrease of the growth of demand of the offered products and services, decrease of the profit and etc.

C. *Crisis of the collateralization* - a loss of the financial stability, insolvency, the financial results evidence for this, which the organization is in front of a threat of bankruptcy, which is not certainly irreversible as a process, looking for new sources of financing and so on.

D. *Crisis of the liquidity* – if the financial status of the organization evidences for absence of real opportunities for recovering of its solvency, this may be a reason for preparing and applying of a procedure as per liquidation.

The form of the crises is directly connected with the process of their manifestation in the different organizations. It specifies and the management decisions, which the leaders shall take for their overcoming.

The importance of the crisis for the strategic development of the organizations is firstly investigated by the German scientist U. Krystek [14]. Vrečko and Mulej [24] affirm in their investigation that comparatively few scientists are engaged with the strategic crisis, as they usually are based on the definition of Krystek. He, as we have already pointed, differentiates it in *operative* (it refers to business crises) and *strategic*. Krystek gives to it the following interpretation „**The strategic crisis is defined as mistakes in the finding out, identification and prognostication of changes in the environment, which have direct or indirect influence on the future activities and the competitiveness of the business systems and on this base of incorrect determination of their strategic direction and its carrying out**” [14].

As Shrivastava and Mitroff affirm [21], **big part of the crises are caused by previous mistakes in the process of strategic management**. The conclusion is that **the strategic crisis often is due to lack of a complete vision and strategy, as well as to strategic thought for the future**.

As a result of these investigations may be drawn the following **definition for the strategic crisis** - *a state at which as a result of wrong management, including and strategic, decisions and/or a change in the environment, appear conditions, which lead to violation of the stability of the system and affect all its elements.*

The identification of the strategic crises on the grounds of the existing definitions for them often is a question of a subjective interpreting, which makes it difficult for elaboration and applying of the necessary measures for their solving. Towards the strategic crisis leads the absence or the insufficient development of the system for strategic management of the organization, in particular the absence of a good object-oriented orientation and the lack of an elaborated and realized strategy, as well as the lack of control and valuation of its realization. In practice we again reach to the bad management and the problems, resulting of it.

On this base, the strategic crisis in the organization appears, when the leaders lose the strategic direction – the long-term object-oriented orientation; they do not evaluate and the lack of reaction of the occurred changes in the environment, which could lead to crisis situations and to losing of its capacity for living.

4. THE CONCEPT „THE STRATEGIC DRIFT”

One quite suitable definition of the notion offers one of the leading managers of *Solvey* and simultaneously a teacher in their business school – M. Hensmans „**The strategic drift**” is a tendency in the strategies for gradual development on the basis of historical and cultural influences of organizations, which do not succeed to be in step with the changing environment” [9].

Or this means that *the strategic drift is the condition, which arises when one organization quickly develops its strategy in a way, which is not in step with the changing environment.* Consequently, it may be as a result of an **organizational culture and history**, which impede the organizational change. In such aspect, the organization does not manage to keep its strategic position, which leads to **an organizational crisis** and frequently is followed by a transformation or a bankruptcy.

Many researchers explain *the strategic drift* with examples from the practice of organizations, which have been leaders in certain industries or lines of business and even in world scale, but they have lost their competitive positions as a result of their strategic drift. The common among their activity are the tremendous scales of operating, the clumsiness, self-complacency and the insufficient adoption of the new – the lack of innovations.

For the first time G. Johnson elaborated *the concept for the strategic drift* in 1988 [13] as a discrepancy between the changes in the strategy of the organization and the changes in the external environment. He began his investigations from the concept for “the logical incrementalism” – a philosophy of the management, which is based on the thesis that the strategies have not appeared on the basis of a single decision, and they exist on the basis of taking less important decisions periodically. These decisions are not taken accidentally and logically through deep analyses and evaluations. Johnson affirms that the managers build their views with the help of external stimuli, and also their perception for the environment on the grounds of homogenous and well-grounded ideas. They are inclined to regulate stage by stage only the strategy of the organization, following unconsciously the preliminary vision, which they have formulated. This strategic approach towards the

evolution would divert from the changes of the external environment, which would lead to the situation of a „strategic drift” in the organization.

In this initial definition of *the strategic drift*, Johnson does explain neither the problems, with which the organization may face, nor the factors, which may lead to this. Besides, he is more inclined to adopt the explanation of *the strategic drift* more like an internal problem (choice of the stage by stage development of the strategy), rather than as a result of changes of the external environment.

A bit later Charles Handy, one of the founders of *London Business School* and a prominent researcher in the field of organizational conduct, in his concept about **the two types of organizational changes** points that the first of them is *the strategic drift*, which he explained as „**a regular change** in the strategy of the organization, diversions from the vision, which happens so skilful that it is not noticed and when this happens it is quite late” [8].

The other change he names „**a transformational change**” and determines it as sudden and radical, which usually is caused by interruptions (or exogenous shocks) in the business environment. The point, in which is initiated a new tendency is named by Andrew Grove, a chairman of the Board of the directors of *Intel Corporation*, „*a strategic inflection point*” or this is “an event, which changes the way, in which is thought and acted. The inflection points may be as a result of actions, undertaken by the organization or by actions, undertaken by another subject, which has a direct influence on it” [7]. Grove explains in his investigation that „*the strategic inflection point*” is, when the proportion of the powers is moved from the old structure, from the old ways for action and competition towards new ones. This is the point, where the curve barely perceptible, but deeply changes”. His comments on the question „When does one organization reach *a strategic inflection point*?” confirm the thesis about the possible crises and the outcome from them. „In the activity of the organization continuously occur changes – some small, other big; some are transitional, other represent the beginning of a new era. The organization must adapt to them and to solve the problems, which they cause. But not all have the meaning of *a strategic inflection*. It comes slowly – firstly there are **warning signals**, and after this – „thunder and bang, trivially „hinting”, that the dynamics of the competition has changed.”[7] With these reasoning on the strategic drift and the strategic inflection point again is proved the putting into practice of the methodology of the strategic management in the process of management of crises. According to the explanation of Grove about *the strategic inflection* it is the point, in which the organization is in a crisis situation, in accordance with the cyclic model of the capacity for living of the system (Exhibit 5.1 [12]). This point can be, according to him, barely perceptible or radical.

As a summary of the ideas of Grove can be pointed that in fact *a strategic drift* is obtained, when the organization does not change its target orientation and strategy, despite the changes in the environment. The lack of this change is explained with **its organizational culture and its history as a part of it**. The result from this shall be an organizational crisis, which obligatory passes through the first form – the strategic crisis.

Gerard H. Langelier [15] explains from a theoretical point of view that actually *the strategic drift* happens, when the initial purposes become unclear. Then the strategies no longer can maintain the vision and consequently it should be changed in order to correspond to the strategy. The stable strategy supposes a well considered vision, only then it shall bring success to the organization. The scientist reckons that „*the strategic drift* is not obligatory bad”.

Several years later J. Duck [3] describes very emotionally and picturesquely what happens in practice with great part of the leaders on the market - „Despite the whole

painfulness, the crisis for the big organization may turn out to be the only way for identification of the most typical symptom of the stagnation: **the self-complacency**". And adds the speech of one of the managers of a company, which has lost its competitive position of a leader: „**Our former successes are our biggest enemy for our future flourishing.**” Or the basic mistakes, which lead to crises, are namely the organizational culture, history, narcissism and the self-complacency especially among organizations, which were leaders or among the leading in certain industries and lines of business. This proves the connection of the concept for the strategic drift with the crises in the organizations and the self-complacency as one of the basic mistakes of the management, which is a reason for the following crisis situation.

The very Gerry Johnson revised couple of years later [12] his concept. He predefined *the strategic drift* as *a progressive failure of the existing strategy, regarding the competitive position of the organization*. Johnson began to assign to the changes in the environment a more key role. Besides, he admits that inability of the organizations to rationalize and to cope with these „mighty powers” leads to the inevitable decrease of the productivity. Since then onward he explains with two main factors the situation of *the strategic drift*: the first one – the more and more complicated and dynamic external environment and the second one – the short-sightedness of the leaders to admit that the done corrections of the strategies are no longer in condition to follow the changes in the external environment.

The influence of the paradigm for *the strategic drift* (Exhibit 5.2 [12]) can mean that standing in front of the pressure for a change, the managers are trying to minimize the degree of obscurity and uncertainty, in front of which they are standing, as they are looking for what is familiar. This frequently leads to *a gradual change* (1-st phase). Despite this, the changes in the environment cannot be gradual enough, in order to be synchronized with a gradual change in the organization – it shall go out from this line of its encirclement, it is possible and in a better direction. As a result of this occurs *the strategic drift* (2-nd phase), in which the strategy of the organization gradually gets removed from the meaning of the powers, which act in its environment.

Even the most successful organizations may *float along the stream* in this way (3-rd phase). This model of drift makes more difficult the possibility to be found a new beginning and the direction to be turned, since there can be achieved some short-term changes in the carrying out of the strategy, which shall lead to legalization of the undertaken actions. It is possible after this the strategy for development to be without a clear direction, as its further execution to harm the organization. In the final reckoning, it is more probable *a transformational change*, if it is not reached to the death of the organization (a bankruptcy) (phase 4-th).

The concept for „the strategic drift” continues to perfect itself in time. Dividing the factors as external and internal, Gilligan and Wilson [6] bring out the potential factors, which cause *the strategic drift*. From point of view of the external environment – these are the changes in the structure of the market, the competitive environment, the expectations of the users and the changes, which provoke the technological evolution. As internal factors, which lead to *a strategic drift*, Gilligan describes **the bad investments and the bad management, the control of the expenses, as well as the wasted management philosophy**. These are and the basic reasons, which we have already indicated, for organizational crises – all of them result from the bad management.

Complementing the dynamic view, which Johnson has about *the strategic drift*, Gilligan introduces the notion „*wear of the strategy*” [6]. If the organization does not succeed to foresee early enough the external changes and later on to change its course of

development, even and the most successful strategies inevitably shall be wasted and shall lead to a failure. These affirmations prove our thesis about the strategic crisis in the organization.

Larry Dwyer and Deborah Edwards [4] and almost parallel with them Danciu [2], reckon that the concept of Gilligan is not so universal, since it refers only to the inactive organizations, which are not inclined to change their present winning strategies. The three scientist reckon that the organizations, which are standing in front of future dramatic changes in the external environment, can react proactively and to orientate towards strategic changes. As we base on the crisis management, this means that the managements, after the receiving of warning signals for a forthcoming crisis, to do the respective strategic choice.

As to the explanation of *the strategic drift* is concerned, Danciu [2] takes out four groups of **reasons**: a change in the expectations and the necessities of the consumers, a change in the structure of the market and the competition, changes in the micro-environment and changes in the organizational strategies. This means that as reasons for the crisis he indicates as the changes in the external, as well as in the internal environment, by which is confirmed and the attitude of many other researchers.

5. CONCLUSION

As a **summary** from the different attitudes of scientists and practitioners in the field, we may indicate that:

Firstly, a diversion from the strategy is obtained, when one organization, even if it enjoys a significant success, reacts quite slowly to the changes in the environment and preserves its strategy, after it develops well. Once imposed its successful management model, its leaders persist to make changes, despite its future tendencies become more and more inappropriate.

Secondly, in the new reality and a turbulent environment, the organizations are object of strategic crises, as they basically are result of changes in the environment – as in the external, as well as in the internal. Big part of the crises is caused by previous mistakes in the process of strategic management. The strategic organizational crises are often due to the lack of a complete strategy, as well as to strategic thinking about the future. In practice they appear, when the leaders lose the strategic direction.

Thirdly, the concept for the strategic disintegration grounds the necessity of the dynamics in the strategic crisis management, of a new suitable crisis strategy for preservation of the capacity for living of the organization. But this does not mean at all costs any strategic change, and the precisely necessary for the certain organization and the crisis situation, in which it is found. Its purpose shall be to preserve the sustainability of the organization. Or the strategic conduct of the organizations in crises is connected with its returning to its condition of equilibrium.

Fourthly, it is necessary each organization to be familiar with the symptoms of the *strategic drift*, in order to preserve its strategic position, which has historical roots. This shall allow it to prevent or to decrease the losses from one eventual crisis. If the organization does not succeed to foresee early enough some changes, to react adequately to them and consequently to change its course of development, even the most successful strategies inevitably shall waste and shall lead to a failure.

REFERENCES:

1. Booth, S., Crisis management strategy. Competition and change in Modern Enterprises, Routledge, London, 1993, p.86
2. Danciu, V., Theoretical and Applied Economics, XVII (2010) 7-18
3. Duck, J.D., Change Monster. Reasons for the success and failure of organizational changes, Alpina Publisher, Moscow, 2003, p.82 (in Russian)
4. Dwyer, L., Edwards, D., International Journal of Tourism Research, 11 (2009) 321-335
5. Fink, St., Crisis Management. Planning for the Inevitable, Blackprint, New York, 1986, p.15.
6. Gilligan, C., Wilson, R., Strategic Marketing Planning, Elsevier, Amsterdam, 2009, p. 508.
7. Grove, Andrew S., Only the Paranoid Survive: How to Exploit the Crisis Points That Challenge Every Company, Crown Business, New York, 1996, p.32.
8. Handy, Ch., The Age of Unreason, Hutchinson, London, 1989, p.16.
9. Hensmans, M., Johnson, G., Yip, G., Strategic Transformation: Changing While Winning, Palgrave MacMillan, Houndmills, Hampshire, 2012, p.74.
10. Hermann, Charles F., Administrative Science Quarterly, 8 (1963) 61-72.
11. James, R.K., Gilliland, B.E., Crisis Intervention Strategies, Cengage Learning, Boston, MA, 2013, pp.10-11.
12. Johnson, G., Scholes, R., Whittington, R., Exploring Corporate Strategy, Pearson, Harlow, 2005, p.180.
13. Johnson, G., Strategic Management Journal, 9 (1988) 88.
14. Krystek, U. Unternehmungskrise: Beschreibung, Vermeidung und Bewältigung überlebenskritischer Prozesse in Unternehmungen, Gabler Verlag, Wiesbaden, 1987, s.123.
15. Langelier, Gerard H., Harvard Business Review, 70 (1992) 46-54.
16. Lukey, R., Crisis management: Predictions and Overcome, Classic and Style, Sofia, 2007, p.8 (in Bulgarian)
17. Mishra, A., Organizational Responses to Crisis: the Centrality of Trust In: Kramer, Roderick M., Thomas Tyler (eds.), Trust In Organizations, Sage, Newbury Park, CA, 1996, p.261.
18. Orehov, V. I., Baldin, K. V., Gaponenko, N.P., Crisis Management, INFRA-M, Moscow, 2006, pp.309-310. (in Russian)
19. Pearson, C., Clair, J., Academy of Management Review, 23 (1998) 60.
20. Seeger, M. W., Sellnow, T. L., Ulmer, R. R., Communication and Organizational Crisis, Greenwood Publishing Group, Westport, CT, 2003, p.12.
21. Shrivastava, P., Mitroff, I. I., Columbia Journal of World Business, Spring (1987) 6.

22. Shrivastava, P. Mitroff, II, Miller, D., Miglan. A., *Journal of Management Studies*, 25 (1988) 285-304.
23. Venette, S. J., *Risk communication in a High Reliability Organization: APHIS PPQ's inclusion of risk in decision making*. UMI Proquest Information and Learning, Ann Arbor, MI, 2003, p.6.
24. Vrečko, I., Mulej, M., *Naše gospodarstvo (Our Economy)*, 58 (2012) 4.
25. Zgonnik, L.V., *Crisis Management*, Moskow, 2010, p.11. (In Russian)

APPLICATION OF IFRS FOR THE PREPARATION OF FINANCIAL REPORTS IN THE OIL SECTOR IN LIBYA

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Abstract: The accounting profession has importance and impact can't be overlooked, so that making the competent authorities keen on the importance of keeping up the International Accounting Standards, which give the good and effective basis on accounting and financial transactions, whereas to commitment these standards need of following good accounting approach ensures success and continuity in light of significant economic challenges. In the Arab world there is not exist board or a committee working serious on the regulation of the accounting profession, except for some efforts in some countries, as in the Kingdom of Saudi Arabia, for example. As in most other countries did no special standards, and were used of international standards, whether through translated without regard to local needs, such as Egypt. There are deficiencies in the application of international financial reporting standards on the quality of disclosure in the financial statements in the Libyan oil companies from the point of view of financial managers and accountants working in companies and various levels of jobs?

Keywords: Libya, Accounting, IFRS, Oil sector, Economy

1. INTRODUCTION

Besides structural problems, Libyan national economy is also characterized by growth and stratification of national market, insufficiently active investment market, bad investment climate and problems concerning microeconomics (small productivity and business efficiency of economic subjects). Due to the global integration of business and finance throughout the world, approximately 120 countries and jurisdictions have adopted or are working on convergence with IFRS. [1] For several decades the industrialized world has been working toward an international set of accounting standards. Since IFRS has become the de facto international accounting language, it is logical that it will be accepted as that standard in the near future. Besides economy conditions, insufficient implementation of international accounting standards and international financial reporting, observed problems are dealing with unstable political and economical situation in the region (problems which have no significant value for this research since they are very complex and its influence is connected with country's risk and possible economical disturbances in the region), small sized Libyan market (which can be structurally changed in a certain way, according to change in mechanism of financial reporting and better control of market terms, legal framework and reporting of economy subjects), insufficient industrial production (where influence is possible since, as expected, changing local financial standards and implementation of international financial reporting standards will provide necessary terms and mechanisms for more precise data on financial statements, thus providing safer and more reliable information for possible investors). Financial reports must to be highly standardized since they are a source of data on means of misconduct in

accounting which, on the other hand, represents instruments for providing information needed by the management in order to make decisions, interested users, state control and administration, other tax and inspection services, as a foundation for regular and emergency controls of legal subject's business.

2. LIBYAN ECONOMY AND DEVELOPMENT

The Libyan Economy is unique in North Africa. Whereas Algeria, Egypt, Morocco, and Tunisia all have large populations, considerable agricultural potential, and well-established industrial bases, Libya possesses few of these advantages. It does however, have abundant energy resources--primarily an attractive type of light low-sulphur crude oil as well as some natural gas. Given the country's small population (3.6 million in 1984) and considerable petroleum-derived income, the Libyan economy has more in common with those of the small oil-exporting Persian Gulf states than with those of its North African neighbours. Because of Libya's great dependence on oil revenues, the general level of the Libyan economy is closely related to the health of the petrochemical industry. Despite massive investment in agriculture and non-petroleum-related industry, the % of Libya's gross domestic product (GDP) derived from oil has remained fairly constant since the early 1970s, fluctuating between 50 and 60 % until 1982, when declining oil revenues caused it to drop below 50 %. reducing Libya's dependence on oil has been the government's major economic policy objective. Its inability to achieve this goal stems from ill-advised policy decisions as well as the many obstacles to economic diversification in a land lacking in both basic infrastructure and water resources. [2] Lower Sahara in Libya had not yet been discovered. Even if officials had known about the water, its presence, while encouraging, would not have been very helpful in the short term because of lack of development funds and inadequate transport and storage facilities. Shortage of water was the main drawback to expansion of cultivable land, but reclamation and irrigation schemes and the introduction of modern farming techniques held promise for the future. [3] During the decade after the discovery of petroleum, Libya became a classic example of the dual economy, in which two separate economies (petroleum and non-petroleum) operated side by side. For practical purposes, no connection existed between them except that the petroleum companies employed limited quantities of local labor and paid a portion of their profits to the government in royalties and taxes. The financing and decisions affecting the activities of the petroleum economy came not from the domestic non-petroleum economy but rather from outside the country. Although this sharp dichotomy was in the process of relaxation after 1965--perhaps especially after 1967-- it appears not to have been attacked conceptually, at least not with fervor, until after the 1969 change of government. [4] Libya's popular revolution of 2011 has unleashed the potential for more diverse and inclusive growth. In the short term, the country faces the complex and costly tasks of rebuilding its economy, infrastructure, and institutions, and responding to the demands of its population, especially for improved governance. The conflict that accompanied the revolution had a severe impact on the economy, which is heavily dependent on hydrocarbons, but the contraction is expected to be temporary. The restoration of hydrocarbon production is already well advanced, and reconstruction efforts will boost non-hydrocarbon output growth in the coming years. [5] Libya's wealth opens a choice of paths for the future: it can fall into the trap of many resource-rich countries that have become overly reliant on revenues from finite natural resources and failed to diversify their

economies, or it can pursue a course of sustainable, inclusive development led by increased private-sector activity.

3. ACCOUNTING IN LIBYA

In order to develop a globally applicable model of decision making and policy planning which can assist the economic situation of developing or emerging economies, each country needs to establish appropriate accounting systems that can ensure success in a global environment. Without an accounting profession capable of instituting such a system, a country's capability for global interaction and controlled planning is undermined and there will be no effective plan, either internally or globally. This issue of developing an appropriately qualified and expert accounting profession is pertinent for nations emerging into the global capital markets arena, particularly with the increasing extent of transnational rather than national professional regulation in the era of globalization. No records are available to show precisely how and when the accounting profession was first established in Libya. Since the early 1950's, it has been significantly influenced by the Libyan education system, the teaching of accounting academics, the preferences of international companies, the expertise of international accounting firms and to some extent, the rapid changes in the Libyan social, economic, political and legal environment. Accounting became a popular course of study from 1957, when the Faculty of Economics and Commerce was established at Garyounis University in Libya. Professional bodies and universities in the UK and the US were the main sources of influence, providing accountancy education and training for Libyan students. The preference for the US occurred because many Libyan students completed their studies in American universities during the 1970's, because the US was also an economic power and a leader in accounting practice and education, and because Libya had a good relationship with the US at that time.

Therefore, compared with the western accounting profession, which has existed for more than a century, the Libyan Accountants and Auditors Association (LAAA) is quite young, established in 1973. It is only 37 years since the "Certified Public Accountant" CPA system was introduced officially by Law No. 116 of 1973. [6] After this date, the profession became more formally organized. Despite the LAAA being established more than three decades ago, it has done nothing to build any professional theoretical basis of principles or practice for accounting as a profession in Libya and has not established a Code of Ethics for members to abide by. Rather, it has simply followed government regulatory requirements relating to accounting practice. This suggests that the LAAA has failed to regulate itself and to recognize its obligation towards the public interest. Furthermore, it has not achieved the objective of furthering activities such as research, conferences, seminars, continuing education and training programs or of promoting accounting publications to improve the status of the profession and accordingly of its members. All these factors contribute to the current very weak status of the Libyan accounting profession. The LAAA specifies no uniform audit report requirements and no professional examination requirements, basing its practices mainly on members' accounting university education. The definition and the objectives of the accounting profession in Libya are the same as those in the UK and the US, however, the environmental factors of Libya are significantly different from those of the UK or the U.S, as already highlighted. Currently, the accounting profession in Libya confines itself to external financial reporting and external auditing. In order to gain admission to the LAAA, applicants should have between three and five years of relevant practical training,

depending on whether the training is structured or unstructured. Structured practical training means experience gained under an approved principal in a public accountant's office or in any organization in the public sector or industry and commerce. With the enactment of the Accountants' Act 1973, all members of the profession are called "Certified Public Accountant". For decades, The Libyan accounting profession was influenced by international colonization and international businesses prior to the move towards a centrally planned economy and the recent emergence and encouragement of establishing private businesses. An accounting education system, like any discipline, consists of students, academic staff, curriculum, and resources (library, computers, facilities, financial resources, innovations, and technology) that are ideally associated harmoniously and efficiently to meet the education needs of a given society. Additionally, the accounting education system itself is a factor of the wider education system of the country it serves. The education system is affected by and also affects the social, economical, political, and cultural environments of the country in which it operates. Consequently, an education system should be designed to meet overall national needs. [7]

Libyan mercantile law, income tax law and investment law are considered to be the most important legal factors that influence the regulation of accounting practices in Libya. Libyan Commercial law was enacted in 1953, and included regulations concerning business activities performed by any person, whatever his or her legal status. [8] It covered the rules executed on traders (first Article 1/P), which bound every trader to abide by regular daily bookkeeping, inventory and budget at a minimum level (Article 58, and to keep special files for correspondence and dialogues relevant to trade affairs (Article 59). Specifically, Libyan commercial law clarifies many detailed rules about estimating the assets, establishing the legal reserve, increasing and decreasing the invested capital and distributing profit. The commercial law also stipulates the necessity of appointing auditors (Article 550) to monitor the company's administration and ensure sound progress of the company's activities in accordance with the law. Article 553 of commercial law details the duties of the auditing board (Article 553). The law binds the auditor to submit a report to the general assembly on the outcomes of the fiscal year activities indicating his view regarding the progress of the company's work in addition to the authenticity and the confirmation of its budget and accounts (Article 580). [9] The income tax law that was applied in Libya during the period from 1923 to 1968, was the Italian income tax law. [10] Accounting in Libya is thus controlled by various laws which specify in great detail the requirements set out by the Government to achieve its goals, and by the oversight of the accounting professional bodies, also strongly influenced by the State. When these are added to Libya's particular political and social dynamics the effect on the accounting profession is that of constraint, i.e. a limitation on the perceived role of accounting, and consequently on the appreciation of the need for a well qualified, robust accounting profession. Investment Law does not apply to foreign capital investment in the oil sector in Libya. Regardless of the legal form of the investment enterprise through which the investment activity is carried out, the responsibilities and liabilities of the manager of the said enterprise remain the same. In recent years, Libya, like many other emerging nations has attempted to enter into the global economy, by moving towards privatization and the establishment of a stock market, and by embracing the technologies of capitalism and globalization, including accounting, which brings inevitable conflicts with national politics and identity. Consequently, it faces challenges in adopting economic policies (including privatization) and regulatory systems prevalent in western nations. These challenges are similar to those experienced by the much less wealthy developing economies. Accounting has an important role to play in the area of government planning and activity. National

economic planning and control are activities that rank high on the agenda of most developing and emerging economies. Even governments of developed countries with free-market economies will normally exercise some degree of control over their economies through monetary and fiscal policies. Consequently, developing countries require an accounting system that supplies information reflecting the economic realities of the country, and which produces information useful in aiding national economic development planning. Unreliable or unavailable information hampers the ability of a government to achieve its economic goals since it means that the selection of a development model will not be conceived based on a realistic assessment of the current economic situation and the country's ability to achieve its stated plans. Libya's political and economic system is dramatically different from that of the US or UK, so that its economic management objectives are also markedly different. However, there is no doubt that the adoption of the US/UK system, in a situation where very little accounting existed before, would represent an improvement. However, it must be borne in mind that such a system evolved in a westernized social, political and economic environment, and that it may well need considerable adaptation to meet the needs of a particular country.

4. IFRS FOR THE PREPARATION OF FINANCIAL REPORTS IN THE OIL SECTOR IN LIBYA

The objectives of oil and gas operations is to find, extract, refine and sell oil and gas, refined products and related products. It requires substantial capital investment and long lead times to find and extract the hydrocarbons in challenging environmental conditions with uncertain outcomes. Exploration, development and production often takes place in joint ventures or joint activities to share the substantial capital costs. The outputs often need to be transported significant distances through pipelines and tankers; gas volumes are increasingly liquefied, transported by special carriers and then regasified on arrival at its destination. IFRS and US GAAP that is in Libya today only account standard, take broadly consistent approaches to the accounting for financial instruments; however, many detailed differences exist between the two. IFRS and US GAAP define financial assets and financial liabilities in similar ways. Both require recognition of financial instruments only when the entity becomes a party to the instrument's contractual provisions. Financial assets, financial liabilities and derivatives are recognized initially at fair value under IFRS and transaction price (which is typically equivalent to fair value) under US GAAP. Transaction costs that are directly attributable to the acquisition or issue of a financial asset or financial liability are added to or deducted from its fair value on initial recognition unless the asset or liability is measured subsequently at fair value with changes in fair value recognised in profit or loss. Subsequent measurement depends on the classification of the financial asset or financial liability. Certain classes of financial assets or financial liabilities are measured subsequently at amortized cost using the effective interest method and others, including derivative financial instruments, at fair value through profit or loss. The Available For Sale (AFS) class of financial assets is measured subsequently at fair value through other comprehensive income. These general classes of financial assets and financial liabilities are used under both IFRS and US GAAP, but the classification criteria differ in certain respects. An entity accounts for its expenditure by developing an accounting policy that complies with the IFRS Framework or in accordance with the exemption permitted by IFRS 6 [IFRS 6 and 7]. The entity would have selected a policy under previous GAAP of capitalizing or expensing exploration costs. IFRS 6 allows an entity to continue to apply its

existing accounting policy under national GAAP. The policy need not be in full compliance with the IFRS Framework [IFRS 6 and 7]. An entity can change its accounting policy for only if the change results in an accounting policy that is closer to the principles of the Framework [IFRS 6 and 13]. The change must result in a new policy that is more relevant and no less reliable or more reliable and no less relevant than the previous policy. The policy, in short, can move closer to the Framework but not further away. This restriction on changes to the accounting policy includes changes implemented on adoption of IFRS 6. The criteria used to determine if a policy is relevant and reliable are those set out in paragraph 10 of IAS 8. Virtually all entities transitioning to IFRS have chosen to use the IFRS 6 shelter rather than develop a policy under the Framework. The exemption in IFRS 6 allows an entity to continue to apply the same accounting policy to exploration and evaluation expenditures as it did before the application of IFRS 6. The costs capitalized under this policy might not meet the IFRS Framework definition of an asset, as the probability of future economic benefits has not yet been demonstrated. However, IFRS 6 deems these costs to be assets. Expenditures might therefore be capitalized earlier than would otherwise be the case under the Framework. The shelter of IFRS 6 only covers the exploration and evaluation phase, until the point at which the commercial viability of the property has been established. A key indicator for evaluating the performance of oil and gas entities are their existing reserves and the future production and cash flows expected from them. Some national GAAPs and securities regulators require supplemental disclosure of reserve information, most notably the FASB ASC 932 and Securities and Exchange Commission (SEC) regulations. There are also recommendations on accounting practices issued by industry bodies such as the UK Statements of Recommended Practice (SORPs) – which cover Accounting for Oil and Gas Exploration, Development, Production and Decommissioning Activities. However, there are no reserve disclosure requirements under IFRS. The disclosure of key assumptions and key sources of estimation uncertainty at the balance sheet date is required by IAS 1. Given that the reserves and resources have a pervasive impact, this normally results in entities providing disclosure about hydrocarbon resource and reserve estimates, for example:

- a) methodology used and key assumptions made for hydrocarbon resource and reserve estimates,
- b) range of reasonably possible outcomes within the next financial year in respect of the carrying amounts,
- c) an explanation of changes made to past of hydrocarbon resource and reserve estimates including changes to underlying key assumptions.

Companies in Libya that already presenting supplementary information regarding reserves under local GAAP may to continue providing information in the same format under IFRS. Entities in the oil & gas sector that manage their investments and monitor performance on a fair value basis will need to fair value their financial assets with gains and losses recognized in the income statement. Primarily that's because their business model is not considered to be based on managing the investment portfolio to collect the contractual cash flows and so a different accounting treatment is required. Entities in the oil & gas sector may want to consider early adopting the standard, particularly where they have previously recorded impairment losses on equity investments that are not held for trading or where entities would like to reclassify their financial assets. Upon adoption of this standard, entities need to apply the new rules retrospectively. This will allow some entities to reverse some impairment charges recognized on listed equity securities as a result of the global financial crisis. However, an important requirement here is that the

entity must still be holding the investment. Provisions for decommissioning and restoration costs, which are primarily in respect of hydrocarbon production facilities, are measured on the basis of current requirements, technology and price levels; the present value is calculated using amounts discounted over the useful economic life of the assets. The liability is recognized (together with a corresponding amount as part of the related property, plant and equipment) once an obligation crystallizes in the period when a reasonable estimate can be made. The effects of changes resulting from revisions to the timing or the amount of the original estimate of the provision are reflected on a prospective basis, generally by adjustment to the carrying amount of the related property, plant and equipment.

5. FUTURE OF ACCOUNTING PROFESSION AND ACCOUNTING IN LIBYA

The accounting profession has a contribution to make in these situations by providing accurate and reliable financial information in order to enhance the management of individual organizations, and thereby, the country's development plans. A study conducted in 1985 affirmed this. It defined the main problems of scientific practice and accounting education in developed countries, and clarified that the most important of these problems were largely due to accounting education.⁵² The following were identified as the most significant of these problems:

- a) shortage of skilled accountants at all levels and in all accounting fields;
- b) accounting information can either be unavailable, not made available as it should be or be made available but late;
- c) accounting information has not been sufficiently used for internal administration purposes;
- d) lack of financial reports and appropriate auditing standards;
- e) lack and deficiency of national accounting systems;
- f) lack of appropriate accounting within the state's authorities and public companies;
- g) lack of legislation associated with accounting and standard and auditing measures;
- h) the use of the accounting firm primarily to help companies to evade paying income tax and to fabricate financial lists;
- i) the attempt made by some accountants to apply imported concepts and principles from developed countries regardless of their suitability for local circumstances and urgent needs;
- j) incompatibility of educational standards in the teaching of accounting subjects in colleges and institutes;
- k) shortage of accounting books and other references in colleges and institutes;
- l) shortage of qualified lecturers in colleges and institutes

Concepts of deferred tax, assets held for sale, investment properties, biological assets and biological produce are not recognized by Libyan Law. Additionally, the fair value model is not considered. Land and properties can be revalued every four years, but only in accordance with government indices. Depreciation and amortization rates for tangible and intangible assets are also specified by the government - the estimated

⁵² Bait El-Mal, M. A. (1990a). "The Significance and Advancement of Accounting Information for Economic Development." *Journal of Economic Research* 2

useful lives of assets are not considered. Start-up costs and interest during the construction period of properties are capitalized together with acquisition costs. Government grants are recognized within shareholders' equity, proposed dividends are recognized as liabilities and pension deficits are recognized only with respect to employees due to retire during the following year. Financial instruments are carried at cost and there are no specific requirements for hedge accounting. Finally, several consolidation differences exist between the two accounting regimes. Under Libyan GAAP, the 'pooling of interests method' is permitted, interests in joint ventures are treated as jointly controlled operations, subsidiaries with different activities may be excluded from consolidation and the concept of significant influence is not explicitly referred to in the definition of investments in associates (in cases of less than 20% interest).

6. CONCLUSIONS

Accounting is an information system that is vital in the proper management of any modern economy, for no significant level of economic activity is sustainable without a formal system of accounting. While accounting clearly has a role to play in economic development, as with any other information system, its usefulness depends on its ability to generate reliable and relevant information for decision-making. The production of accounting information is therefore important because progress in the field of production and the conveyance of this information become vital elements for economic development objectives in developed countries and developing countries alike. As Libya is a centrally planned, politically ideologically driven country, its accounting systems and accounting profession have not been developed autonomously, but rather in response to government requirements. However, since Libya anticipates the accomplishment of economic development, it is necessary to devote attention to accounting systems which set up and provide accounting information. The development of a well educated accounting profession is an indispensable part of this process. The vision of global accounting standards has been publicly supported by many international organizations, including the G20, World Bank, IMF, Basel Committee, IOSCO, and IFAC. To assess progress toward that goal, the Foundation is developing and posting profiles about the use of IFRSs in individual jurisdictions. The Foundation used information from various sources to develop the profiles. The starting point was the responses provided by standard-setting and other relevant bodies to a survey that the Foundation conducted. The Foundation drafted the profiles and invited the respondents to the survey and others (including regulators and international audit firms) to review the drafts. Their comments are reflected. Currently, profiles are completed for 81 jurisdictions, including all of the G20 jurisdictions plus 61 others. Eventually, we plan to have a profile for every jurisdiction that has adopted IFRSs, or is on a program toward adoption of IFRSs. If the world want to apply one accounting standards, IASB should recognize the importance of the Middle East countries in their structure, having a representative in the IASB will allow the MEC to apply IFRS in all the countries and allow the IASB to apply the IFRS in a very important region of the world, because otherwise the MEC will be supporting the current available ideas of establishing the Association of Gulf Cooperation Council (AGCC) accounting system or MEC accounting system. Finally, it can be said that IASB and MEC have to recognize and respect each other because of the simple fact that each of them creates a benefit for the other. Definitely this can be appreciated and considered more after knowledge the number

of Middle Eastern countries that are currently complying with IFRS and also after concentrating more on the idea of perfect harmonization.

REFERENCES

1. <http://www.ifrs.org/Home.htm>
2. Fathaly, O. & Abusedra, F., The impact of sociopolitical change on economic development in Libya, Taylor & Francis, 2006
3. Thorvaldur Gylfason, Natural resources, education, and economic development, Reykjavik, Iceland, 2001
4. Khader, B., El-Wifati, B., The economic development of Libya, Beckenham, England, 1986
5. <http://www.imf.org>
6. Announced in: Libya State (1974). The Official Gazette, Law No.116 of 1973 to Organize the Accounting profession in Libya.: p. 251-268
7. Bakar, M. and A. Russell (2003). The development of Accounting Education and Practice in Libya Research in Accounting in Emerging Economies. R. S. O. Wallace, J. M. Samuels, R. J. Briston and S. M. Saudagaran. Oxford, Elsevier Science 5: 197-236
8. El-Sharif, Y. (1981). "The Influence of Legal Environment Upon Accounting in Libya." *Dirasat in economics and Business* 8(2): 36-44
9. Libya State (1970 - 1974), The Official Gazette
10. El-Sharif, Y. (1981). "The Influence of Legal Environment Upon Accounting in Libya." *Dirasat in Economics and Business* 8
11. Bait El-Mal, M. A. (1990a). "The Significance and Advancement of Accounting Information for Economic Development." *Journal of Economic Research* 2

CLUSTER FOR INNOVATION AND GREEN TECHNOLOGIES

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Abstract: Among the key challenges of sustainable development is a requirement for new and innovative possibilities and ways of thinking. Innovation can be seen as an integral part of the modern understanding of the current economy. Eco-innovation has the potential to become one of the key ways to solve environmental, economic and social problems. Putting these innovation into practice, the choice of appropriate marketing communications, as well as use the right tools to support innovation are extremely important on a European as well as national context.

Keywords: innovation cluster, innovative technology, green technology, operational program.

1. CLUSTERS IN SLOVAKIA

Clusters are a support tool for the development of SMEs⁵³ in Slovakia. The aim of their existence is to promote cooperation between SMEs in a particular sector or industry. The most famous clusters in Slovakia are automotive, engineering and tourism clusters. Clusters in Slovakia arise despite the difficult situation arising from a lack of legislation that would define and promote clusters. Clusters in Slovakia, but also in Europe, focus on cooperation within a given sector. Clusters can also be seen as well as significant microeconomic factors increasing the prosperity of regions and they help increase foreign direct investment inflows.[1]

Benefits of clusters are that they create an environment conducive to innovation and knowledge creation. This substantial moment is reflected in the perception of the regions in which clusters operate. Such regions in which strong clusters operate are regarded as innovative leaders. Innovation as an important factor in the competitiveness of SMEs require cooperation across sectors, thus fostering innovation and cooperation contributes to the successful implementation of innovative factors.

Benefits of clusters:

1. savings and cost reduction,
2. reducing restrictions and increasing specialization,
3. increasing competitiveness,
4. increasing the speed of information transfer and deployment of advanced technologies,
5. increasing the impact and importance of small firms,

⁵³ Small and medium enterprises

6. effective interconnection and partnerships, implementation of the cooperation,
7. creating a climate favourable to innovation and knowledge creation [2].

Specifics of regions should be reflected in the cluster policy. It should be governed by certain rules, which facilitate the efficient development of a cluster:

- Building on the strengths of the region - competence, network of relationships
- Diversification of network structures
- Profiling of network intermediaries

The basis is the creation of linkages and cooperation of various partners from the fields of economy, science, politics, as well as representatives of the public. For the implementation and enforcement of cluster policy, it is important to recognize that policy interventions can play an important role in supporting clusters, but should be limited only to clusters with high innovation potential, that at EU level, for example is newly manifested by setting activities under the PRO INNO.¹³

Europe and Europe INNOVA, which are indicated by the following activities for further acceleration through the public-private partnership:

- European Innovation Platform for Clusters;
- European Innovation Platform for knowledge intensive services;
- European Innovation Platform for Eco-innovation.[3]

Problems in various regions and sectors are specific and require "customized solutions"; strict top-down interventions may fail; same strategy may not be successful in all clusters. Cluster development is a long process with many obstacles, where communication and leadership are key to success; barrier to the successful development of clusters may be their lack of support and "rush - speed up" or enormous pressure to achieve results; important role is played by the companies themselves and the educational, research and other institutions; government institutions perform only a supporting role.[4]

Determinants of cluster development

Key barriers to the involvement of SMEs into clusters are:

- limited financial and human resources
- lack of information
- risk aversion
- distrust of suppliers and competitors
- limited capacity for innovation
- lack of motivation for networking

To eliminate these barriers to explicitly encourage the development of clusters it is desirable to provide:

- active and continuous dialogue between companies and regional actors,
- access to key resources (infrastructure, skilled workforce, favourable loans),

- support services requiring knowledge and technological upgrading traditional industries in the region,
- industry for their innovative development.[3]

2. CLUSTER FOR INNOVATION AND GREEN TECHNOLOGIES

Given the need to support SMEs in the innovation and implementation of innovative processes that drive the economy, the idea arose to create a Slovakia - Czech cluster to support innovative technologies in the cross-border region. Tool for implementation and financing was the Operational Programme - Cross Border Cooperation Programme Slovak Republic - Czech Republic 2007 - 2013, which took place at the Ministry of Construction and Regional Development.

In 2009, at the Faculty of Mass Media Communication, University of St. Cyril and Methodius in cooperation with Czech partner Regional Chamber of Commerce of South Moravia and methodological consultant and advisor - the Slovak Agency for Investment and Trade Development (SARIO) they finished project, which main objective was to strengthen the institutional innovation potential of the cross-border region by exchanging experience and know-how, by the support of cooperative relations between business entities, providing expert information on innovative and green technologies.[4]

Project partners

1. FMK UCM Trnava

Lead Partner FMK UCM (Faculty of Mass Media Communication at the University of St. Cyril and Methodius) in Trnava was responsible for implementation in organizational, coordination, financial and methodological aspects. The FMK UCM was responsible also for creating cluster, which primary task was support the marketing and promotion of innovative technologies, construction and technical support of information and marketing centre and conferences organization.

FMK UCM staff participated in the project realisation, as well professionals from the practice with experience in the field of information and communication technologies, as well as experts from the field of marketing. Also other activities that have been implemented relate with the implementation of the project:

- establishing the program of development and use of innovative and green technologies in the region,
- development of a database of green technologies,
- establishment of a project website with the help of an external contractor,
- through marketing and information centre to ensure the service and advice in the area of innovative and green technologies,
- conferences on innovative technologies and their applications in marketing and regional development.[5]

2. Chamber of Commerce of South Moravia

The main task of cross-border partner - Chamber of Commerce of the South Moravian Region was to provide administrative, marketing and coordinating site in the Czech Republic that is responsible for managing the project on the Czech side.

As a major cross-border partner implemented the following project tasks:

- establishment and delivery of equipment information and marketing centre in the Czech border region,
- ensure the development of a database of innovative technologies on the Czech side of the region,
- contributions in organizing trade missions for business cooperation and economic operators,
- setting up a website and building of information and marketing centres,
- through the centre and recruited professionals providing advice and information services for users on the Czech side of the cross-border region and co-organization of trade missions in cooperation with SARIO.

SARIO (Slovak Agency for Investment and Trade Development, a branch of Trnava) - entered into the project without financial participation as a consultant and methodical advisor and has been deliberately engaged in partners activities. Agency's role in this project was:

- methodological guidance of partners in communication and collaboration with key economic and trading partners of Trnava region and around the Slovak border region,
- consultations of content filling of regular meetings,
- methodological guidance of partners in connection with the organization of business missions for cooperation of subjects from the border region,
- providing guidance in compiling a database of innovative and green technologies.[4]

The main objectives and activities of the project

The main objectives of the present project can be considered:

- Institutional support of innovation potential of the border region by exchanging experience and know-how,
- fostering of collaborative relationships between businesses providing specialist information on innovative and green technologies.[5]

Specific project objectives:

- Support for the development of knowledge, their implementation to praxis, consulting for existing businesses in the border region regarding the use of innovative and green technologies.
- Creating conditions for effective promotion and marketing of innovative technologies in the border region.

- The involvement of the business sector and the broader professional community to exchange knowledge and experience on innovative technologies in seminars and conferences.

Main project activities

Cluster for Innovation and Green Technologies

It is an association of legal entities, which focuses on the tasks connected to the company direction to sustainable development, promotion of innovative technologies and businesses aimed at innovation. Cluster tasks during the project:

- Marketing and promotion of innovative and green technologies of the border region of Slovak and Czech Republic.
- Providing service and consultancy in the area of innovative and green technologies to businesses and the general public.
- Exchange of experience and know-how, fostering collaborative relationships between businesses, providing specialist information on innovative and green technologies.
- Business involvement, broader professional community to exchange knowledge and experience in innovative and green technologies with the support and organization of conferences, seminars, workshops.
- Implementation of new projects in the field of innovation and green technology.

Cluster continues also today in activities that provide and develop other activities in terms of its sustainability.[6]

Marketing and information centre

Marketing and outreach centre was created within the cluster that offers the following services:

- searching databases of green technologies that are available in the market to meet the needs of different users and that can be used within the cross-border region,
- library with literature in the areas of green technology,
- search policy paper "Development and use of innovative and green technologies",
- advisory services of experts in green technology,
- promoting green technologies between the professional and the wider public.

The business missions

Business missions' tasks were to show entrepreneurs realized innovation, establish cooperation on cooperative exchange. Also panel discussions were made, bilateral meetings took place and also visit to the Central European Institute of Technology (CEIT) was realized. Entrepreneurs had the opportunity to learn in the area of new means of power production, especially wind, solar, and obtain comprehensive information about these alternative energy sources. Organization of workshops supported the intention of the project. There were made the excursions in Peugeot Citroen Slovakia in Trnava, as well as solar laboratories in the Faculty of Materials Science and Technology guided by expert

guides at two service factory. During the tour the participants got a full picture of modern engineering technologies and the latest manufacturing processes.[1]

According to their interest and positive feedback of participants, workshops and field trips completed during the mission were an important stimulus for effective development of companies in the area of commercial relations, innovations and green trends.

Conferences

All the partners organized two international scientific conferences.

The first conference was called **Sustainable development regions and businesses through innovative and green technologies**. It was an international scientific conference with the meeting of academics, representatives of the various project partners, but also practitioners. Contributions were devoted to green technology, green innovation and sustainable development.

The second conference **Forum of innovative ideas** was similarly focused on the area of innovation, clusters and green technologies. Discussion was focused on the following topics:

- role of clusters and industrial parks in promoting innovative and green technologies,
- role of clusters and industrial parks in regional development,
- increase the competitiveness of businesses and regions through innovation and technology transfer,
- marketing of innovative and green technologies,
- environmental management and environmental marketing,
- ecological problems of municipalities,
- marketing communication in the context of sustainable development,
- importance of green awards (Enviro Oskar, Green price, the European Green Capital),
- green marketing and green innovation,
- environmental infrastructure,
- education in innovative and green technologies,
- benefits of innovative and green technologies for regional development,
- development of the border area as a result of cross-border cooperation,
- key issues of cross-border cooperation,
- developing cooperation between colleges, universities, local authorities and businesses.

Present of the Cluster for innovative and green technologies

Currently, work is continuing on the cluster, activities are prepared for the coming period.

Cluster activities:

- lectures,
- education for children,
- cooperation with students,

- Cabinet of innovative technologies - specialized cross-department - will provide space for creative activities and the opportunity to apply learned theory into practice,
- Students, PhD students and educators will work on real projects for the needs of the faculty, but also for external clients,
- negotiations with various institutions that will expand the opportunities for cooperation and cluster activities,
- accession by other partners and cooperation in Europe.

3. CONCLUSION

The environment is constantly threatened by industrial activities at a pace much higher than expected. To reverse this situation, systematic and coherent actions are required at European and global level, it is important to implement the activities of individual businesses. Using the right tools to support innovation, it is possible to face the challenges of innovation and change in style of business. [7]

It is necessary to pay attention to the new procedure, the products in activities of enterprises. To rapid progress it is needed to promote and use eco-innovation and environmental technologies, as technology involved in the development of the environmental problems, but may on the other hand also participate in solving them. European Community's effort is to penetrate eco-innovation in all industries. Through appropriate measures, e.g. financial support or regulation, these can be supported and can direct the market mechanisms for achieving the necessary goals towards sustainability.

Common problem in many countries of the world is the fact that many small businesses hesitate to connect to a network or other form of joint enterprise collaborative. These businesses are often risk averse and defend themselves to receive assistance from outside, except for specific needs. The businesses are worrying too much trust their suppliers and also lack the incentive for joint cooperation in research and development. Clusters, however, have an impact on improving competitiveness and achieving greater efficiency through better access to specialized suppliers, technology, information, and higher innovation potential of cooperating companies.

REFERENCES

1. Kollárová, D., Ungerová, M., Sustainable development of regions and businesses through innovative and green technologies (Trvalo udržateľný rozvoj regiónov a podnikov pomocou zelených a inovatívnych technológií), In New Trends in 2012 [CD-ROM]. Znojmo: Private University of Economics, 2012, p. 91.
2. Ministry of Economy of the Slovak Republic, Clustering – for success (Klastrovanie – predpoklad úspechu), http://www.lssk.sk/_zakladne_dokumenty/siea-brozura-klastrovanie.pdf, online.
3. Štefančíková, K., Cluster policy and cluster support (Klastrová politika a podpora klastrov), In: Quo vadis massmedia, Quo vadis marketing, 2013, online.

4. Creating Slovakia-Czech cluster to support innovative technologies in the cross-border region (Vytvorenie slovensko-českého klastra pre podporu inovatívnych technológií v cezhraničnom regióne). www.zelenyklaster.ucm.sk, online.
5. Project activities, www.zelenyklastr.cz, online.
6. Bezáčková, Z, Cluster for Innovation and Green Technologies (Klaster pre podporu inovatívnych a zelených technológií), In Energy resources of the Regions - Present and Future, 2013, p. 110.
7. Mendelová, D, Clusters - strong players Tourism: but i run for the long haul (Klastre – silní hráči cestovného ruchu: ale i beh na dlouhou trať), In: ProgressLetter, 2011.

OPEN “GREEN” INNOVATION AS CHALLENGE FOR GLOBAL DEVELOPMENT IN THE 21ST CENTURY

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Abstract: The authors of the article focus on clarifying the nature and importance of open innovation in the context of managing the economic and environmental policy of business. They point out the advantages and practical implications of mentioned concept towards achieving sustainable growth with regard to creation and protection of the environment. The cooperation of given subjects, on national or international level, provides new opportunities for strengthening research activities in Europe and technological development in European Union countries.

Keywords: innovation process, open innovation, green innovation, green growth, open innovation platform, sustainable growth, environment.

1. INTRODUCTION

In order to eliminate the negative impacts of global economic crisis, every country of the European Union is supposed to search for new opportunities and methods that are able to support the need for sustainable economic development of the ‘fellowship’ of the European countries. The related problems can be partly solved thanks to commitment of businesses and industrial organizations to take into account not only the economic aspects of creating and implementing their business strategies, but also ecological aspects of doing business that are aimed at achieving so called ‘green growth’. The green growth is an essential part of the economic development focused on protecting the natural sources and preserving healthy environment for the future generations. This set of processes also leads to reducing the energy consumption of the industrial organizations, the amount of produced waste and the level of air or water pollution while also protecting the biodiversity of the environment. The concept of ‘green growth’ works with an idea of maximizing the usage and consumption of raw materials that are important for the processes of industrial production (e.g. by implementation of recycling in order to sustain the ecological balance in accordance with internationally recognized standards. To achieve the outlines of green growth stated above, it is necessary to support the spreading of verified work procedures between business organizations and stimulate these processes by an adequate amount of investments into innovation strategies that would contribute to the sustainable green growth and technological development in order to elevate the human standards of living while avoiding negative changes of climate.

2. SUPPORTING GREEN INNOVATION VIA OPEN MODEL OF MANAGEMENT OF INNOVATION PROCESSES

Recent progressive development of information and communication technologies has contributed to finding quicker and more effective ways to get results of the research activities conducted by the subjects of economic markets. Instant proceeding of data in virtual environments, their immediate distribution and feedback from target audiences have changed traditional ways of communication significantly [5]. The mutual exchange of ideas within society is no longer limited to personal contacts. Consequences of technological changes bring the business subjects a simple, undemanding opportunity to gain knowledge or experience of other companies and engage in profitable collective cooperation. The key requirement that makes this concept possible is using the principle of 'openness' of innovation process.

According to American professor Henry Chesbrough, open innovation can be defined as "*deliberate using of internal and external flow of knowledge to speed-up the processes of innovation and market expansion*" [3]. The most significant part of the concept is mutual sharing of the flows of innovative ideas, new technologies and verified work procedures between market subjects as a part of doing business. Therefore, open innovation does not rely only on internal activities and ideas coming from the internal environment of the company, but also gives the business subjects an opportunity to use knowledge from external sources. A company does not have to be involved with an innovative method or procedure from the very beginning in order to gain profits by applying it. However, business activities of the company influence the following phases of the process of using a new innovation. The crucial part of the innovation process seems to depend on cooperation of many interested subjects that actively search for an optimal solution to given problem. Any specific business subject represents only a negligible part of the overall research capacity within particular industrial segment. Cooperation between business subjects and their external partners generally depends on their inability to develop and offer desired products and services on schedule and autonomously.

Open innovation processes are becoming more and more interactive, mainly thanks to the participation of wide group of subjects with different sets of knowledge. The society may get inspiration or knowledge not only from a dominant leader in particular area of interest, but also from other subjects – by getting to know their organizational structure or common work procedures. Even data gotten by exchange of knowledge between subjects that are not direct competitors may be valuable [8]. Various industrial segments can be linked together, they reciprocally influence each other in regard to the achieved level and quality of production processes. Well-established innovation, originally used in different environment, may later find much broader use also in other industrial segment. An important part of these processes is also establishing and deepening the relationships and contacts between the suppliers of technological equipment and raw materials [6]. After all, the subject deliberately aims to identify the possible risks of the production process to effectively avoid mistakes and deficiencies. Increasing number of business subjects also takes into account the individual experience and observations of their customers. Companies try to focus their interest on research and creative management of the whole innovation process. Therefore, they become co-creators of the value of the product and their relationship to the said product becomes more personal.

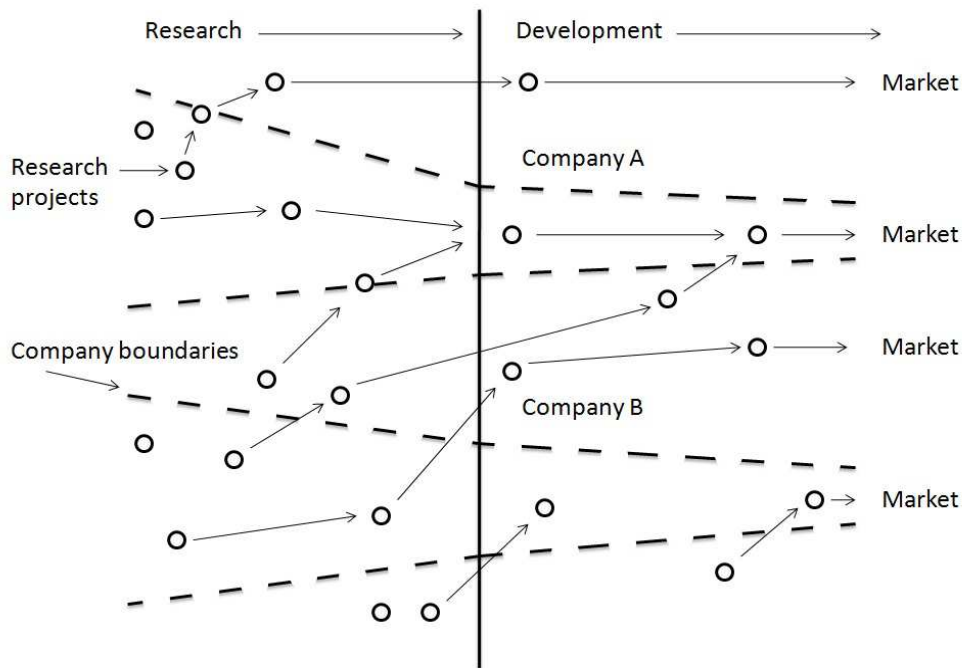


Figure 1. Visual scheme of an open innovation [2]

The variability of interesting impulses and ability to use them in multi-disciplinary way define the concept of open innovation as a modern way of building constructive dynamics of the market. Dynamics and complexity of the whole process causes a mutual complementarity of the research results in accordance with the character and nature of secondary needs and available solutions. Without taking into account the origins of used innovation, business organizations focus on flexible implementation of acquired information into their structures in order to profit from them. The author of the innovation is no longer in full control of its development and implementation. Therefore, it is very important to define and clarify the owner's rights related to the results of realized open innovation. According to Chesbrough, the existence of the business model is a necessary precondition as well as a factor that motivates most business subjects to participate on innovation process developed by others. Cooperation between companies is denied mostly by various formal and informal deals that correspond with the goals of their business activities. Very popular form of cooperation is selling licenses that give third parties the right to use goods or technologies in accordance with previously settled terms. The main advantage of transferring the right to use an attractive innovation is getting additional incomes from the results of own research. However, a suitable opportunity is needed first – to make sure that open ideas can be used even more efficiently than before. Satisfaction of the license provider also guarantees the preservation of his ownership and access to provided work procedure. On the other hand, the acquirer of the license is able to save time and costs that would otherwise have to be invested into research activities [7]. Selling and buying licenses also provides a cheaper alternative to an opportunity to obtain the ownership (patent) of the original work. Furthermore, it is a unique opportunity to implement promising ideas originally developed for the needs of large corporations into smaller business that are not capable of doing research of their own.

Different trends in development of the market subjects and differences between their market positions seem to be the crucial reasons of uneven understanding of the significance and importance of particular innovation procedures, resulting in exchange of

information and progressive development of the innovation market. Another important part of the process is getting a convenient partner that is willing to share appropriate knowledge needed in order to engage in innovation activities. This part of the innovation process can be managed thanks to so called *open innovation platform*. Open innovation platform is basically an information system that works as an extensive network of potential researchers working in various research fields including technologies and humanities in order to find solutions to defined problems. The platform connects subjects and their knowledge with those who can use the knowledge practically [4]. The outline that aims to maximize the effects of mutual exchange of knowledge within open innovation spectrum can be defined as proper formulation of requested assignments by publishing a definite call (assignment) for solution. The factors that obviously influence the process of open innovation include:

- the content of published knowledge and its significance in the context of defined goals of the research;
What? What kind of knowledge should be published in accordance with innovation process?
- the phase of developing the research activity;
When? In what phase of development should we publish new information, in which cycle of exchanging knowledge?
- the target recipients of published information;
Where? Where should we publish requested information, which subjects are their target recipients?
- the motivation and way of appreciating the published results.
How much? Under what conditions and in what form can we get a reward for our efforts and presented solutions?

The completion of open innovation process is related to revealing the possible solution to problems associated with technological demands that will fully comply with the expectations of the client. Since this client does not determine who exactly will become a solver of presented assignment, every motivated candidate with a proper set of knowledge can get involved – nationality, previous experience or levels of education do not matter.

3. EXAMPLES OF “GREEN” OPEN INNOVATION PLATFORMS

In case any business subject is interested in using services of open innovation platform, there are many existing databases and innovation systems available. The most significant open innovation platforms known worldwide include *Idea Connection*, *InnoCentive*, *BootB*, *Ideaken*, *Innoget* and many more. Another way of selecting is represented by online discussion forums that focus on solving specific problems related to environment protection, preservation of cultural inheritance associated with restoration of the land (*Greenovate – Europe*, *GreenXchange*, *OpenIDEO* or *Eco-Patent Commons*). The communities are actively supported by engaged business subjects and long-time experts in the given field that are particularly interested in preserving ecological balance and prosperous development of the society and therefore open to the idea of sharing their own innovative solutions for free. The member of such communities often focus their attention on implementing ideas related to reduction of energy consumption associated with production of presented goods, propagation of renewable energy sources, bio-products, restoration of the land or ecological methods of waste disposal.

If a business subject is determined to protect its intellectual property related to innovative green technology from competitors, it does not support the general efforts to achieving the sustainable development of the society and complex protection of the planet. As a result, the development of ideas associated with 'green growth' is asymmetric and ineffective [1]. Especially international corporations have begun to cooperate in the context of combining their verified work procedures and methods in order to offer the public open green innovation. The need for instant application of environmentally-friendly production techniques is eminent – we cannot wait for every organization to implement an individual policy of preserving natural sources without cooperating actively, especially while taking into account the current level of their global reserves. The most important part of these processes is sharing information and positive experience between market subjects in order to accelerate the implementation of the newest trends in production, packing of goods or widening the scale of their use.

Project called GreenXChange is based on the initiative of NIKE that, along with cooperating associates, has created a digital platform which is aimed at supporting and exchanging green innovation potentially able to solve global environmental problems. NIKE experts have developed and successfully presented a few products made from special materials or by special production processes with minimal impact on environment. Modern biotechnology and knowledge associated with nanotechnology has contributed to this project through providing information related to production of cheap, but high quality goods without enormous wasting of needed materials. The company has also offered an opportunity (in the context of open innovation platform GreenXChange as well as for other subjects) to get access to technology of producing water-based glue that is more secure than standard procedures and does not result in any toxic oil concentrates. Any subjects interested are – after agreeing with the stated terms – able to learn how to produce environmentally-friendly rubber used to make shoes while also reducing the production costs and amount of produced toxic chemicals used by traditional production procedures by up to 97 % (depends on a specific producer) [9].

The innovation platform Open IDEO represents a similarly specific community of users focused on solving so called *big questions*. The environment of this platform is suitable for mutual cooperation of subjects that operate mostly in 'third sector', research and academic institutions and public administration authorities aimed at searching for innovative ideas that would lead to solving many social, energetic, environmental and technological problems. Organizations or individuals are welcome to discuss any problem related to achieving public good. Assignments are not published for free, but, on the other hand, the innovators provide creative solutions without any reward in accordance with predetermined conditions of innovation platform. In case the author of assignment decides to reward the best innovation, the information must be stated in assignment itself. The members of the community are able to contribute to the innovation process by their notes, remarks or full conceptions related to solving the given problem. They are also able to continue with research activities started by another contributor of innovation platform. By contributing to any project, the authors of particular suggestions agree that their research results can be shared or reproduced between other members of the platform. The author of the assignment is able to use a selected innovative concept as necessary, without paying for it. Since the trademarks or logos are typically included in any published project, the innovators can freely choose who to help. The key part of the platform is sharing preferred interests, values or beliefs of the researches in the name of responsible way of eliminating the negative effects of global problems on the society. The participation on various projects is therefore mostly based on trying to gain prestige and respect within a group of people

who think and act similarly. Another important part of the platform is so called DQ (design quote) that statistically defines the levels of activity and participation of community members. It also outlines their strengths and weaknesses [10].

Despite the fact that both discussed databases are externally presented as open innovation platforms, we find necessary to point out that, in some cases, their content and nature are not in full accordance with the theoretical concept of open innovation proposed by Henry Chesbrough. Taking into account Chesbrough's concept of open innovation that primarily pays attention to the significance and existence of business model as a part of any innovation process, OpenIDEO, paradoxically, does not meet the stated criteria, at least not in most cases – particularly in the context of assignments that are developed and encouraged because of strong ideology or beliefs of the participants related to better society or healthier environment, without any rewards. The knowledge transfer is regularly realized in the name of society-wide benefit or public interest, without any commercial or financial motivation of both author of the assignment and its solver. The stated example, taking into account other well-known definitions of this concept – is therefore used as an illustration of overall disunity of understanding open innovation and their practical implementation with an emphasis on presumed openness.

4. CONCLUSION

Implementing open green innovations reflects the social efforts related to fast, consistent and relatively cheap development of innovation process aimed at positive changes in production processes that will contribute to the preservation of natural resources and renewal of healthy environment. The essence of the concept is therefore linked to subjects that are willing to receive, voluntarily share or combine attractive innovative ideas that originate in both internal and external business environment. Open green innovations are quickly becoming a source of opportunities for implementing knowledge, talent and creativity of individuals as well as groups that aim to embrace their knowledge capital on the market. These people also aim to take responsibility for their undesirable impact on the environment while trying to find an adequate method to restore it.

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REFERENCES

1. BEZÁKOVÁ, Z.: Pohľad na ekoinovácie v celoeurópskom kontexte. In: GAJDOŠ, J. (ed.) *Podnikanie a inovácie podnikateľských aktivít VIII*. Prešov : Vysoká škola medzinárodného podnikania, 2013. p. 4-8. ISBN 978-80-89372-50-8.
2. CHESBROUGH, H.: *Open innovation: The New Imperative for Creating and Profiting from Technology*. Boston : Harvard Business School Press, 2003. 227 p. ISBN 1-4221-0283-1.
3. CHESBROUGH, H. – VANHAVERBEKE, W. – WEST, J.: *Open Innovation: Researching a new Paradigm*. Oxford : Oxford University Press, 2006. 392 p. ISBN 0-19-929072-5.

4. MUŠKA, M. – KRÁLÍK, J. – HÁLEK, V.: *Otevřená inovace – přístup překračující známé meze*. Bratislava : DonauMedia, 2009. 160 p. ISBN 978-80-89364-08-4.
5. RADOŠINSKÁ, J. – VIŠŇOVSKÝ, J.: *Aktuálne trendy v mediálnej kultúre*. Trnava : Univerzita sv. Cyrila a Metoda v Trnave, 2013. 154 p. ISBN 978-80-8105-516-4.
6. SLOANE, P.: *A Guide to Open Innovation and Crowdsourcing: Advice From Leading Experts*. London : Kogan Page, 2011. 240 p. ISBN 978-0-7494-6307-6.
7. ŠALGOVIČOVÁ, J. – ŠTEFANČIKOVÁ, A.: *Marketing processes*. Łódź : KSIĘŻY MŁYN Dom Wydawniczy Michał Koliński, 2011. 194 p. ISBN 978-83-7729-119-1.
8. ŠVEC, M.: Extenzia kolektívnych zmlúv vyššieho stupňa ako prostriedok vyrovnávania regionálnych rozdielov v Slovenskej republike. In: BARINKOVÁ, M. (ed.) *Tvorba a realizácia pracovného práva so zreteľom na regionálne aspekty trhu práce*. Košice : Univerzita Pavla Jozefa Šafárika v Košiciach, 2013. p. 100-109. ISBN 978-80-8152-067-9.
9. <http://www.greenxchange.cc/>
10. <http://www.openideo.com/>

MODERN TEACHING METHODS FOR PART-TIME STUDIES IN HIGHER EDUCATION

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Abstract: Higher education institutions can organize their studies of first cycle studies as full-time or part-time studies. The instructions/lectures for full-time and part-time students need to be tailored according to the type of studies, full-time or part-time.

The instructions/lectures for part-time studies should be customized to the students' abilities. Based on that, during the teaching process, appropriate teaching methods shall be applied as to meet the expectations and the requirements of part-time students, on one hand, and meet the objectives of the study program, on the other.

Based on that, this paper covers the modern teaching methods that can be used in teaching part-time students at higher education institutions.

Keywords: part-time, part-time students, teaching, teaching methods.

1. INTRODUCTION

Every student has the right to part-time study and part-time student status. Since the term "part-time" itself indicates that the student can not attend regular classes, i.e. there is certain deviation from the regular schedule, then the higher education institutions shall adapt the organization and their time schedules to the needs of part-time students. This is also stipulated under the Macedonian legal framework for higher education. In that context, this paper, in addition to modern teaching methods for part-time study, presents the presence of part-time study in higher education institutions in the Republic of Macedonia, as well as the trend for part-time study in the last few generations of students.

2. FEATURES OF PART-TIME STUDENTS

Part-time students are mostly adult students who want to be independent in the learning process, i.e. they do not want to be dependant on the teacher conducting the lectures. The reason for this need for independence lies in the experience they have which helps them in the learning process. On the other hand, often, these students return to higher education after a long break, so the higher education institution is a completely new environment for them.

Part-time students enroll at a particular study programme or part of study programme, thus expressing certain expectations of higher education. On the other hand, higher education has its own expectations from the student. Unlike the student, the higher education institution operates based on certain rules, norms and culture.

Part-time students studying at higher education institutions are expected to show a high degree of autonomy in the learning and decision making processes. Studying should be systematic or continuous, increasing their knowledge and understanding, which translates

into experience and facilitates learning of futures intellectual challenges, no matter whether they are related to further study or solving professional of other problems.

Part-time students undergo significant changes during the teaching process. Among the most significant changes in this category of students is the learning approach. Instead of learning subjects or specific instructional units, learning for part-time students in higher education institutions is focused on career. Students need to be highly self-motivated, learning is a challenge for them, not an obligation.

Part-time students will meet their learning goals if they plan, supervise, critically assess their education on their own. That is, after entering a particular institution of higher education, they need to remove all prior pictures and understandings regarding such institution and build their position in higher education solely on their own experience.

3. LECTURES FOR PART-TIME STUDENTS

Lecturing is developmental and educational process which is planned and organized under the guidance of a teacher in the presence of students. Lecturing in higher education institutions is aimed at overall development of students. The effect expected to result from the teaching process is creation of a critical, independent, autonomous, creative, humane, educated and multicultural person, open to all current and future changes in the society in which he/she lives.⁵⁴

Lectures for part-time students need to be organized in a manner that will not pose additional passive engagement of the student, but should be fully interactive and experiential, targeted to sharing, collaboration and synergy.

When discussing the importance of lectures and the teaching process, the question whether special lectures for part-time students shall be organized is often raised. Although, legislation does not require organization of lectures for part-time students, however, this category of students obviously need time and space where they can learn something new, share, experience. This is proven by a very good example at a Higher Education Professional School in the Republic of Macedonia, which organizes lectures for part-time students which are mandatory⁵⁵. This obligation does not imply inflexibility, but it gives students the opportunity to return to the teaching process and feel the need to be part of that process. The specific way of realizing the lectures in this higher education institution, emphasizes experiential learning, i.e. sharing of students' knowledge and experiences related to issues that are being discussed. The lectures are conducted in 5 teaching sessions, each comprising 3 teaching hours. Students must attend these sessions, without exception, and their feedback regarding this way of organizing classes is that it is easier from them to learn that way, share, think, consider other opinions, confront, solve problems, etc., and on the other hand, establish contacts with others like them, which helps them in further developing of their careers or their businesses.

4. LECTURER AND LECTURES FOR PART-TIME STUDENTS

Societal changes of modern times triggered major changes in higher education as well. In the past, lectures were entirely formal and frontal. The lecturer was the focus. Today, lectures are becoming less formal and the role of the lecturer has changed,

⁵⁴ <http://mk.wikipedia.org/wiki/%D0%9D%D0%B0%D1%81%D1%82%D0%B0%D0%B2%D0%B0>

⁵⁵ This is the Business Academy Smilevski – BAS, one of the rare higher education institutions in the Republic of Macedonia organizing mandatory lectures for part-time students.

which brought about change of the role of students as well. Now, students are the focus through their active participation in the teaching process.

Since learning is a process of transferring knowledge, skills and attitudes that lead to a change in the behavior of individuals, change that is not accidental, but is permanent and occurs under a prior intent. Learning can happen accidentally through the experience we gain. It is important to note that everyone learns in their own way, and the lecturer who is also the leader of the teaching process shall know how to manage those differences and introduce different learning styles in order to meet the individual needs of students.

The role of the lecturer in a part-time student classroom is to provide assistance to students in order to:

- understand how to use the resources;
- to take responsibility for their learning;
- to decide how they learn the best;
- to reflect on the learning process and what they have learnt;
- to make learning more active.

The lecturer shall apply a set of specific principles that are based on the needs of part-time students. Some of these principles are:

- Independence and self-orientation
- Life experience and knowledge
- Orientation toward goals
- Practicality
- Multi-sense learning
- Active Learning
- Primacy
- Feedback

The lecturer, on the other hand, should act as a coach. He/she shall give instructions, to encourage and monitor the progress of students in their learning process. Before the process of learning starts, they need to establish good contact and familiarize with the group which they will work with. Also, the lecturer shall:

- develop an appropriate strategy to suit the personality, abilities and interests of the students;
- create a learning group that has common goals and which develops its own mechanisms for progression in the learning process;
- remind students of their responsibilities;
- encourage and motivate students, monitor their progress and assess the value of learning outcomes.

5. LECTURES FOR PART-TIME STUDENTS IN THE REPUBLIC OF MACEDONIA

According to the data of the Publication on registered students in the period 2007 to 2012 by the State Statistics Office of the Republic. Macedonia, an average of about 61.000 students per year enroll at university, 9.000 or around 15% of which enrol as part-time students (Figure 1).

Part-time students have made their choice at one of 127 higher education institutions (faculties at universities and higher education professional schools) in the Republic of Macedonia offering part-time studies and organize lectures for part-time students.

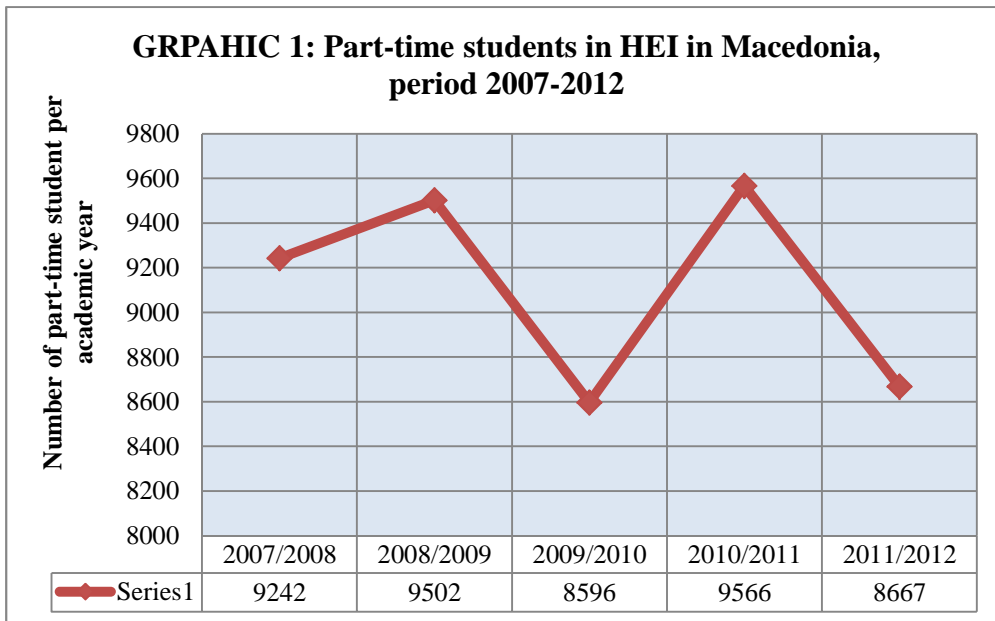


Figure 1. Part-time students in HEI in Macedonia, period 2007-2012

Research has been conducted on how many of these 127 higher education institutions organize some form of lectures for part-time students. Out of 127, the survey covered 83 institutions of higher education which were available to obtain the required data.

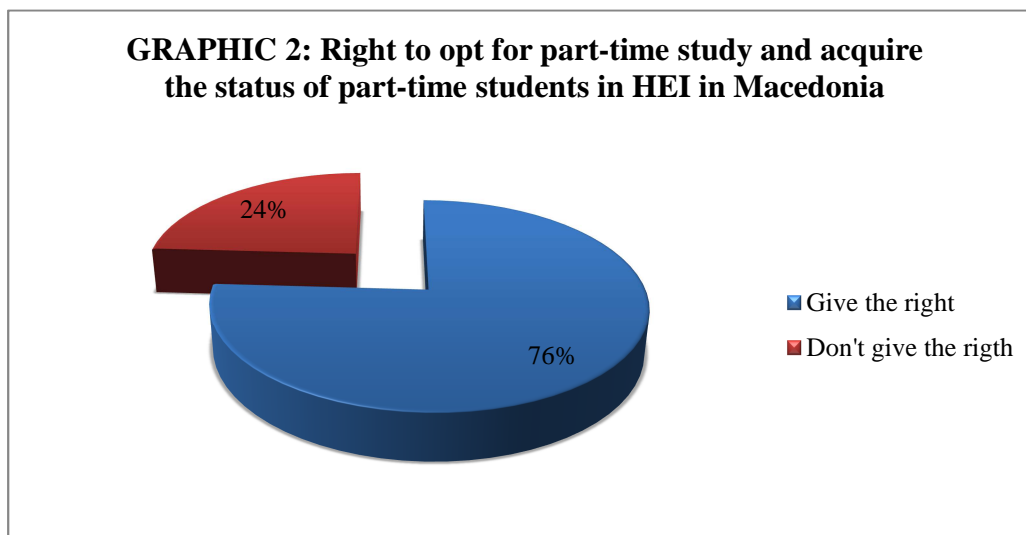


Figure 2. Right to opt for part-time study and acquire the status of part-time students in HEI in Macedonia

According to the obtained results (Figure 2), it can be seen that out of 83 surveyed higher education institutions in the Republic of Macedonia, 63 (or 76%) give candidates the right to opt for part-time study and acquire the status of part-time students, while 20 (24%) of them do not offer part-time student status at their higher education institutions. The reason for this is usually related to the specificity of the study programmes (such as

medicine, dentistry, pharmacy, engineering and alike), but there are study programmes which can be organized into part-time studies, but again they do not offer this opportunity to interested candidates.

Out of 63 higher education institutions that offer the possibility for part-time studies, only 10 higher education institutions organize some form of lectures, while the remaining 53 do not organize any special form of instruction (Figure 3).

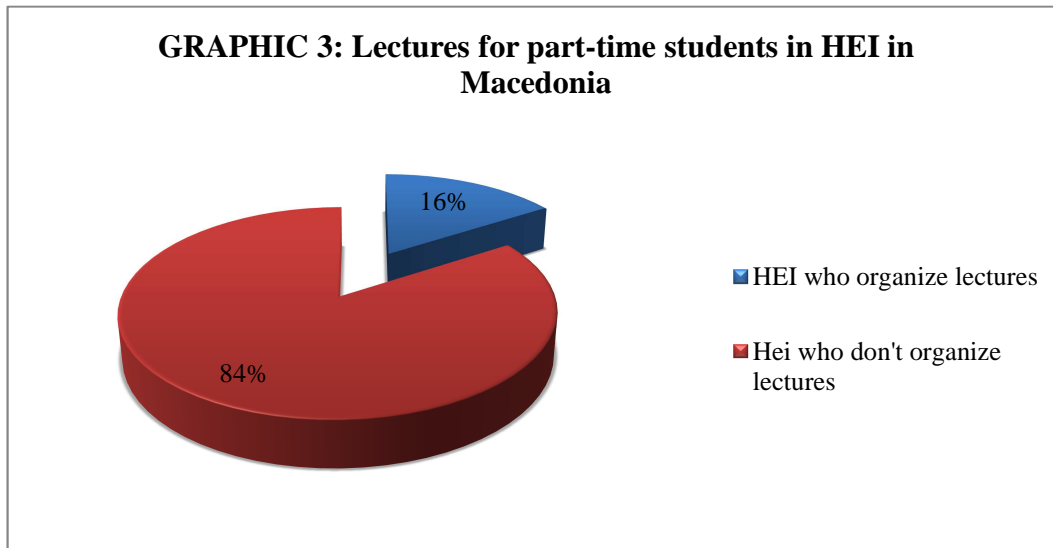


Figure 3. Lectures for part-time students in HEI in Macedonia

Part-time students studying at higher education institutions which do not organize lectures for part-time students, study independently, prepare and take exams and have no obligation to attend any lectures.

On the other hand, higher education institutions that organize and give lectures to part-time students, organize such lectures in the following forms:

- Mentoring meetings with lecturers;
- Seminars;
- Consultation with lecturers;
- Reduced lectures;
- Weekend classes;
- Lectures together with regular students;
- Afternoon classes;
- Concentrated-consecutive classes (5 sessions, 3 teaching hours each, the lectures being carried out subject by subject).

6. CONTEMPORARY TEACHING METHODS FOR PART-TIME STUDIES

The word "method" originates from the Greek word "methodos" which means procedure, way, manner of acting in certain work aimed at achieving a particular goal. The method can be defined as finished or predetermined method composition, verified pattern, model, procedure, manner of operation, under which the teaching process takes place. The teaching methods enable the lecturer to lead the teaching process, and enables students to

gain the necessary knowledge, skills and habits, to develop their skills and their personality.

Each teaching method has two-sided meaning, one that applies to students, another to lecturers.

- Method of demonstration – Demonstration in didactic aspect is demonstration of everything that is possibly perceptual to experience during the teaching process. The demonstration can be done by:
 - o Demonstrating with static aids
 - o Demonstrating with dynamic natural phenomena
 - o Demonstrating with activities
- Method of practical work - practical work consists of a number of practical operations.
- Method of drawing - Method of work in which the lecturer and the student present certain parts of the curricula through drawings, graphic symbols, patterns, special illustrations, etc.
- Method of writing - Covering more modes:
 - o Related or reproductive written assignments;
 - o Half-related half-free written assignments;
 - o Independent written assignments
- Method of reading and text work - reading, thinking, research, observation and practical work;
- Method of conversation - manner of work in the classroom in a form of a dialogue between students and the lecturer. It is also called dialogical method. One of the most effective methods of teaching in teaching part-time students is the discussion. Discussion is the highest and most extensive form of conversation in which conflicting opinions are proved by arguments and new arguments are presented.
- Method of oral presentation – manner of work through which the lecturer or the students present some parts of the curriculum content. This method is also called a monologue method. This is one of the oldest methods. There are several forms of the oral presentation method: narration, description, explanation, argumentation, judgments.

All these teaching methods are used in teaching part-time students, but one needs to ask the question which of these modern teaching methods enables greater efficiency and productivity in the teaching process. Accordingly, a research has been conducted which involved a group of part-time students who attend organized classes for part-time study and who ranked the teaching methods which in their opinion give greater effects in mastering certain knowledge and developing skills during the teaching process.

Teaching methods for part-time study	Ranked
Interactive lecture	3
Demonstration	6
Discussion	2
Project work	10
Brainstorming	8
Simulation	7
Role play	9
Case studies	1
Presentation	4
Group work	5

According to the results, the highest rated teaching methods are case studies, followed by discussion and interactive lectures. This does not mean that only one teaching method is applied in the lectures, but usually a combination, in which those first three preferential methods effect the learning process the most.

Case studies and their analysis and solution, are one of the most effective teaching methods for concretization of knowledge, but also for learning, which was shown by the survey as well. The analysis of the case studies is actually synthesis of the case or a real life situation that has been assigned in advance or students identify themselves based on a given concept. The result of the case study solution is to define the appropriate strategies to overcome the problem for a given study. This method is first ranked because it enables active learning, development of creative thinking and enables students to apply their knowledge and experience in solving the assigned case.

In order to achieve greater interactivity and utilize the experience of part-time students, it is necessary that during the lectures a discussion is initiated in which student will highlight their own opinion on each of the students, especially those who have different opinions from the teacher or peers. The stated opinion should be the basis of university education. On the other hand, active listening and trying to understand someone else's opinion, should be a prerequisite for meaningful comments. According to students, discussion enables participation of all students, development of active listening, opportunity to present their own opinion, learning by sharing knowledge and experiences, students are exchanging ideas, the opinion of all involved in the discussion is illustrated, learning is becoming more effective, critical thinking and is promoted, etc.

The lecture is a teaching method through which the lecturer transfers his/her knowledge and experience to students. Interactive lecture fully involves the students in the teaching process and it enables: creation of new ideas, learning through listening, students receive the necessary input, the teacher focuses on the subject of study and adjusts the level according to the students' needs, students have the opportunity to ask questions during class, students can connect their experience with the knowledge that is passed, students share their experience, etc..

Presentation is a teaching method that enables learners (students) motivation to hear and perceive new ideas. Good learning method when applied both by the teacher and by the student. When students are acting as presenters, they research, create, select the information they wish to share. When using this method it is important to be a good teacher and supervisor to control the process.

Group work is another teaching method that involves jointly built values, resources and manners of work. A successful group learns how to combine these factors, provided all members of the group accept the differences between them. In mutual respect and encouragement lays the foundation for cooperation that is necessary for group work. Part-time students, through this teaching method, can present various ways of solving a problem, their ideas arising from various individual knowledge and experience.

Simulation and role play are interesting teaching methods that develop creative thinking among students, enable application of their knowledge in a particular situation, by entering into a role in which they may be one day and will be able to spot whether they behave properly, enables development of active learning and makes learning easy. The game is somewhat a simulation of a particular event, behavior, conflict solving problems associated with the business world with no fear of making mistakes, i.e. set in a safe environment. Business simulation games aptly suit the modern teaching methods and a great challenge for building a proper methodical scenario in the implementation of the teaching process.

Demonstration can be a suitable method in certain subjects where it is important to see, to feel, to study, rather than just to talk or write about it. Demonstration enables students to learn and to realize specific causal relationships between certain phenomena by visual aids.

Brainstorm is an informative interesting modern teaching method that makes learning more effective and enables participation of all students. It is a process of active learning that develops creative thinking, students are thinking based on their knowledge and experience, everyone gets a chance to share their opinions, etc.

Project work is a teaching method that can be combined in many ways. Students may independently develop projects based on their knowledge and experience, or do so by working in groups. Through this method, only individual opinions, knowledge and experience of the student or a group can be highlighted.

7. CONCLUSION

Higher education institutions tend to have more effective lecturers who research and apply modern teaching methods in order to improve their teaching practices. Depending on the study programme, teaching subject, number of part-time students, resources, atmosphere, etc., lecturers define what teaching methods will be used in the teaching process. The effect of the teaching methods, despite the part-time students' opinions, can be recognized for the lecturer's point of view as well, their rating, then from the point of view of the students' achievements, through self-evaluation and alike. Teaching methods are not only a tool of the lecturer. On one hand, they enable the lecturer to transfer his/her knowledge, to guide the teaching process, to make teaching productive, and to allow the part-time student to perceive the knowledge offered in a suitable way of learning, yield better results and actively participate in the learning process.

REFERENCES

1. M. Blesic, M. Kurtovic, F. Gasi, S. Bajramovic, *Metode i tehnike ucenja*, Univerzitet u Sarajevu, Sarajevo, 2007;

2. Udruzenje nastavnika, *Metode aktivno orijentisane nastave*, VET FORUM, GIZ Kragujevac, 2011;
3. V. Poljak, *Didaktika*, Skolska knjiga, Zagreb, 1984;
4. *Učenje odraslih i trening vještine*, ToT Coe Stasbourg, 2006;
5. A. Maksimovic, M. Stancic, *Nastavne metode iz perspective nastavnika*, Metodicki obzori 7 (2012)1;

EUROPEAN MARKET AND MACEDONIAN FOOD PROCESSING COMPANIES

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Absrtact: The main objective of this paper is to analyze the current state of Macedonian food processing industry in context of internationalization towards the European market. This research aims to provide a better understanding of the all stages of internationalisation of food processing companies and further try to increase the companies' competitiveness. The research covers the following internationalization dimensions: time, operation mode , market and products. We use qualitative approach based on the cross-sectional study methodology whereas subjects of observation are five food processing Macedonian companies out of which we have selected three of our research interest. The findings of this research show that the internationalization of Macedonian food processing companies is imperative if they aspire to draw alongside the trends of the European market. Further digitalization of the processes is strongly suggested to keep abreast with the competitors and expectation of the European supply chains.

Keywords: internationalization, food industry, food processing, European market, Macedonia

1.INTRODUCTION

The continuous integration of the world's economy and its technological progresses and rapid development of innovative activities as well as the appearance of intensive competition at the global level has resulted in a new business milieu. Many companies develop their business and marketing activities under this environment. However, the establishment of the regional trading (and political) blocks such as the EU (European Union), ASEAN (Association of Southeast Asian Nations), NAFTA (North American Free Trade Agreement) has influences the access to a given market and by large dictates the need for the development, implementation and transformation of the strategies from the global prospective. Furthermore, the development pressurises the global businesses to build up on their technology especially in the field of communication as well as transport systems and logistics.

The process of market globalization contributes to the growing integration of the global multinational companies, such as: Kraft, Nestle, Mars, Danone and Pepsico, representing the food processing industry. The trend of market globalization caused a large number of products, services and market segments that were rather globally oriented in their essence, to force the company abandon the concept of the national market and fully focus t; the global market demand and customer preferences. The global market concept represents a new framework for defining strategic marketing activities as well as new ways and methods of doing business.

In the last few decades, the international activities of modern retailing were hypertrophied. The term globalization of retailing includes various correlated features (1): (i) Major retailers based on mature markets establishing a market presence in countries at different stages of economic development; (ii) The supply chain undergirding the operations of retailers becoming increasingly global in scope; (iii) Diffusion of retailing innovations in various parts of the world.

The world's leading retail systems have expanded world round, for example: Wal Mart operates in 28 countries, Carrefour operates in 33 countries, Tesco in 13 countries, Metro in 33 countries and Schwarz Unternehmens Treuhand in 26 countries (2). Among the 25 top worldwide food retailers, fourteen are European based in particular Tesco, Carrefour, Schwarz Group, Metro, Aldi, Rewe Group, Auchan, Edeka, Casino, Leclerc, Ahold, Intermarche, Sainsbury's and Delhaize Group (3). The statistical data indicates that the globally positioned European retailers take large market share in the markets where present. Therefore, they play significant role in shaping the economy thus making impact on the sectors such as agriculture, manufacturing, trading, banking and financial sector, advertising industry etc.

As global market environment in numerous countries worldwide has been subject to the globalization forces the food processing companies that operate in a small domestic market with limited absorption power such as Macedonian ones have to devise strategies to take advantage of those. According to Reuber and Fisher (4), the small domestic market cannot support much growth thus domestic SMEs (small and medium-sized enterprises) are forced to expand internationally. Unlike large enterprises, small and medium companies that dominate the Macedonian economy have limited resources and the most common entry mode in foreign markets is exporting (5). In comparison with other entry modes (FDI, franchising etc.) export is less risky and does not require substantial resource commitment (6).

The economy as a whole as well as the Republic of Macedonia's market are small offering limited opportunities to the local companies. The international trade cooperation at many levels in particular the foreign agricultural and food products trade is crucial for the SMEs growth. However, the local companies have to closely follow up on the new trends at the international food products market and develop an ability to quickly adapt to changing global environment. The world has changed a lot over past years and so has the multilateral trading system involving majority of the world's countries.

To succeed in a highly internationalized and globalized environment, food processing companies, especially SMEs, must fully adapt their businesses to such environmental conditions. The local circumstances, additionally burden the Macedonian food producers; low level of integrated economy with low rates of investment, non fully supportive banking sector, very small percentage of GDP spending on innovation, etc.

The main objective of this paper is to elaborate on how far are the Macedonian food companies from the global market especially from European united market which is their most important internationalisation market. Further, we tackle upon the degree of their utilisation of the foreign trading business and if its application improves the competitive performance of the Macedonian companies on the European market.

2. RESEARCH METHODOLOGY AND SAMPLING

Considering that the intention was to explore the essence of the phenomenon of internationalisation, we have chosen qualitative approach. Qualitative research is a multi-

methodology driven process that reflects on the attempt to provide a deeper understanding of subject of testing. Eisenhardt (7) defined qualitative methodology as an investigation strategy directed towards understanding the present dynamic in singular context. This research aimed to provide answers to the three research questions in particular the internationalization process of the Macedonian food processing companies viewed through time, operation mode, market and products.

The initial data for Macedonian food processing SMEs was provided from a Macedonian Chamber of Commerce which is the largest association of Macedonian companies consisted of all industrial branches groups. Considering a company as a unit of this research, multiple case study approach was proffered. The three food processing SMEs were carefully selected from the database of the Macedonian Chamber of Commerce. In order to be able to later generalize the conclusions for the food processing industry, three companies covering three different branches of food processing industry were selected i.e. confectionary, fruit and vegetables processing as well as bakery products. The starting precondition was the companies to be involved in international activity already.

According to Eisenhardt (7) when analyzing multiple companies there is no ideal number of cases. For the purposes of this paper were conducted in depth interviews with three Macedonian food processing companies in March 2013. The interviews used face-to-face method accompanied with semi-structured questionnaire. The general managers and CEO's of these three companies were interviewed. These three dimensions were measured by a combination of different scale types: Likert-type scale, binary-item scale, multiple choice question and open questions. As validity and reliability are two factors important in qualitative research (8), we have designed the study upon multiple sources to achieve effect of triangulation as a guarantee of the internal validity. Although the questionnaire was constructed with many questions each covering the process of internationalization different perspectives for the purpose of this paper we have presented only the part of questionnaire that covers the internationalization dimensions: time, operation mode, market and products.

Similar as Manlova et al. (9), we observed the operation mode of the companies thought the following operations: export (direct export, export through intermediary), joint venture and FDI. Concerning the market dimension, respondents were asked about the number of countries their products were sold to as well as in which foreign countries their goods are present. This gave us an opportunity to determine the physical distance from domestic to foreign markets (10).

There was a set of questions targeting the product dimension of internationalization such as the range of products they exported, product branding and private labelling as well as shares of each category in selling abroad and finally, marketing and advertising.

The third set of questions treated the time and pace of SMEs' internationalization from their establishment. All surveyed companies belong to the food processing industry but they operated within subcategories of food the products. We aimed at obtaining indications which sub-branch had a greater conjuncture on foreign markets and could reach faster pace of internationalization.

The questionnaire envisaged questions observing other internationalization dimensions such as motives, factors and barriers of internationalization as well as the impact of the global retail systems to this process but were not included in this research paper.

The company names are known to the research team and will not be revealed for privacy reasons.

3. RESULTS

The analyzing was conducted at two levels: first, the individual analysis on the companies and second, the cross comparative analyses among the companies. In the individual analysis, each company was separately observed. On the other hand, the cross case analysis gave us an insight in the differences and similarities among the observed companies.

Table 1. Companies selected for the case study

Firm	Products	No. of Employees	Started	Year of First foreign activity	Total sales EUR	% sales from foreign markets
Case I	Production of mushrooms and vegetables processing	126	1992	1995	5 mil.	70%
Case II	Flour and frozen pasta	45	1992	2008	3 mil.	5%
Case III	Biscuits and waffles	187	2007	2009	6 mil	18%

3.1 CASE I

Company one was a family business company established in 1992 with domestic capital. At the beginning they started with the production and sale of mushrooms and later invested in facilities for processing vegetables. The company had 126 employees and annual sales (domestic and foreign market) of approximately 5 million in total. Approximately 70% of the total sales belong to the overseas market, positioning this company as highly internationalized. Interestingly enough, the company had constant increase in overall sales and the percentage of exports. In the period between 2010 -2013, the export had grown at a rate of 5% each year. The first export activity was carried out four years following its establishment which indicated a fast pace of internationalization as well. The most important motives for internationalization of this company were considered to be: a small and limited domestic market, increasing sales and profits, and better access to raw materials and new technologies. According to the top level management, irrelevant motives to internationalisation were: the negative effect of seasonal production, risk diversification (domestic market and export) and the use of competitive advantages. The export orientation dominated their business strategy. They lately exported their products in about fifteen countries and possess one distributing company abroad. The number of countries to which this company exported increased over the years. The most significant foreign markets for the company were: Serbia, Kosovo, Bosnia and Herzegovina, Germany and Slovenia. They exported their complete range of products which means a high level of conjectures of their product portfolio to the foreign markets.

They sold their goods at the foreign markets taking advantage of the ethnic orientation but also outside the ethnic segment in the regular retailing system of host country. They pointed out that most of the potential buyers meet at foreign fairs but also

through private contacts and competitor intelligence. The entry mode or most common form of sales abroad was conducted through direct sales to foreign buyers. Their organizational structure observes specialized department for export activities which additionally emphasized their export orientation. The first of its export activities were realized to the neighbouring countries and then they had expanded onto the remote markets. The information regarding the remote locations indicated that their internationalization process took place in accordance with the Uppsala stage model. As an export oriented company, they considered the institutional support to be on low level and with poor quality. In this sense, they found that the export activities would have been more efficient if they got focused support in the form of more bilateral agreements between Macedonia and other countries, better promotion of Macedonian products, intensive organizing of Business to business, trade fair participation subsidies as well as up to date foreign market information.

3.2 CASE II

The company is a representative from the bakery industry employing 45 people. It is family owned business founded in 1992. Their product portfolio incorporates flour and frozen pasta. Their total annual sales were about 3 million EUR in the period between 2010 - 2013 with a tendency to increase. The share of exports in the total sales is 5%, characterizing the company as low internationalized. Despite the fact, the percentage of exports was increasing. Their export activities started 17 years ago and immediately after the establishment however with very slow pace of internationalization. They point out the following as most important motives for their internationalization: small and limited domestic market, saturation of domestic market, increasing sales and profits, achieving higher prices on the international markets, getting the benefits of economies of scale, risk diversification (the domestic market and export), use of competitive advantages, benefits of production capacity engagement, getting ideas for new products as well as better access to raw materials and technology. Irrelevant motives to internationalisation they believe to have been the negative effect of seasonal production. They exported in about 5 countries while the export trend slowly increased. Among the main foreign export markets were: Switzerland, Slovenia, Germany, Austria and the USA, making a slow break through the more remote markets. They exported around 70% of the total product range. They sold their products only to ethnic customers on foreign markets (customers from Balkan countries). As the most effective way to have found new buyers were trade shows abroad and participation at business forums and business to business meetings. They had no dedicated export department that might have been the reason for the small percentage of foreign sales. The company did not own any firm in foreign countries. The institutional support for their international activities was insignificant. They would expect institutional support of few types in future: chambers of commerce involvement in supporting international activities of domestic companies, state subsidies and more trade bilateral agreements on free trade. As one of the biggest obstacle to increase exports they believe was the poor infrastructure and the distance to the nearest ports.

3.3 CASE III

Established in 2007, the company was involved in production of biscuits and wafers. More precisely, it was founded in 2007 through old factory purchase given the long tradition of biscuits and wafer production. It was also a family business with 137

employees. The total annual turnover of the company was cca. 6 million of which about 18 per cent were generated from exports. They did not possess firm or representative office abroad. The export activities began early after the foundation means that the company was internationalized rapidly. As the main reasons for its internationalization they have outlined: small and limited domestic market, saturation of the domestic market, increasing sales and profits, obtaining cost-effective effects of economies of scale and engagement of production capacity. Insignificant motives were classified as the better access to raw materials and technology, getting ideas for new products and seasonal production. They exported products in about 15 countries and their business strategy was to expand at more foreign markets. Their foreign sale from 2008 to 2013 was continuously increasing. The most important foreign markets for the company were: Netherlands, Spain, Romanian, Hungarian and German. Their exports valued about 70% of total production portfolio. Export contacts were usually done through exhibiting at trade shows abroad. The least efficient manner for winning new contacts was the utilisation of the private contacts and connections as well as participation at business forums and business to business meetings. The most common form of entry to foreign markets was through direct export to foreign buyers. Their organizational structure supports dedicated export department that exclusively performs the export activities. They have indicated that the export initially started to the neighbouring countries. They had no possession of firms or representative office on any foreign market. They considered lack of knowledge of foreign markets, lack knowledge of foreign legislation, insufficient organizational and technical preparedness as well as the bad road infrastructure and distance to the nearest ports as biggest barriers for increased exports. They had no significant problems in financing export by far.

4. RESULTS

The cross case comparative analysis allowed us to draw few general conclusions about the internationalization process of the Macedonian food processing SMEs and their performance on the global market.

All three observed companies used direct export as an entry mode to the global markets and were strategically oriented towards the foreign markets. They also exported a relatively high percentage of their product range i.e. Company I 100%, Company II 70%, Company III 70%. Said that, we could conclude that these companies by large adjusted their product range to the foreign markets.

To answer the question how Macedonian food processing SMEs manage the process of entering on the global market, we have considered the companies' reflection on establishing contacts with potential foreign buyers. Furthermore, the companies believed that the presence at international trade fairs was the most effective way of establishing contacts with foreign buyers.

Two of the companies (Company I and Company III) had dedicated export department to handle the export activities. If we compare this finding with the percentage of exports in total sales of these three companies, we conclude that such an organizational structure set-up is a one of the key cornerstones for success on the global market. The practice indicates that SMEs are limited in human resource (financial, human, managerial etc.) and in most cases cannot afford organizational structure that exclusively supports export which is the case in large companies. However, the SMEs should allocate a department or staff to support the internationalisation. Additional human resources training may be required to support the process. Regardless the level of the globalization process in

specific companies in Macedonia, the working habits and structure of trade were still far from modern trends. The organisational transformation towards the successful utilisation of the foreign markets shall be considered immediately. In this context, Company III is most advanced by owing firms abroad. According to stage model of internationalization they are step forward in comparison the other two.

Table 2. Years of first foreign activity, number of foreign countries where they export their goods and sales from foreign markets

Firm	Started	Year of first foreign activity	No. of foreign countries where export	Total sales EUR	% sales from foreign markets
Case I	1992	1995	15	5 mil.	70%
Case II	1992	2008	5	3 mil.	5%
Case III	2007	2009	15	6 mil	18%

Two of the observed companies (Company I and Company III) had a very rapid internationalization of its business. Company II had slower internationalization process. The research (Table 2) showed that the companies experiencing rapid internationalization process had larger share of exports in the total sales accompanied with greater presence in foreign countries that continuously increase.

All three companies have started exporting to the neighbouring countries which is evidence that the physical distance plays a key role in the choice of foreign markets. This, once more, pointed out to the Uppsala stage model of internationalisation. In the case of Company I and Company II, the internationalization occurred towards the closest countries whereas those remained their most important foreign markets.

5. DISCUSSION

The main purpose of this research was to observe Macedonian food processing companies and their performance at the internationalization dimensions: time, operation mode, market and products.

Global retail and food processing industry are sectors in world economy which are exceptionally complementary, interconnected and inseparable from each other. Without full knowledge and functioning of latest trends in these industrial branches at the global level, we cannot build an effective performance of food processing companies in the global market (11). In the last two decades, the global retailing industry in Europe is hypertrophied. European retail systems massively internationalize its business where the importance of the national markets had significantly revitalized.

All of those conditions had a dramatic impact on suppliers and it required their full adjustment to the new conditions. On the parallel, the ongoing internationalization process of retail firms had very strong implications on food processing firms (12). The reduction and liberalization of tariff barriers and the new communication technology noticeably facilitated the trade of intermediate and convenience food products across borders so that today retailers are able to procure worldwide, or simply it is a time of global sourcing. According to Hanf (12), this process has or will have serious consequences on the food processing industries in terms of growing international competition, vertical integration

and increased quality requirements. But also, offers outstanding opportunities for food processing firms to supply globally, because retail procurement alternates from predominantly national sourcing to global sourcing. That's why, European retail market is in centre of interest of the Macedonian food companies and its structural changes resulting of the international process are identified as the main driving force of the development of the agro-food business.

As already mentioned, in the last few decades, the food industry is massively globalized, among others, as a result of mass internationalization of retail industry. Besides the large multinational food processing companies which are active on a global level, there is large number of small and medium-sized enterprises active in the same industry. While the processes of internationalization of the retail industry has been and still is a subject of extensive scientific observation (13, 14, 15, 16, 17, 18), the number of researches that researched the impact of information technology (IT) market to the food processing from small countries is not so high.

In fact, there are very few researches regarding the influence of retail international expansion to the food products suppliers - producers, especially if they are small and medium sized. Among the several studies linking to this issue are Dolan and Humphrey's (19), Hanf & Dautzenberg's (20), Goudarz's (21), Hanf et al.'s (22) etc. This researched field is still to be tackled especially the specific factors (immanent for food industry) that influence the Macedonian food processing companies' internationalization process such as the IT technology.

6. CONCLUSIONS

This research study contributes to the scientific consideration of the internationalization processes and stimulate further research. The results and findings have practical implications for the business sector and the process of increasing international performance of the firms in food industry.

We conclude that there is a need to collect data on the Macedonian companies. Putting the internationalization activities of food processing companies in the context of the global European market could bring answers that may be of crucial importance for the survival and growth of Macedonian firms in the complex international environment.

The results of this research could be impetus for the food companies in creating their policy towards expansion on the European market. Entering into the global retail system in one country could provide access to retailing chains' full range of countries. Furthermore, the results of this study may have important implications on the creation of institutional policy and support for stimulation internationalization activities.

REFERENCES:

1. Yupal, S. and Gadhavi D. Retailing and Innovation: A Study in today's Global Retail Market. *Advances In Management*, (2012). vol. 5, issue 5.
2. Deloitte Global Powers of Retailing - Retail Beyond. (2013).
3. Reuber A. R., and E. Fischer. The influence of the management team's international experience on the internationalization behaviours of SMEs. *Journal of International Business Studies*. (1997). 28 (4): 807-25.

4. Private Label report 2014. Planet retail. December 2013.
5. Fernández, Z., & Nieto, M. J. Internationalization strategy of small and medium-sized family businesses: some influential factors. *Family Business Review*. (2005). 18: 77-89.
6. Lu, S. W., and Beamish, P. W. The Internationalization and Performance of SMEs. *Strategic Management Journal*. (2001).22, p. 565-586.
7. Eisenhardt K.M. Building Theories from Case Study Research. *Academy of Management Review* (1989).Vol. 14, No. 4, pp. 532-550.
8. Patton, M. Q. *Qualitative evaluation and research methods* (3rd ed.). Thousand Oaks, CA: Sage Publications, Inc. (2002).
9. Manolova T. S., Brush C. G., Edelman, L. F., and Greene P. G. Internationalization of Small Firms Personal Factors Revisited. *International Small Business Journal*. (2002). 20(1). 9-30.
10. Johanson, J., and Vahlne J-E. The mechanism of internationalization. *International Marketing Review*. (1990).7 (4), 11-24.
11. Healy, B. *SME's and the Internationalization of Food Products: Process and Procedure*. Cambridge Scholars Publishing, UK. (2010).
12. Hanf, H.J., Pall,Z.and Dautzenberg, K. Retail globalisation - what happens to the local suppliers in Central and Easter Europe? Paper presented at the 88th EAAE Seminar, Paris, France. (2007).
13. Gereffi, Gary and Miguel Korzeniewicz (eds.). *Commodity Chains and Global Capitalism*. Westport, CT, Praeger. (1994).
14. Doherti, A.M. Power and control in international retail franchising – Evidence from theory and practice. *International Marketing Review*, (2000). Vol. 17 Issue: 4/5, 354 – 372.
15. Dawson, J. Retailing at century end: some challenges for management and research. *International Review of Retail, Distribution and Consumer Research*, (2000). 10 (2), 119-148.
16. Dicken et al. Chains and networks, territories and scales: towards a relational framework for analysing the global economy. *Global Networks*, (2001). Vol. 1, Issue 2, pp. 89-112.
17. McGoldrick, P. J. *Retail marketing*. Berkshire: McGraw-Hill Education. (2002).
18. Wrigley, N. *The Globalization of Trade in Retail Services*. OECD Experts Meeting on Distribution Services, Paris, France. (2010).
19. Dolan, C. and J. Humphrey. Changing Governance Patterns in the Trade in Fresh Vegetables between Africa and the United Kingdom. *Environment and Planning*. (2004). 36: 491-509.
20. Hanf, H.J. and K. Dautzenberg. Retail Internationalization and Its Consequences on the Food Chain. *International European Forum on Innovation and System Dynamics in Food Networks*, Innsbruck - Igls, Austria. (2007).
21. Goudarz, A. *Food Culture Distance: An Antecedent to Export Marketing Strategy Adaptation - An Empirical Examination of Swedish and Finnish Food Processing*

Companies. *International Food and Agribusiness Management Review*. (2011).
Volume 14, Issue 3.

22. Hanf, H.J. Globalization - Driver of change in the agri-food business. *Agribusiness: An international Journal*. (2006). Vol.21.pp.177

ENVIRONMENTAL COST MANAGEMENT IN FOOD RETAIL

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Abstract: Lately, there is an increasing influence of environmental costs - ecological costs on performance of companies in all sectors, including food sector and food retail. That is why considerable attention is devoted to their analysis, both in theory and practice. This paper examines the determinants of dynamics and specifics of environmental cost structure, as well their impact on the performance in food retail. Three significant categories of environmental costs in the food retail are: energy use, carbon dioxide emissions and water use. It is necessary to effectively manage them in order to "optimize" their influence, as well as the total environmental costs on performance in the food retail.

Keywords: renewable energy, greenhouse gases, water, supply chain, sustainable indicators.

JEL Classification: D40 L81 M41

1. INTRODUCTION

Due to the increasing importance, concerning the positive impact on performance, considerable attention is devoted, both in theory and practice, to exploring the effects of the development and implementation of the concept of sustainable development (which integrates environmental, social and economic dimensions) in food retail. In the context of this, the effects of environmental costs - ecological costs on performance in food retail are particularly examined. Also, the attention is paid to the analysis of the dynamics of organic food sales in specific types of shops (1, 2, 10).

Considering the importance of treated problems in this paper, we have especially highlighted: specifics of environmental influence on food supply chain, the structure of environmental costs in retail and food and beverage sectors (of the S & P 500), the importance of energy efficiency, the effects of carbon dioxide emissions that produces the greenhouse effect, the need to reduce water use in food retail, food waste treatment, and a system of sustainable indicators in food retail. Considerable attention is devoted to the strategies and techniques of environmental cost management in retail as an important member of the food supply chain. Thus, in our opinion, this paper thoroughly treated the given problems and it should, provide relevant theoretical, methodological and empirical basis for further study of this very important, current and complex issue.

Literature devoted to exploring the effects of the development and implementation of sustainable development in food retail is very rich (4, 6, 10, 11, 14, 16). A significant part of the literature is devoted to the research of specific environmental costs in food retail. It provides an adequate basis for efficient environment cost management aimed at improving the performance in food retail. All available literature used in this paper serves as a

theoretical, methodological and empirical basis for comprehensive study of very complex issues of environmental costs - ecological costs impact on performance in food retail.

2. MATERIAL AND METHODS

The main **objective** of this study was to observe the complex based on empirical analysis of the specifics of the impact of environmental costs on the performance of retail food. It should serve as a basis for taking appropriate measures in function "optimize" their impact on the performance of retail food chains.

The main research **hypothesis** (H1) in this paper is that the environmental costs are far more important determinant of overall performance in the food retail. Another hypothesis (H2) connected to H1 is that the application of appropriate strategies and management methods can greatly optimize the impact of environmental costs on the performance in food retail. All hypotheses were confirmed in this study.

Research methodology of given hypotheses is based on the analysis of theory, norms, and in particular, descriptive and comparative analysis of empirical data in the context of the problems studied in this paper.

Empirical data for the study of the impact of environmental costs on the performance in food retail in this work were collected mainly from the literature and from websites (Internet source). Some of them are properly analysed in accordance with the nature of the problem studied.

3. RESULTS AND DISCUSSION

The **food sector** in the EU is the first in its revenue, with more than 8 million employees. **Logistics and supply chain management** plays a significant role in the food sector. The characteristics of the food supply chain are different for low, medium and high-income countries (3). An integrated approach of designing and managing the supply chain involves the simultaneous control of quality, protection, sustainability and logistical efficiency from food production and processing throughout the entire food supply chain according to the principle "from the farm to the fork" (12). Figure 1 shows the influence of environment on the food supply chain.

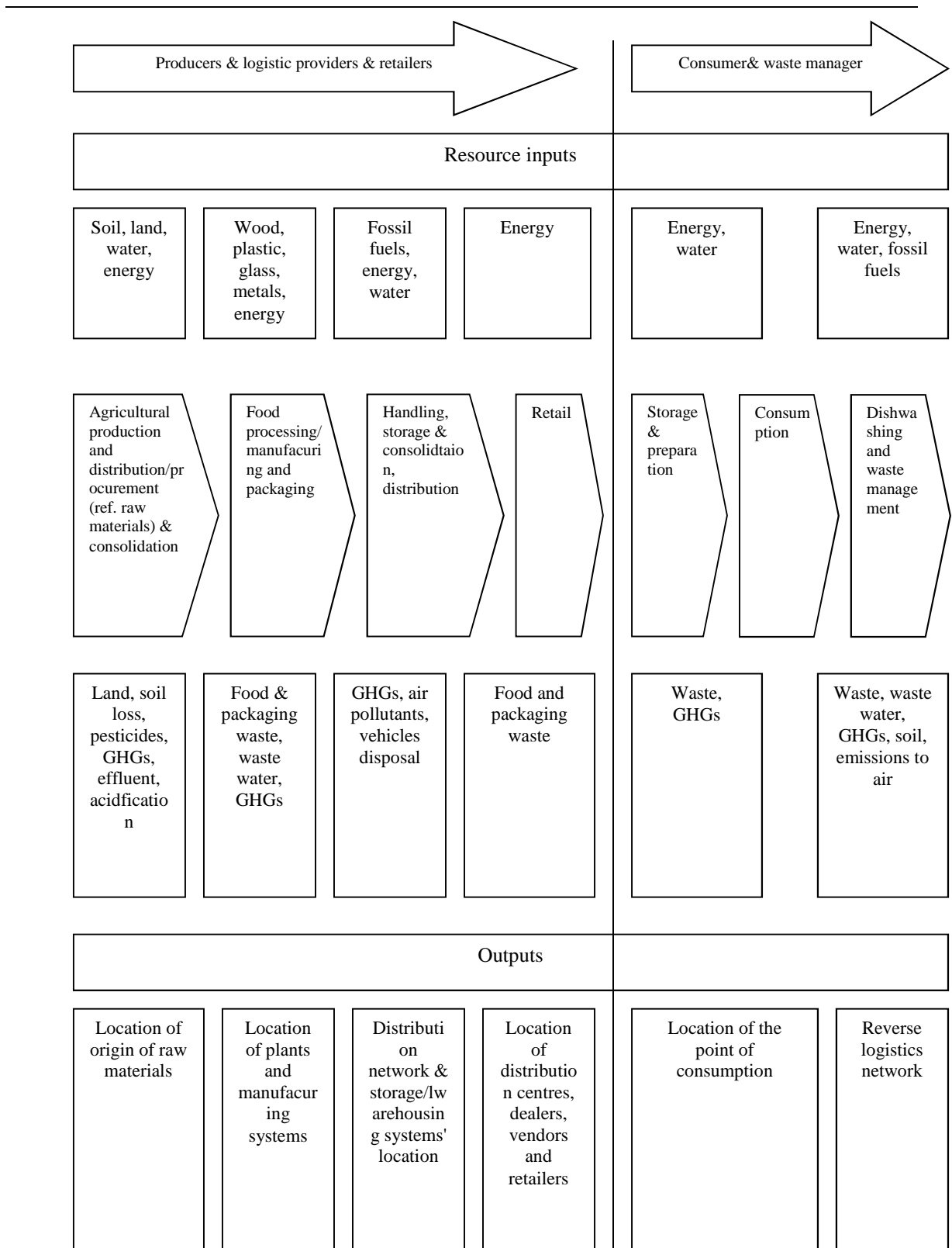


Figure 1. The influence of environment on the food supply chain
Source: (12).

Inclusion of **sustainability** in the food supply chain is one of the significant changes as a function of the realization of sustainable development and growth of all the members, including retail sales. European Environment agency has published the data that food and

beverage sector participate in the global resource consumption by 23%, carbon dioxide emissions with greenhouse effects by 18%, and with 31% of acid gases (12).

By using **carbon footprints**, issues concerning environment in food transportation can be envisaged. Table 1 shows the carbon footprints through milk production life cycle.

Table 1. Carbon footprints in raw milk production through life cycle phases (in percent)

Life cycle stage	Raw material production	Manufacture / processing	Logistics / distribution	Retail	Use by consumer	Recycling and disposal
Carbon footprint	73.00%	9.00%	3.00%	10.00%	3.00%	2.00%

Source: (9).

The data in the table above show that the carbon footprints in milk retail are lower compared to manufacture and processing. Carbon footprints are different in certain food categories. Those amounts are expressed in grams per kilogram (CO₂ eq -Emissions (in g per kg foods)) for beef 13300, butter 23800, apples 550 and brown bread 750 (9).

An important component of the food cost is energy. **Energy efficiency** in the food sector is viewed through supply chain. Primary energy consumption through the food supply chain in Spain in 2000 amounted to: agricultural production – 34.14%, transportation 17.43%, processing - 9.83%, packaging - 10.64%, food retail - 9.61% and 18.35% household consumption (8). Therefore, the sources of sustainability are in agricultural production (as the main beneficiary), followed by household (related to the protection and preparation), transportation and packaging. Reorientation towards organic foods and new expenditure structure (in terms of location, seasonal food, less meat consumption) can significantly contribute to improving sustainability in food sector in Spain.

Food transport is one of the significant sources of gas emissions and greenhouse effects. It is quite understandable when having in mind the fact that 817 million tons of food is transported on the planet every year. "Food miles" is one of the leading methods for assessing sustainability in envisaging the effects of the environment. This term refers to transport of food to the place of final consumption. Every year transport distance of food increases, so that the average is 1,300 miles today.

In order to evaluate effects more realistically we have to mention the three related concepts: 1) food miles, 2) expansion of food miles, and 3) sustainable food chain (16). Using only the concept of food miles for the assessment of sustainability can be questionable (food transportation). The concept of food miles expansion includes all relevant externalities plus the various modes of transport and transport efficiency (food transport: external environmental costs, external social costs, external economic costs of + transport model + transport efficiency). Sustainability concept requires that all relevant economic, social and environmental aspects should be included and, in addition to transport externalities, externalities caused by the production of food, food packaging, food marketing and food consumption (food chain: production, processing, distribution, sales and consumption, including external environmental costs, social costs and external economic costs).

Chris Weber of Carnegie Mellon University, the distinguished author of a study on food, recently published by *Environmental Science & Technology*, emphasizes that 83% of gas emissions with the greenhouse gas effect in the food value chain comes from growing and harvest. Almost all stages of food value chain play an important role in carbon footprint. Greenhouse gas emissions (GHG) at different stages of the food supply chain in the United Kingdom are: agriculture - 40%, fertilizers production - 5%, food production – 12%, packaging - 7%, transport 12%, retail - 7% catering - 6%, household consumption - 9% and treatment (removal) of scattering - 2% (6). According to the *Earth Policy Institute*, the use of energy throughout the food value chain within following stages is: agricultural process - 21%, food processing – 16%, packaging - 7% and 4% of retail. Currently, 9% of total U.S. energy consumption is used for the production, processing, and transport of food (Food Miles - the Centre for Environmental Education, www.ceeonline.org> ...> Upload Knowledge).

Energy consumption and emissions of carbon dioxide, which produces greenhouse gas effect, are affected by transport model (Table 2). Energy consumption and carbon dioxide emissions that produce the greenhouse effect are greatest in the air and the lowest in international water-carriage transportation. Therefore, by selecting transport model consumption can be optimized. Reducing of greenhouse gas emissions has a positive impact on climate change.

Table 2. Impact of transport model on energy consumption and carbon-dioxide emission

	MegaJoules per ton-km	Kg CO ₂ eq per ton-km
International water - container	0,2	0.14
Indoor water	0,3	0,21
Rail	0,3	0,18
Truck	2,7	1,8
Air	10	6,8

Source: (9).

There is public disclosure of the effects of environmental costs impact (about 40%) in the food and beverage sector. This is fully applied to the food retail sector, too (about 20%) (13). Environmental costs are considerable in food and beverage sector, and food retail sector respectively, as data in Table 3 show:

Table 3. Components of environmental costs for companies in retail and food and beverage sector (S & P 500 companies)

Components	Food and beverage (in millions)	Retail (in millions)
Water	\$38,398	\$8,009
Contamination of soil and water	\$12,019	\$7,409
GHGs	\$10,323	\$3,110
Air pollution	\$7,589	\$1,724
Waste	\$353	\$943
In total	\$68,682	\$21,195

Source: (13).

The information in the table show that the environmental costs for companies in the food and beverage sector amounted to 69, i.e. 22 billion dollars in food retail respectively (of S & P 500 companies). **Key components of the environmental costs** in food and beverage sector are: use of water (\$ 38 million), soil and water pollution (\$ 12 million), greenhouse gases (\$ 10 million), and air pollution (\$ 8 million). In food retail these are: use of water (\$ 8 million) and GHG (\$ 7 million).

Environmental cost components are different by certain food categories. Table 4 shows components by certain categories of consumer goods (for companies in the retail and food and beverage sector of S & P 500 companies).

Table 4. Environmental costs components for selected food category

Components	Breakfast cereal (18 g pack)	Fruit juices (Litre pack)	Cheese (18 g pack)
Water	58.8%	43.7%	38.7%
Soil and water contamination	23.0%	11.4%	14.1%
GHGs	10.8%	24.6%	33.0%
Air Pollution	6.8%	14.7%	13.6%
Waste	0.6%	2.1%	0.6%
Total environmental costs	\$0.55	\$0.19	\$1.18
Retail value	\$3.50	\$3.00	\$6.50
Actual costs - the true cost	\$4.05	\$3.19	\$7.68

Source: (13).

The information in the given table show that the use of water is significant component of the environmental cost for the observed consumer goods. Water consumption for some products is: 1) breakfast cereals: best - \$ 3.74, average - \$ 4.05 and worst - \$ 5.33, 2) fruit juice: best - \$ 3.11, average - \$ 3.19 and worst - \$ 3.35 and 3) cheese: best - \$ 7.26, average - \$ 7.68 and worst - \$ 8.22. Best and average water consumption as a component of environmental costs is welcome opportunity, while the worst is considerable risk (13). At the global level, one-third of the total food produced for human consumption is lost, what amounts to about 1.3 billion tons per year (7). **Food loss** per capita in Europe and North America amounts to 280-300 kg and in sub-Saharan Africa and South / Southeast Asia 120-170 kg annually. Total production of food for human consumption in Europe and North America is about 900 kg, and in sub-Saharan Africa and South / Southeast Asia 460 kg per year (7). Loss of food in production per capita in Europe and North America is 95-115 kg, and in sub-Saharan Africa and South / Southeast Asia only 6-11 kg a year.

Generally speaking, losses of food are high in industrialized as well as in developing countries. While in developing countries more than 40% occurs after harvest and processing, in industrialized more than 40% of losses occurs in retail and consumption. Loss of food in production in industrialized countries (222 million tons) is almost on the same level as the total net production in Saharan Africa (230 million tonnes) (7).

The benefits of reducing waste through food supply chain are significant for society as a whole as well as for the company and individual and according to the survey conducted in Sweden the following data in the Table 5 verify this.

Table 5. Estimated yearly wastage of food in Sweden and the effects of reduction throughout the supply chain

Food supply chain sector	Waste (ton)	Waste per capita (kg)	Marginal benefit to society of reduced waste (SEK/kg)	Marginal benefit to individual or company of reduced waste (SEK/kg)
Household	675000	72	81	62
Restaurants and catering	125000	13	31	12
Retail	39000	4	25	6
Industry	171000	18	25	6

Source: (5).

The benefits of reducing waste throughout the food supply chain are obvious, for the society, individual and company. However, they were significantly higher for the society itself than for an individual or company (In Store, June 2013 www.instore.rs).

Because of the immense environmental benefit, **returnable packaging system** is being strongly advocated instead of non returnable packaging system, which spends millions. It is well known that glass is indestructible in nature, but it is very easy to recycle. Recycling of one glass bottle saves enough energy for 100W bulb to produce light four hours. Company Heineken conducted a global analysis which compared the impact of non returnable and returnable packaging on the environment, by comparing 0.5-liter packaging of beer produced in the Netherlands and consumed in Germany, expressed through the rate of pollution, waste material and waste water. The method applied in this survey is **Life cycle analysis** (LCA), i.e. the whole process "from barley to a full glass of beer at the bar." Below are the results of a given study.

The rate of pollution emitted throughout the production is equal to the sum of the effects of greenhouse gases that contributes to global warming. The rate of pollution in producing non returnable bottle is 76kg of carbon dioxide per hectolitre, while with returnable bottle it is 43kg of carbon dioxide per hectolitre. It is assumed that returnable bottle is reused 25 times, what is relatively small number of reuses compared to the real possibilities (for example, in the Netherlands it is 32, while it is reused 30 times in Italy). Returnable packaging system emits less pollution even if it is used only once.

Returnable bottle system provides reduction of waste water. Waste water amounts to 10 hectolitres per hectolitre of beer in production of non returnable, and 6 of returnable bottles. During the production of returnable bottles, carbon dioxide emissions decreased by 43% compared to a non returnable (In Store, June 2013; www.instore.rs).

Significant benefits are achieved by **recycling food** and all members of the food supply chain increase the percentage of recycled waste (disposal) of food every year (15). Data showed in Table 6 confirm this on the example of Japan.

Table 6. The rate of recycling food waste in Japan 2001 - 2007

	2001	2002	2003	2004	2005	2006	2007
Manufacturer	50	60	65	65	76	76	77
Wholesaler	29	33	42	35	58	59	59
The retailer	18	20	18	23	26	29	31
Food service	9	8	11	12	14	16	16

Source: (15).

A special system of indicators of sustainable food chain is developed (2). It enables more effective cost management environment factors profits in the retail food.

4. CONCLUSION

Due to the increasing importance of environmental influence on food supply chain greater attention is paid to its analysis lately. In this paper, the emphasis is on considering factors, structure specifics and the effects of environmental costs on performance in retail as a member of the food supply chain.

In that context, it was concluded that the environmental costs are very significant factor of cost efficiency and thus performance in food retail. Their structure in retail is specific concerning the total food sector. Three important components of environmental costs in food retail are: energy use, greenhouse gases and water use. They are different in certain food categories. Their effective management can significantly optimize environmental costs and improve the performance of food retail.

Generally speaking, the development and implementation of "green practices" greatly contributes to the improvement of business performance in food retail. This especially applies to retail stores green building, private label and organic products sell, as special characteristics of modern food retail. This practice is largely followed by global food retail chains. In the tradition of them and because of great universal significance, other food retailers should implement this practice to their business.

REFERENCES

1. Anders, S. and Ahmad, W. (2011), «Private label and national brand Pricing and Promotional Strategies in Health Differentiated product categories: Canadian Evidence», [2011 International Congress, August 30-September 2, 2011, Zurich, Switzerland](#) 114223, European Association of Agricultural Economists.
2. Banterle, A. et al. (2013), «Labelling and sustainability in food supply networks: A comparison between the German and Italian markets», *British Food Journal*, Vol. 115, No.5, pp. 769-783.
3. Boye, J. I. and Areand, Y. (2013), «Current Trends in Green Technologies in food

- production and processing», *Food Eng Rev*, 5, pp. 1-17.
4. Brcic-Stipcevic, V. et al. (2011), "Distribution Channels and Characteristic of organic Food market", *Business Logistics in Modern Management*, volume 11, pp. 111-125.
 5. Eriksson, M. (2012), *Retail Food Wastage a Case Study Approach to Quantities and Causes*, Swedish university of Agricultural Sciences, Uppsala.
 6. Garnet, T. (2011), «Where are best opportunities for reducing greenhouse gas emissions in the food system (including the food chain)?», *Food Policy*, 36, pp. S23-S32.
 7. Gustavsson, J. (2011), *Global Food Losses and Food Waste*, FAO, pp. 1-38.
 8. Inflante Amate, J. and González de Molina, M. (2013) «'Sustainable de-growth' in agriculture and food: an agro-ecological perspective on Spain's agri-food systems (year 2000)», *Journal of Cleaner production*, 38, pp. 27-35.
 9. Konieczny, P., Dobrucka, R., Mroczka, R. (2013), «Using carbon footprint to evaluate environmental issues of food transportation», *LogForum*, 9 (1), pp.3-10.
 10. Lukic, R. (2011), "Estimates of economic performance of organic food retail trade", *Economic research*, Vol. 24, No. 3, pp. 157-169.
 11. Lukic, R. (2012), "Sustainable Development of Retail in Serbia", *Review of International Comparative Management*, Volume 13, Issue 4, pp. 574-586.
 12. Manzini, R. and Accorsi, R. (2013), «The new conceptual framework for food supply chain assessment», *Journal of Food Engineering*, 115, pp. 251-263.
 13. Mattison, R. (2013), *The True Cost of the S & P 500 - True Cost of food & Beverage and Retail sectors*, Trucost.
 14. Papista, E. and Krystallis, A. (23june 2012), "Investigation the Types of Value and Cost of Green brands: Proposition o a Conceptual framework", *J Bus Ethics* DOI 0.1007/s10551-012-1367-6.
 15. Takata, M. et al. (2012), «The effects of recycling loops in food waste management in Japan: Based on the environmental and economic evaluation of food recycling», *Science of the total Environment*, 432, pp. 309-317.
 16. Van Passel, S. (2013), «Food Miles to Assess Sustainability: A Revision», *Sustainable Development*, 21, pp.1-17.

BOST AS THE INNOVATIVE RESEARCH METHODOLOGY IN THE STRATEGIC DEVELOPMENT FACTORS ANALYSIS

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Abstract: The dynamically growing international market is the main reason for both the expectations increase of clients and employees who have a significant influence on the products and services quality. Employees opinion with regard to the company is extremely important due to the possibility of its applying in the product and the entire enterprise improvement process. The paper presents an innovative method for the enterprise functioning assessment BOST, which examines the opinions of both production workers and managers on key factors influencing company development with using different respondents characteristics (gender, education, age, work experience, mobility and mode of employment). BOST method was based on the management elements analysis based on Toyota management principles.

Keywords: quality, enterprise, strategic factors, BOST

1. INTRODUCTION

Woodworking industry in Poland is currently one of the most competitive industry of the Polish economy. The rapid growth of the industry is due on both the need for housing and exports. Approximately 25% of joinery production in Poland includes wooden windows production. The largest European markets of the joinery sector are the United Kingdom, Germany, Spain and France. The most intensively growing market is in Eastern Europe, particularly in Russia. The result of the growing industry expansion is a growing number of competitors. The product and service quality is one of the priorities in the customers gaining process in the market competition.

The production of the highest quality products that meet a set of standards and client demand requires continuous processes and enterprise sources improvement, what can be effectively ensured by analysis of workers opinion with regard to processes and strategic development elements which are crucial for the enterprise and product future.

The concept of the product quality from the point of view of the manufacturer shows that considerable attention must be paid to the profit and market competition. Profit-making requires investment in the research and development process, marketing, pricing policy, distribution activities. To be able to achieve and guarantee a certain quality of the product, the cost of the product manufacturing (materials, machinery, equipment, energy, the cost of hiring employees, maintaining quality control processes and products) should be taken into consideration, as well as the maintenance costs and associated services costs (delivery of the product to the customer, installation and user training).

The producer should also take into account elements of the company competitiveness in the target market such as: the image of products and company, the technological

leadership, continuous improvement through managing and the workforce competence improvement. The competitiveness of the company and its quality is considered in terms of the profit, and also has a close relationship with the market size and market share. The product quality is important not only for users but also for suppliers. The manufacturer must avoid nonconformities, because it means the additional costs incurred in the inspection, testing, scrapping and service complaints and the guarantee agreements discharge [Muhlemann A.P., Oakland J.S., Lockyer K. G., 1995].

Taking decision in the product and production processes improvement in the relation to the strategic development of the company should be based on the analysis of opinion related to workstations, production and services process and development strategic factors important in the point of view of the workers and managers as well.

The one of the well-known example of the company that based its own improvement on the workers and managers opinion is Toyota company, which code of conduct includes 14 principles based on the hierarchical structure of the strategic elements such as: constant improvement and learning, people and partners, processes, quality, long - term and long - range thinking.

The aim of the article is to analyze workers opinion on the strategic development factors in relation to the constant improvement including long - term and long - range thinking. The research methodology used in the research include issues of Toyota principles assumptions and the author's interpretation of research findings in the correlation of the respondents characteristics (the age, the gender, the education, the work experience).

It allows for identifying of the strategic factors valuable for the company development.

2. RESEARCH METHODOLOGY

BOST methodology is the effect of the authors' studies related to workers opinions from the different industries in Polish economy and the idea of Toyotarity that is understood as the specific discipline examining relationship such as: human – machine and human – human with the inclusion of a process-based approach, Japanese culture, especially culture of Toyota, oriented to the continuous improvement with the use of the knowledge. This definition details two dipoles: human – machine and human – human. In the relationship human – human, one pole means: management, leaders – managerial staff who have visual contact with human resources while managing them [Borkowski, S., Stasiak-Betlejewska, R.].

It can be stated, that superiors look into the eyes of executors of process, who are an element of the second pole of the human – human relationship (Borkowski S. 2012).

The research methodology BOST⁵⁶ is a research tool that uses a questionnaire technique aimed to workers and their superiors opinion collecting as the source of opinions about the organizations that apply Toyota principles. Mentioned method can be successfully applied in the analysis of both production and service organizations (at industrial enterprises, administration, banks, hospitals, shops, schools etc).

BOST questionnaires (BOST survey and SERVQUAL constitute the entire research survey) include questions based on Toyota principles found as the basic rules supporting

⁵⁶ BOST method is protected by law regulations of the intellectual property protection. The name and its structure is protected by the principle of first date (AAK Attorney Office in Częstochowa, Poland 2012)

the high quality level of product and services in the organizations. Questions concerns opinions on enterprise activity areas and managers characteristics as well.

Two questionnaires included in BOST survey concern both managers and workers. BOST is also used for the importance assessment such elements of Toyota model, as: standardization principles, visual control, using of Toyota principles, 4E + 1 principles and importance hierarchy of strategic areas in production/service enterprises and service institutions. The assessment of the Toyota factors mentioned in the presented research methodology is conducted on the basis of the grading scale of Likert, where 1 means the lowest evaluation and 6 means the highest evaluation.

Particularly important part of the questionnaire is the supervisors' assessment according to the principles of Toyota. The final part of the survey includes an assessment made by employees, the respondent's characteristics and identification of the business nature of analyzed enterprise/institution.

3. RESEARCH FINDINGS AND DISCUSSION

BOST research findings presented in the article are related to workers opinions on E2 area as the fourth Toyota principle research question analyzed in the survey that was conducted in the selected woodworking company dealing with the wooden joinery. The research group included the all workers group (230 persons).

The analyzed woodworking company is one of the largest manufacturers of wooden windows and doors in Poland. The plant covers an area of 18.5 hectares of land and 40 thousand of the production facilities area. The company has modern machinery and faculties to prepare ruffle, window and door.

The vision of company X is the production of building products from wood and PVC in compliance with the principles of environmental protection that meets the customer's requirements and the ongoing development of the company, and the pursuit of success, further improve safety, ergonomics, satisfaction and personal development of the whole crew.

The mission of the company X is strengthening brand's organization within the leading market position in the production and distribution of building products, friendly to human and the environment with a high standard of quality. The overall objective of the tested company is to increase the company market value through the process of creating and raising the level of satisfaction and loyalty of its customers.

Company X is a manufacturer of high-quality wooden windows and internal and external doors. The company has over 40 years of the market experience and it offers a wide range of products that meet the highest quality standards and defining trends in the wooden joinery industry. Among the products of the analyzed company, the customers can find a wide range of windows and doors in many variants.

Manufactured wooden doors can be incorporated perfectly in the arrangement of the following home spaces such as: the bedroom, the bathroom or the facade of the building as exterior or internal doors. In this market segment, the analyzed company offers a specially reinforced doors that guarantee reliable protection against burglary in homes and apartments. In contrast, PVC windows and wooden windows produced by the company are characterized by high energy efficiency and reliability and its comfort of use.

Using the latest technology, both in the production of wooden doors and windows, as well as PVC windows and qualified team of professionals, the company is the guarantor of solid products for years of use.

The company brand is well known and respected throughout the country as well as abroad. The stable market position offers great prospects for further development of the analyzed company. Own sawmill supports the company products quality within the production of raw materials. The type of wood and its processing method and impregnation are the quality and durability of manufactured goods confirmation. Sawmill of the analyzed company uses only proven, selected raw materials. In the process of drying wood there is used a modern computer-controlled chamber, which guarantees the achievement of a blank with exceptional properties. The heat-treated wood is a durable, lightweight, dimensionally stable, so that is gaining a lot of applications. The offer of the sawmill includes, among others: strips, slats, timber and other items used in the production of wooden windows and doors. The plant has a high flexibility and meets the needs and expectations of customers.

The advanced technology and creative thought of the company constructors and designers allows to produce windows and doors with excellent technical parameters and high utility values. The rich palette of colours, a multitude of shapes and designs are limitless possibilities for creative design.

Wooden windows and doors provide comfort, safety and warmth to any home space. The quality of products is confirmed by implemented an integrated Management System on Quality, Environment, Health and Safety in accordance with ISO 9001, ISO 14001, PN-N-18001. All products are technically approved and certificated in accordance to construction market requirements.

3. 1. RESEARCH SURVEY CONTENT AND THE RESEARCH DATA

Toyota's fourth principle analyzed in E2 area of the BOST survey can be characterized by the questions that relate to the most important elements of the organization development concept. In the survey there were highlighted four strategic development factors evaluated by company workers by using scale 1 – 7, where 7 is the most important element.

These factors are: the customer welfare (DK), the product innovativeness (IP), cooperation with co-operators (WK), confidence in the relationships with employees (ZP), independence and responsibility of employees (SP), technology (RT), care about the enterprise culture (PR). In the basis of the gained research findings the hierarchy structure of the analyzed factors was obtained (Figure 1).

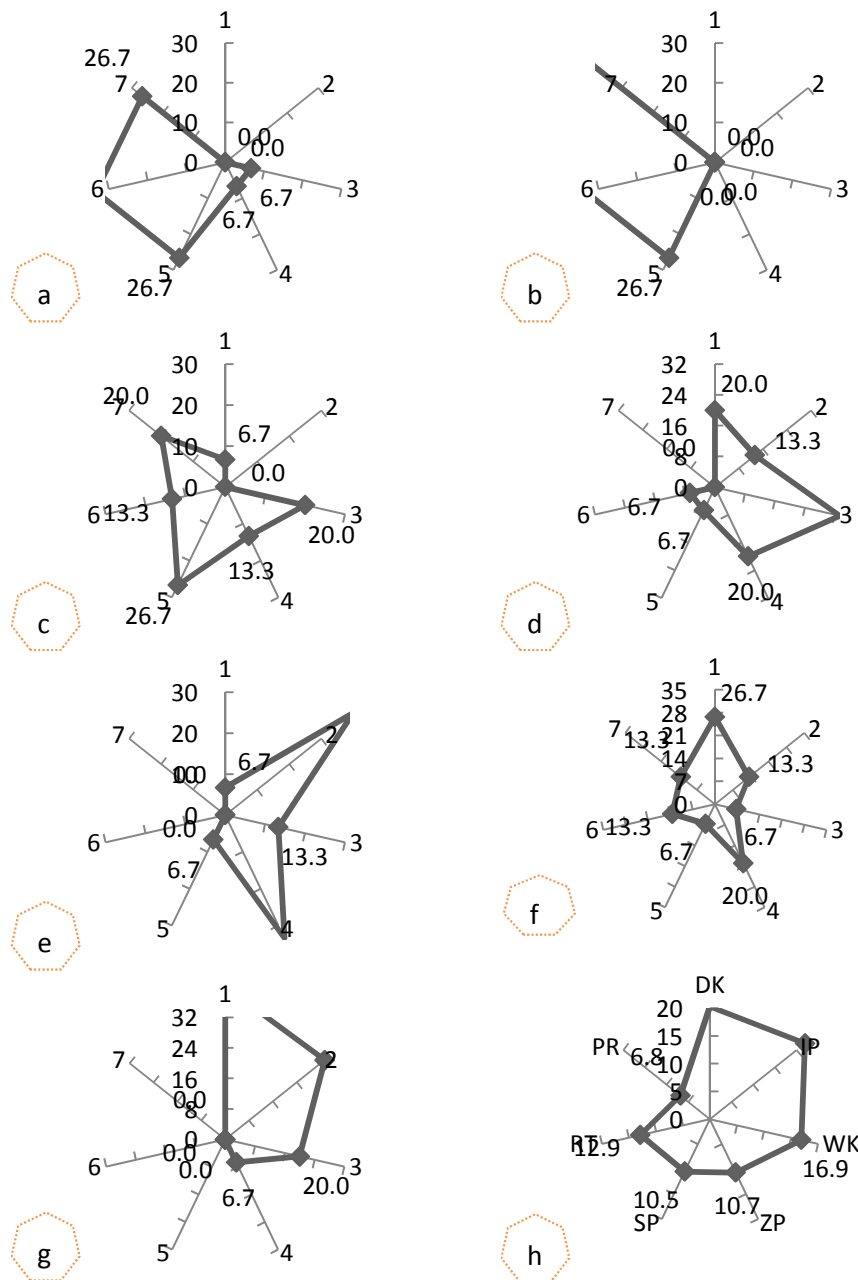


Figure 1. Radar charts concerning the workers assessments for the following strategic development factors on E2 area: a) DK, b) IP, c) WK, d) ZP, e) SP, f) RT, g) PR, h) the average. It concerns the analyzed woodworking company.

Source: own study.

Analysis of the factors determining the percentage of the development concept factors in the company showed that the workers votes were divided unevenly. The greatest number of votes was obtained by the analyzed factor IP (the product innovation, 21.9%). The next factor in the hierarchy of the workers evaluation was the customer welfare (DK, 20.3%).

Analyzing the research results presented in the radar charts (Figure 1), it can be concluded, that the factor PR related to “care about the company culture” was considered as the least important in the company development concept (40% of responses pointed

assessment “1”. The assessment “2” has been assigned by 33.3% of respondents and 20% responses was assessed with the grade “3”.

The radar chart on the assessment structure (fig. 1b) presents research findings for factor IP (the product innovativeness) and it was stated that it is the most important element in the opinions of 40% workers.

Assessment “6” was given by 33.3% of the surveyed employees. Figure 1c shows the result of survey for factor WK (cooperation with co-operators). This factor is the most important for 20% of respondents. The assessment “5” was given by 26.7% of surveyed employees. In contrast, assessment “1”, which means that analyzed factor is not valid, has been issued by only 6.7% of respondents. It follows that this element is important from the point of view of the staff employed in the company.

The result of the survey for the factor ZP (trust in relations with employees) was shown in Figure 1d. According to the collected information presented in graphical form, respondents rated this factor as an important medium (assessment “3” given by 33.3% of respondents). This represents a substantial majority of the votes on this element.

In Figure 1e research results for the factor SP (independence and responsibility of employees) were presented. According to the respondents opinions, the difference in votes comparing to the validity of this factor can be noticed (40% of respondents chose the assessment “2”, while the assessment “4” was pointed by 33% of workers).

Analysis of Figure 1f for factor RT (technology development) is a graphical presentation of the factor validity for tested group. As it results from the figure 1 analysis, this element was considered as a very important in opinion of 26.7% of workers. It should be underlined, that 20% of surveyed workers has given assessment “4” to the factor RT, what suggests a discrepancy as to the validity of this factor in the company concept development.

3. 2. STATISTICAL RESEARCH RESULTS ANALYSIS

At a statistical analysis of the results were used concepts such as:

- the arithmetic average,
- the standard deviation,
- the variance,
- the coefficient of variation,
- the skewness,
- the kurtosis.

Figure 2 presents research findings analysis with statistical terms using.

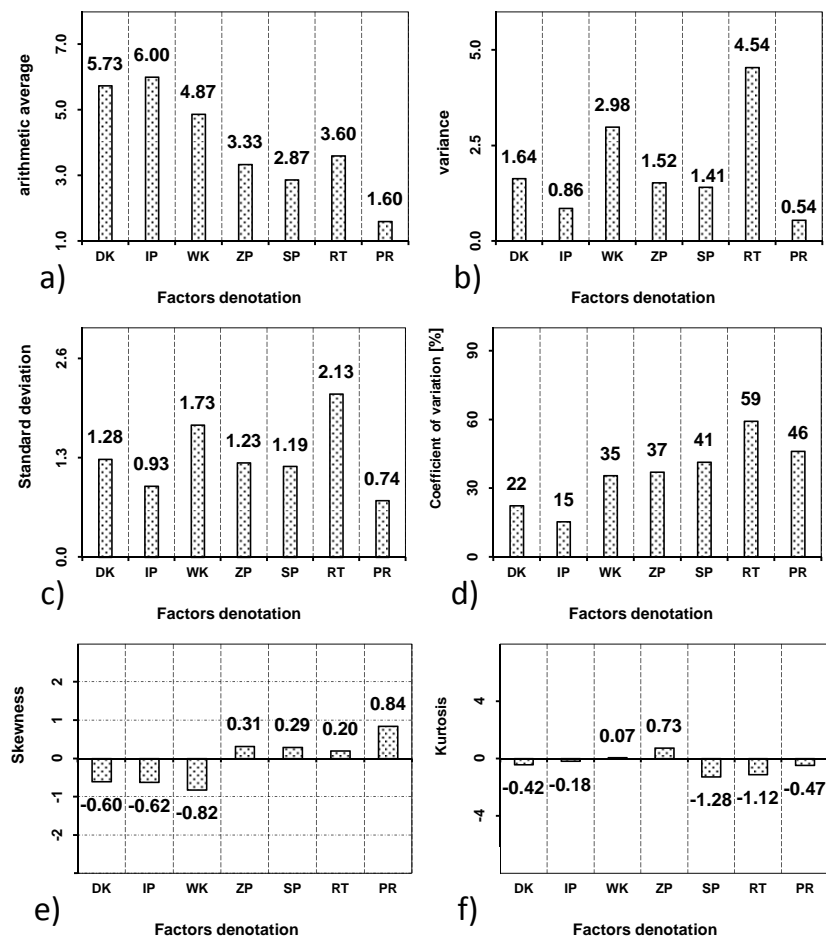


Figure 2. Comparison of strategic development factors on E2 area: a) arithmetic averages, b) variance, c) the standard deviation, d) the coefficient of variation, e) skewness, f) kurtosis. It concerns the analyzed woodworking company.

Source: own study.

The figure 2 presents a comparison of research findings with using: the arithmetic average, the standard deviation, the variance, the coefficient of variation, the skewness and the kurtosis for factors within E2 area. The figure shows six graphs.

Figure 1a is a comparison of the averages. It is easy to note that the highest value (6.00) was distinguished in the case of element IP (the product innovativeness), while the lowest value was obtained by factor PR (the care about the company culture).

Data presented in Figure 2b shows a comparison of the variance. The element that has the highest value equal to 4.54 and it is related to factor “technology development”, while factor PR (care about the company culture) has the lowest value (0.54).

The next figure 2c is a comparison of the standard deviation and in this case the element that received the highest number of votes is “the technology development” (RT).

The Figure 2d provided a comparison of the coefficient of variation for the seven strategic factors within E2 area.

This graphical presentation is a confirmation that the most important element for the workers in the woodworking company was “the technology development” (RT).

The lowest value was reached in this comparison by “the product innovativeness” (15%).

Figure 2e shows the skewness of individual elements and it underlines that “confidence in the relationships with employees” (ZP), “independence and responsibility of employees” (SP), “technology development” (RT) and “care about the company culture” (PR) have a positive skewness right-sided (assessments are shifted to the left page).

3. 3. ANALYZED FACTORS DEPENDING ON THE CHARACTERISTICS OF RESPONDENTS

The analysis of correlation graphs was carried out in two phases. Initially, attention was focused on the value of the correlation coefficient.

There were adopted three degrees of statistical freedom: $\alpha = 0.2$, $\alpha = 0.1$, $\alpha = 0.05$. In the figure 3, the degrees of freedom are represented by vertical dashed lines.

Considering the research results in reference to question on E2area, it is concluded that:

- the workers gender has an impact on the product innovativeness (IP) at a significance level of $\alpha = 0.1$, and this is a positive correlation;
- the workers education has an impact on the confidence and responsibility of employees (SP) at a significance level of $\alpha = 0.2$ and it is a negative correlation;
- the workers age and seniority have an impact on confidence in relations with employees (ZP) at the significance level $\alpha = 0.1$ and are positive correlations;
- the workers mode of employment has an impact on cooperation with co-operators (WK) at a significance level of $\alpha = 0.1$ and correlations are negative.

The second phase of analysis involves the creation of a table (Table 1), which presents the factors correlation (+, -, 0) and determines on that basis which analyzed factors are most strongly correlated.

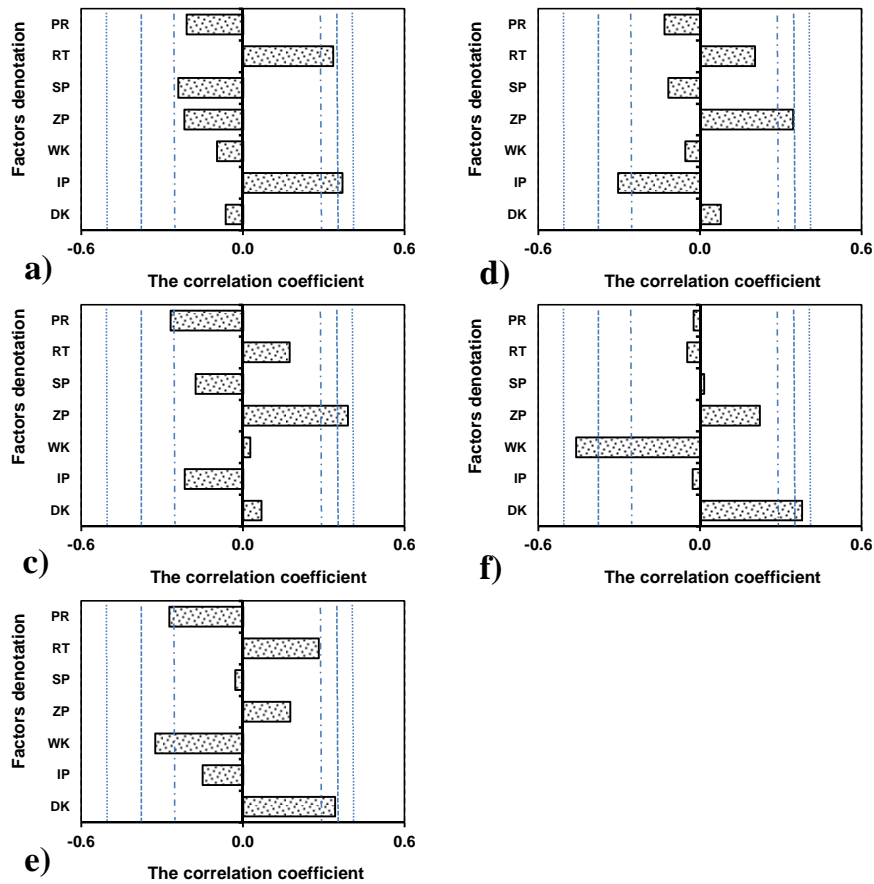


Figure 3. Correlation graphs for strategic development factors within E2 area depending on the workers characteristics: a) gender, b) education, c) age, d) work experience, e) mobility, f) mode of employment. $\alpha = 0.2$ (internal lines), $\alpha = 0.1$ (center lines), $\alpha = 0.05$ (external lines). It concerns analyzed company.

Source: own study.

Table 1. Correlation between the workers characteristics and the selected strategic development factors of questions on E2 area. It concerns analyzed company.

	Gender	Education	Age	The work experience	The work mobility	The mode of the employment	
DK	-	+	+	+	+	+	5
IP	+	-	-	-	-	-	1
WK	-	-	+	-	-	-	1
ZP	-	+	+	+	+	+	5
SP	-	-	-	-	-	+	1
RT	+	+	+	+	+	-	5
PR	-	+	-	-	-	-	1

Source: own study.

As it can be stated on the basis of the research data presented in Table 1, the most correlated factors with the workers characteristics are: the customer welfare (DK), trust in relationships with employees (ZP) and the technology development (RT). The least correlated factors with the workers characteristics are: care about the company culture (PR), confidence and responsibility of employees (SP), cooperation with co-operators (WK) and the product innovativeness (IP).

4. CONCLUSIONS

Analyzing referred to selected strategic company development factors, it can be said that “the customer welfare” (DK), “the product innovativeness” (IP), as well as “cooperation with co-operators” (WK) are characterized by negative skewness (left-sided, since the number of assessments is shifted to the right side). Given the strength of the skewness distribution factors can be observed that the cultivation of corporate culture (PR) is characterized by a very strong skew the system.

REFERENCES

1. Borkowski, S. Toyotarity. BOST Method as the Instrument of Assessment Process Functioning according to Toyota Principles. Faculty of Logistics. University of Maribor. Maribor. 2012, pp.14 – 15.
2. Borkowski, S. Toyota management principles in the questions. The research findings BOST. Wyd. PTM. Warszawa. 2012, pp. 34- 36.
3. Borkowski, S. Toyotaryzm. Wyniki badań BOST. Wyd. PTM. Warszawa. 2012. pp. 22.
4. Borkowski, S., Stasiak-Betlejewska, R., Value Engineering in the context of the quality management. [in:] Toyotarity. Value Engineering of Production Processes. Faculty of Logistics. University of Maribor. Slovenia, 2012, pp. 23 – 25.
5. Muhlemann A.P., Oakland J.S., Lockyer K. G., The production and services management, Wydawnictwo PWN, Warszawa 1995, pp. 24.
6. Stacho, Z., Urbancová, H. and Stachová, K. (2013) ‘Organisational Arrangement of Human Resources Management in Organisations Operating in Slovakia and Czech Republic’, *Acta Universitatis Agriculturae et Silviculturae Mendelianae Brunensis*, Vol. 6, No. 62, 2012.
7. Urbancová, H., Conditions and Principles for Knowledge Continuity Ensuring in Organizations’, *Scientia Agriculturae Bohemica*, Vol. 43 (4), 2012, pp. 166 – 172.

STRATEGY FOR CLEANER PRODUCTION IN INDUSTRY AS PART OF THE SUSTAINABLE DEVELOPMENT CONCEPT

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Abstract: The XXI century, which started in the spirit of survival of the planet and global balanced development of mankind, brought increased interest of international organizations, governments, NGOs, and above all great companies for sustainable development and sustainable environmental management.

This paper presents the effects of the introduction of cleaner production and re-engineering of production in the industry, and how the concept of cleaner production applied to a wide range of industry production, connects the economic benefits with the benefit of the environment protection.

The paper shows how large industrial complexes in Serbia should not be places that eliminate the consequences of their production activities, but should act preventively and proactively to achieve environmental suitability and sustainability of its capacities so far, and increase competitiveness, efficiency and quality by expanding existing facilities to new products, based on the concept of cleaner production.

Keywords: sustainable development, sustainable production, cleaner production, environmental protection, ecological footprint

1. INTRODUCTION

The main objective of any industrial production is to create money from the available raw materials and finished products of primary capacity within sustainable industrial activities. Sustainable industrial activity in industrial production must meet the needs of the present time, without compromising the needs of future generations, which means that they have to use industrial processes that use raw materials, water and energy in a way that does not harm the environment and the finished products must be cost effective, competitive in the market, and above all, they must meet increasingly rigorous international quality standards.

2. MODEL OF SUSTAINABLE DEVELOPMENT STRATEGY

The basis of sustainable development orientation to develop models that are able to satisfy the social-economic needs and interests of citizens, and at the same time eliminate or significantly reduce the impact that could threat or harm the environment and natural resources. Fig.1. shows the goal of sustainable development strategy of the Republic of Serbia, which is a balance between the three pillars of sustainable development, in the framework of the strategy for cleaner production of the Republic of Serbia [1]:

- I Sustainable, economic growth, economic and technological development
- II Sustainable development of a society based on social equality and
- III Protecting the environment with rational use of natural resources

All three key factors are a part of the whole, supported by appropriate institutional framework. (UNEP, UNIDO, OECD, WBCSD; DFIS)

Due to the viability of a wide range of applications, this will be specifically described by the sustainability of the introduction of cleaner production from the point of impact on the economic and business environment, on the example of RTB Bor, Smelter and Refinery of Copper.

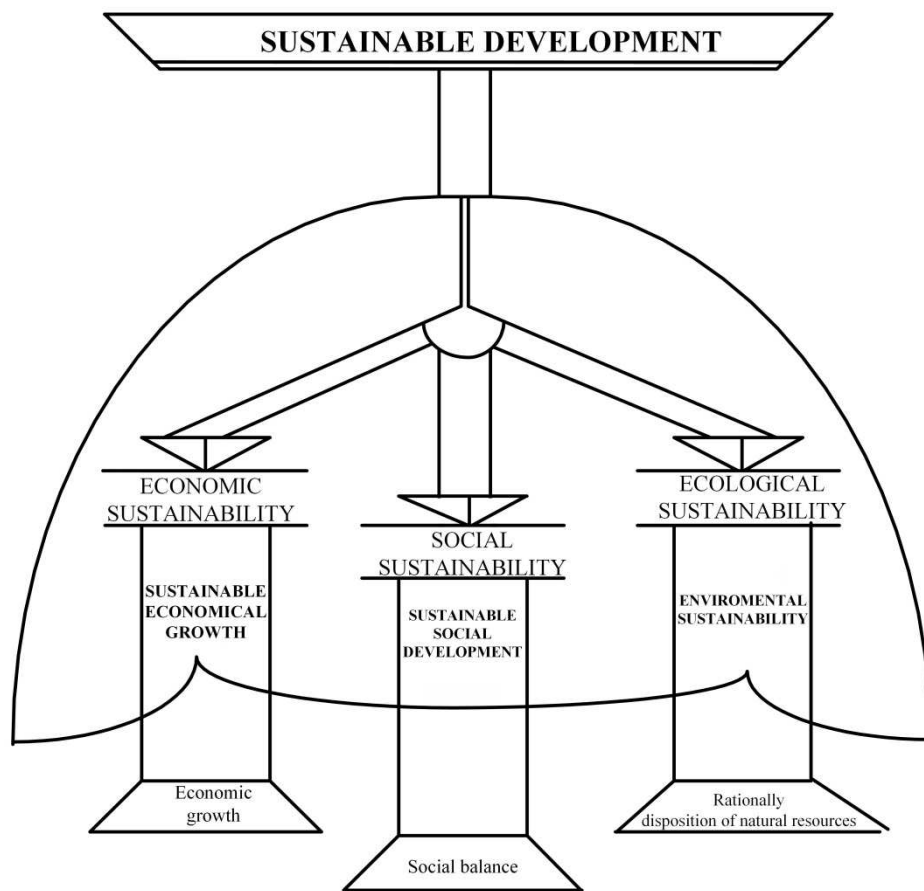


Figure.1. Goal of sustainable development strategy

3. THE EMERGENCE OF THE CONCEPT OF SUSTAINABLE PRODUCTION AS A PART OF SUSTAINABLE DEVELOPMENT

Any production process, in addition to the main products, also produces other products, the remains that can be used as raw materials for another production. If the production process makes products with no technical and economic justification to be used as by-products, then this is a waste that pollutes the environment.

Figure 2 shows the historical overview of the production technology, depending on the impact on the environment and their connection with the sustainable development [3]

The first developed, so-called "end-of-pipe" technologies, were developed in 1970s and the waste recycling technologies were developed in 1980s. These methods managed to solve the pollution problem only partially, since they had high energy requirements, operating costs, high investment costs. The 1990s have brought activities focused on the systematic implementation of prevention of environmental pollution "at source", in form of activities related to the implementation of the integrated processes. At the end, the so-called concept of zero emissions was developed, with the aim of reprocessing the waste and minimizing its volume. [2]

Implementation of the production processes by the chosen method of integration process leads to significant savings of energy and substances used or produced in process. The result is the introduction of the new production processes and technologies that take into account an integrated approach towards the pollution reduction and clean production (Figure 2: Steps of success of sustainable development and the place of cleaner production) [3]

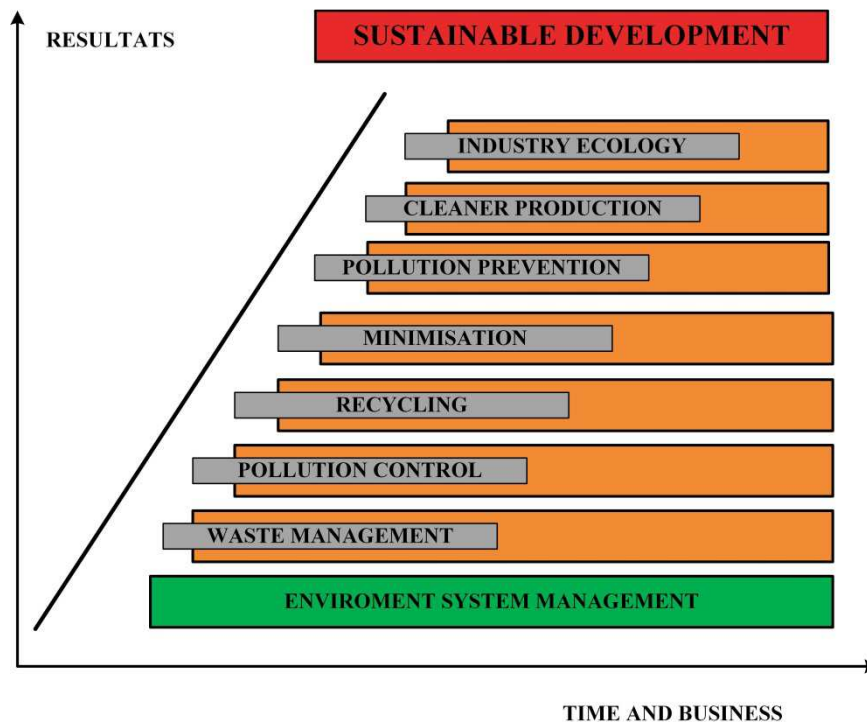


Figure 2.Steps of success of sustainable development^[2]

The concept of cleaner production is clearly an improvement over the end of the tube concept, since its aim is to reduce the waste generation. However, even after the application of the cleaner production concept, there is a number of processes where the output material flow does not represent the product. If these flows could not be implemented further, they become the waste. The combination of the concept of cleaner production and waste control concept at the end of the pipe also does not solve the problem . By applying the concept of zero emissions we convert and use the output

material as input material for other processes. This can happen within the same industry, or within other industries connected with it, or even within the region. The objective is to create a circulation of a material that is a waste in some processes - the output flow of usable material represents a useful material for some other process. The aim of the concept is to have a maximum resource productivity and to increase eco- efficiency, but also to eliminate waste and pollution .

Eco-efficiency is an economic efficiency that has positive effects on the environmental protection (Tapas , 2005). Both concepts, the concept of cleaner production, and the concept of zero emissions have efficiency for a goal, both in terms of environmental and economical point of view. **In case of the concept of cleaner production, the primary goal is efficiency regarding environment and then economic benefits, while the concept of zero emissions targets economic gain with positive effects on the environment.** It seems that the concept of zero emissions is an ultimate solution to the problem of waste. Successful implementation of the concept of zero-emission requires high efficiency industry and maximum utilization of resources by reducing or eliminating waste and pollutants. In addition to high-performance industry that minimizes the generation of waste, it is also necessary to change the production industry from the conventional, linear model, to the circular model. In case of conventional, linear industrial production, the raw material ends up at the end of the process as the waste. In case of the circular model, the output of the waste flows are used for industrial or other processes. Ideally, all material flows circulate and do not produce waste. Industry and society as a whole should function as a natural ecological system, which, balanced, does not produce waste. From an environmental point of view, it seems that the concept of zero-emission is the ultimate solution for dispersing waste, both globally and locally. Full utilization of raw materials with the usage of renewable sources gives hope for the transition of our planet towards the sustainable use of resources [3].

The introduction of the zero emissions concept in our region is the idealistic process since the current existing technologies in our country are mostly using end-of-pipe measures to reduce pollution . Increasingly strict legislation and the process of raising and developing awareness has opened up space for the implementation of an integrated approach to reducing the pollution at both, the separate and the whole facilities, and the concept of cleaner production has found practical application with the goal of minimizing the waste and movement towards the zero emissions concept.

4.ECONOMIC BASIS FOR INTRODUCTION OF CLEANER PRODUCTION

The concept of cleaner production includes more efficient use of raw materials and energy through integrated processes, elimination of hazardous materials and the prevention of waste and emission creation.

The essence of cleaner production strategy in the CLEANER design where the acronym is actually derived from: **C**ombining **L**ower **E**missions **A**nd **N**etworked **E**nergy **R**ecovery

and actually represents: **Economically acceptable waste reduction and energy conservation.**

As defined by UNEP IE / PAC: "Cleaner Production is a continuous comprehensive environment protection strategy regarding processes and products in order to reduce risks for people and the environment "

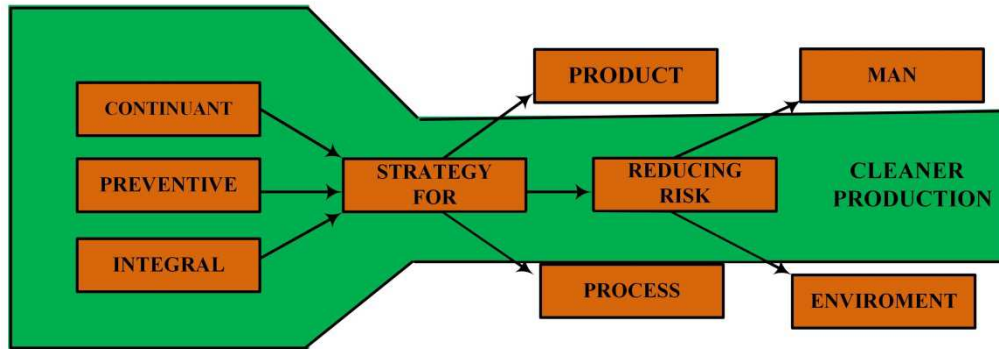


Figure 3. Cleaner production model^[4]

In the model shown in Figure 3, **preventive** - means that the cleaner production is implemented in the form of preventive measures that are built in the production technology. **Strategy** - means that the cleaner production approach is strategic i.e. it continuously monitors all the new possibilities for pollution prevention, and applies end-of-pipe technologies, but only in case of the resulting waste that could not be avoided.

The break-up of the market, sanctions introduced by the international community, as well as completely impractical and chaotic economic policies, essentially based on a system of survival and self-isolation, led Commerce and Industry of the Republic of Serbia almost to a complete collapse. These unfavorable economic and political conditions also led to adverse environmental conditions and resources through uncontrolled impact of industry on the environment. Industrial production fell into a period of a very slow growth and volume that did not exceed more than 48% of the referenced year of 1989. These results are still modest in comparison to the industrial production in the most advanced transition countries (Czech Republic, Slovakia, Poland), and even in Romania and Bulgaria. Most of the countries in transition overcame the so-called "transition gap" by the scale of production and economic activity, which exceeded the benchmark set in 1989. Other countries are quite close to that goal, with the achievement of economic performance and sustainable structure of the economy that enabled them accession or membership in the EU [5]. In this struggle for the achievement of development indicators Serbia has shown progress, especially in recent years, allowing the entry of foreign investment into Serbia, job creation and a slight increase in sustainable development, but there is still much left to be done in order to get closer to the EU norms.

5. IMPLEMENTATION OF CLEANER PRODUCTION CONCEPT IN BASIC INDUSTRY (MINING, METALLURGY, PRIMARY OIL PRODUCTION, ...)

The basic development of industry in accordance with global trends must be based on the application of the sustainable development concept and the introduction of cleaner production and re-engineering, which has a goal to create economic and social sustainability and environmental sustainability. Selected processes must be in accordance with the BAT, depending of the branch of industry. That will ensure the following:

- Minimum energy consumption for the process;
- Minimum waste material, with the consequential minimal emissions;
- Minimizing the amount of solid waste;
- Increase of utilization process

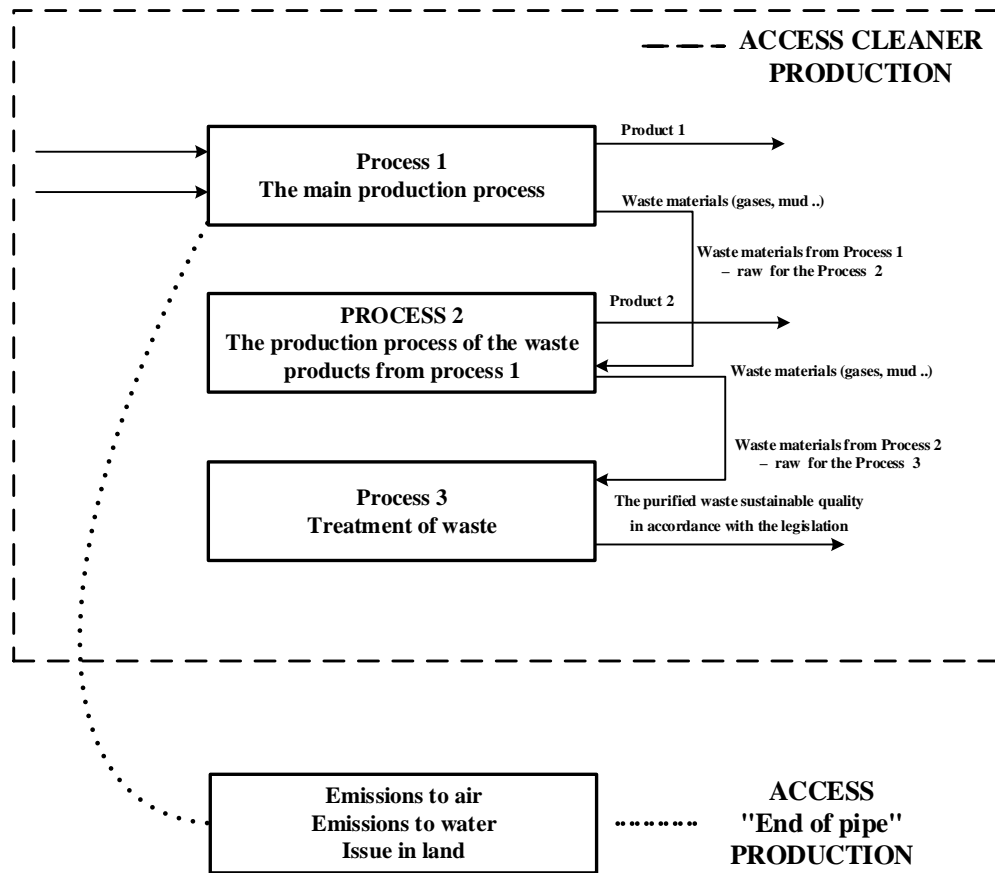


Figure 4. Benefits of cleaner production with regard to " end of pipe" 'concept of production

Figure 4. shows comparable view of the clean production model and end-of-pipe model. The advantages of the clean production are obvious, since the outflow that represents the waste in one process becomes a raw material in the other process. The final outflow of the clean production is an outflow in accordance with the regulations set by the law. The current end-of-pipe model result, besides the wished product, is the waste in form of emissions into the air, water, soil, without further processing.

6. IMPLEMENTATION OF THE CLEANER PRODUCTION CONCEPT IN PROCESSING PLANTS

In the manufacturing industry, the development also must be based on the implementation of the sustainable development concept and the introduction of cleaner production and re-engineering, aimed at the economic and social sustainability and environmental sustainability.

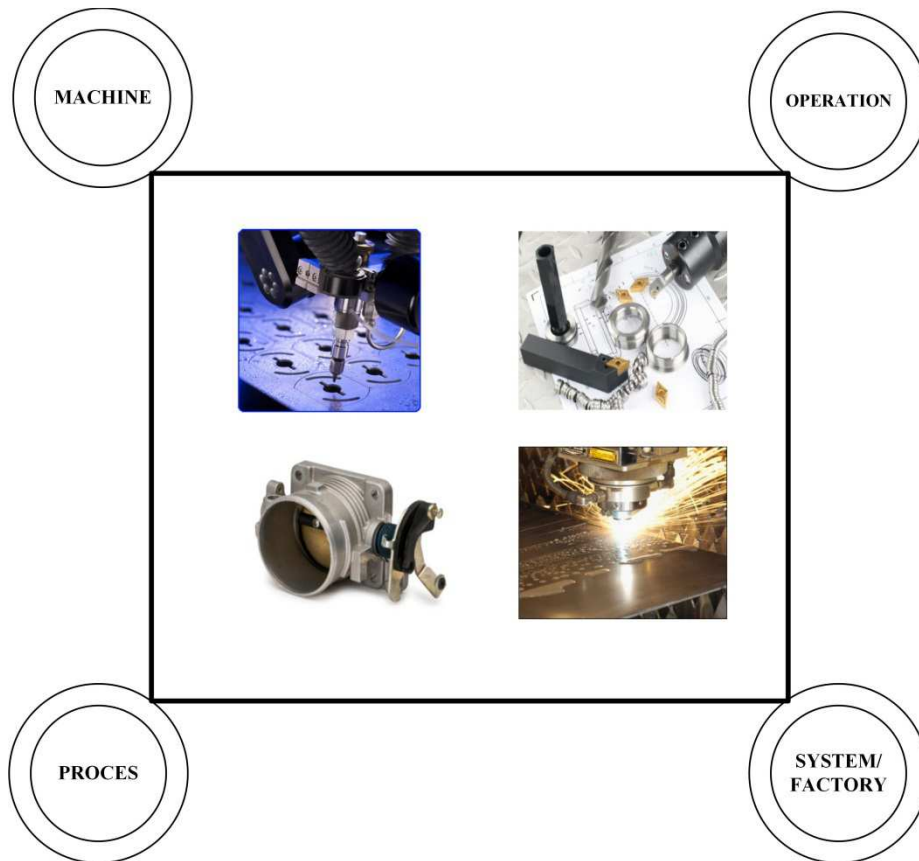


Figure 6. Sustainable production of machine parts in modern conditions, observed at different levels

Fig 6. shows the benefits of cleaner production as seen from different perspectives:

- Energy-planned line production system;
- Minimal consumption of energy, material and assets connected with performance units
- High productivity;
- Optimization of the process management;
- The possibility of rapid changes in the production for a different type of product
- Design in accordance with the standards for cleaner production
- Reduction of the environmental footprint [7]

7. THE ROLE OF ECOLOGICAL FOOTPRINT IN CLEANER PRODUCTION

Ecological footprint is a measure of human needs towards the Earth's ecosystem. It represents a standardized measure of need for natural resources in relation to environmental needs and the capacity for regeneration of ecosystems of the planet. It can be expressed as the biological productivity of the land and sea, necessary for supplying the needs of the human population and the waste assimilation capabilities. Analysis of the ecological footprint is compared with the human needs towards nature with the capabilities

of the biosphere for regeneration resources. Following this assessment process, it is possible to calculate how much of the planet Earth is necessary to maintain the current life style. For example, in 2007, the ecological footprint of all mankind was 1,5 of the planet Earth.

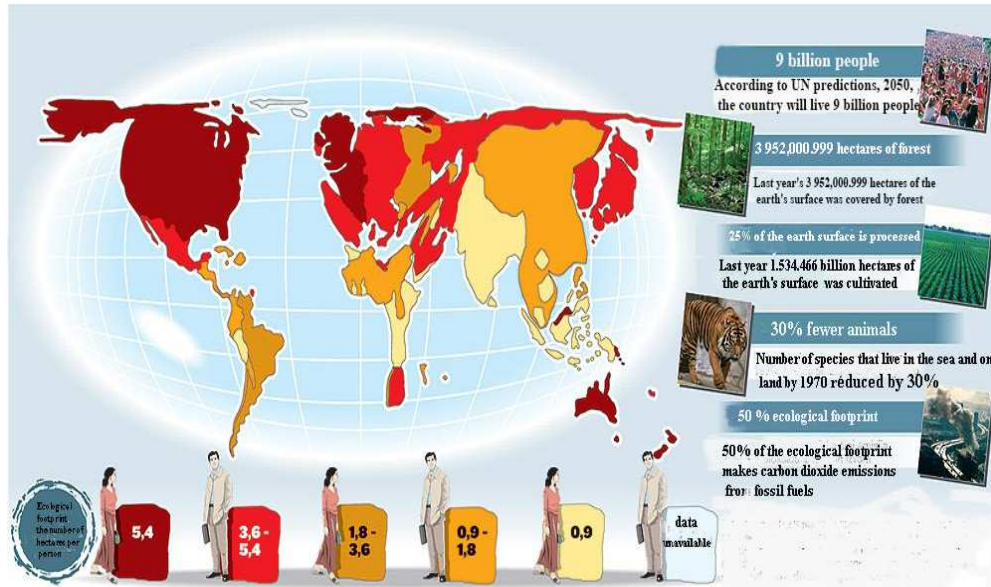


Figure 7. Ecological footprint by countries of the world [6]

For production processes, cleaner production includes the conservation of raw materials and energy, elimination of toxic raw materials, reduction of the scope of the toxicity of all emissions and wastes before they leave the process. (Fig. 8)

For products, the strategy of cleaner production is primarily related to the reduction of their impact during the entire product life cycle from design through use to final disposal. (Fig. 8)

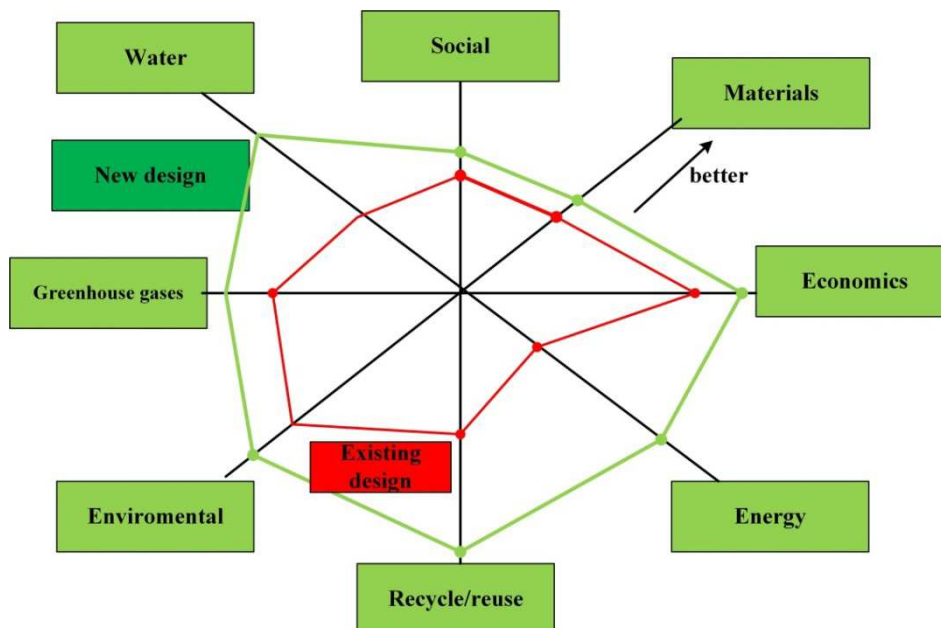


Figure 8. The effects of the introduction of cleaner production on the footprint-increasing of all criteria of the footprint [7]

8. CONCLUSION

The basis of development Republics of Serbia and getting closer to the other countries of the region is in sustainable development and its implementation in all aspects of the industry. In addition to the economic and social development, the essential part of sustainable development is also environment protection. Industrial production based on the cleaner production concept, as a part of sustainable development, is a great opportunity for manufacturing and industry and the achievement of the following objectives:

- Better performance of the process;
- Reduced emissions;
- New products, market expansion and market leadership;
- The competitiveness on the market;
- Inspection, monitoring and fulfillment of the growing demands regarding the rules on environmental protection.

This paper presents the effect of the applied concept of cleaner production on industrial plants and positive effects in protecting the environment and meeting the regulations.

REFERENCES

- [1] Vlada Republike Srbije, Strategija uvođenja čistije proizvodnje Republike Srbije (Sl.glasnik RS 17/2009)
- [2] Arun J. Basu Dirk J.A. van Zyl; Industrial ecology framework for achieving cleaner production in the mining and minerals industry Mining and Ventilation, M&I Heat Transfer Products Ltd., Mississauga, Ontario, L5N6H6, Canada Mining Life Cycle Center, University of Nevada, Reno, 89557, USA [Fig. 1]
- [3] Zoltan Zavargo ,Knjiga/Book1 Održive tehnologije [European Commission] – Univerzitet u Novom Sadu-Tehnološki fakultet-Novı Sad,2009,str.6
- [4] dr.sc. Ana Lončarić Božić izv.prof. Čistija proizvodnja-Prezentacija, Sveučilište u Zagrebu, Fakultet kemijskog inženjerstva i tehnologije, Zagreb,2011, str.16
- [5] S.Milutinović, Politike održivog razvoja, Fakultet zaštite na radu Niš, 2009,str.239
- [6] dr.sc. Dražen Šimleša , Ekološki otisak – EKOLOŠKI OTISAK – Kako je razvoj zgazio održivost; Institut društvenih znanosti Ivo Pilar u Zagrebu,Zagreb 2010.str.28
- [7] David Dornfeld, Will C. Hall Family Professor of Engineering Director, Green Issues in Manufacturing-Greening processes, systems and products;Laboratory for Manufacturing and Sustainability University of California, Berkeley, CA,2010,page29;49

ABSOLUTE COST LEADERSHIP STRATEGY IN PRODUCTION OF OILSEEDS IN VOLGOGRAD REGION

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Abstract: In the article the choice of the absolute cost leadership strategy for producers of sunflower seeds in the Volgograd region was argued. Market conditions and risks associated with the absolute cost leadership strategy were examined. Ways of costs reducing in the production of oilseeds with the "direct costing" system were suggested.

Keywords: Absolute cost leadership strategy, production of oilseeds, "direct costing" system, economy of scale

1. INTRODUCTION

The development of the management and production strategy for promising and competitive industries, which include the production of oilseeds, is important in modern market conditions. When Russia has integrated to WTO, domestic agricultural producers have to take part in hard competition with foreign agricultural producers. It will contribute to identification of competitive advantages that are unique and give superiority over competitors in the economic, technical and organizational areas. One of these advantages is the strategic management, which is capable in the long term to give a sustainable development of production in order to achieve its goals. Absolute cost leadership strategy at the modern level of oilseeds production will contribute to the development of their production and strength of competitiveness in the region.

According to forecasts, the world oilseed market has a tendency to expansion and in the medium term projected 10 times increase compared with 1964. The growth is due to the increase in the global demand for vegetable oils and protein-rich foods that have arisen as a result of income and population growth, as well as concerns about food safety. According to Russian experts, the non-commercial organization "Russian Union of Oil and Fat", the balance of oilseeds in 2020 will be (at the current crop about 1.1 tons / hectare): 6-7 million tons - for domestic consumption; 5 million tons - for animal husbandry; 6.5 million tons - for technical needs and export (building materials, oleo chemistry etc.).

2. ADVANTAGES AND RISKS OF THE ABSOLUTE COST LEADERSHIP STRATEGY

The leadership in the production of oilseeds will lead to the intensive application of productive resources, effective amount of expenditure, cost reduction through innovative technologies control at all stages of production, reducing transaction costs, using of reliable

channel of sales, etc. The absolute cost leadership strategy will be aimed to achievement of the lowest cost of production and sale of oilseeds.

As a result of this strategic approach a producer may have lower prices of oilseeds to compare with other manufacturers. Also it will be occupied by a large market share of oilseeds.

Producers, who are intending to apply this type of the strategy, should be to have a good organization of production, sufficient size of working capital, innovative technologies, machines and equipment, established channels of distribution. The farm should reduce production costs to achieve least-cost production. All reducing costs measures have to require from leaders the high level of management at all production stages and the control of employees performing their duties.

The main goal of strategic management is a low cost compared to competitors in the market of oilseeds, although it is important to pay attention to the quality of products. Low costs economy, engaged in the production of oilseeds, has benefits of higher incomes compared with the competitors, which have high level of costs. Low costs are a barrier to entry into the market of other oilseeds entities. Higher profits allow oilseeds producers to invest a part of the profits to modernization of the production and to hold positions of the leadership in low expenditure.

There are such market circumstances for selecting the absolute cost leadership strategy: (a) the oilseeds demand is elastic by price and homogeneous; (b) price competition prevails in the oilseed production; (c) differences in producers are not significant for buyers of oilseeds; (d) foperating of large buyers on the market which can reduce prices; (e) oilseeds are homogeneous products on the market and the buyer can purchase it from different sellers, producers, intermediary firms; (f) the companies have an access to production and labor resources, and there are other ways to reduce production costs.

There are special market risks that are possible when producers are choosing the absolute cost leadership strategy: (1) the growth of oilseeds production, hence, increasing their supply on food markets, and as a consequence of the lower prices for oilseeds in comparing to the level of costs; (2) the emergence of technological innovations that do not give cost advantages; (3) inflationary increase of costs; (4) the emergence of new cheap substitute goods for oilseeds.

3. APPLICATION OF ABSOLUTE COST LEADERSHIP STRATEGY IN THE REGION OF OILSEEDS PRODUCTION

The graph is plotted about cost price of 1 center of oilseed which is depending on production volumes with the program Statystica 7. From the graph above we can conclude that the cost is reduced to 600 rubles per center with increasing volumes of oilseed production, and when the volume of production will excess to 4744,0 centers, the cost of production also will tend to increase. According to the State Statistics Service of Russian Federation, the average price for 1 center of sunflower seeds was 1147,6 rub per center [1]. This strategy is chosen for mass production of a homogeneous product which is not expensive and has stable, established channels of its sales.

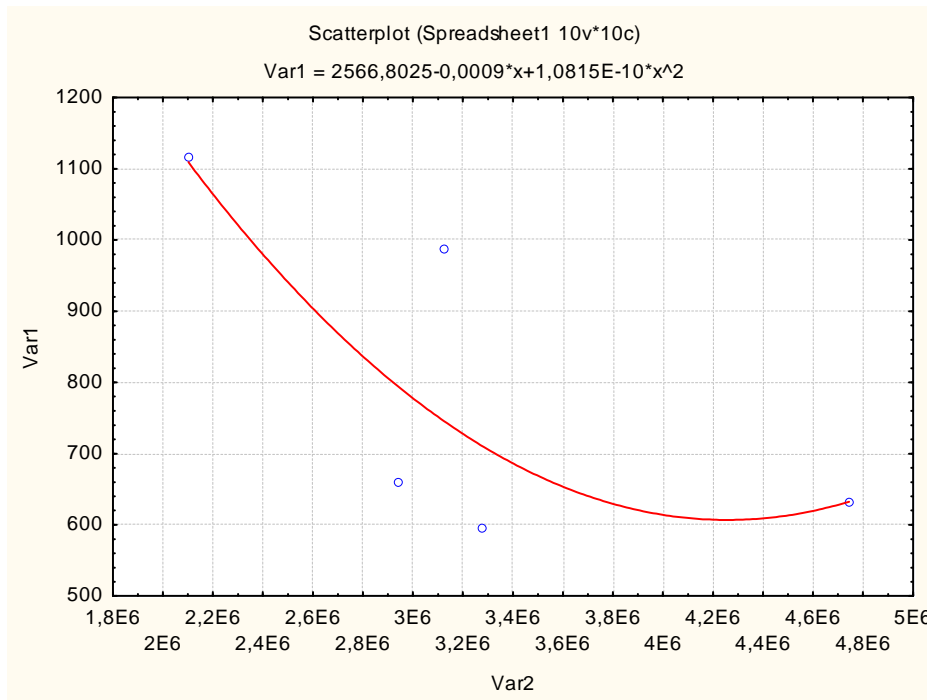


Figure 1. Costs and volumes of production of sunflower in Volgograd region in years 2008-2012

Thus, the oilseeds production will increase to the level of sunflower oilseeds (47,44 tons) while the expenses will decline and producers can influence on market prices, keeping cost leadership in the current market conditions at an average price of sunflower seeds in Russia 1147,6 rubles/center, while regional producers costs are amounted to about 600 rubles for 100 kg.

The difference between the price of sunflower seeds and it costs – 547,6 rubles, or 48%. Effect of scale is consist of increasing of amount of produced oilseeds which hold the position and increasing level of market (market capacity is 13,5%) and the level of influence on the market, while unit costs will decrease. The share of regional market of sunflower seeds is defined as the proportion of retail turnover of subjects realizing oilseeds.

According to the literature data, the production cost of 100 kg of sunflower seeds in the same period was 600-610 rubles. Thus, regional producers have approximately equal production of oilseeds from producers of Krasnodar region [2]. Effective management of costs in the production of oilseeds will contribute to the systematic analysis of costs. Studying of the formatted costs is depending on changes in production volumes, where you can quickly react for changes in the external environment and decide on change in situation when the producer would keep the leading position in the costs. Calculations in the "direct costing" or "cost management system" [3, p .22] showed that during the study period 2008-2012 in the region in the production of sunflower seeds have a situation, the code at the maximum volume production of oil seeds 4744,1 thousand tons of the total amount of fixed costs amounted to 1019249 thousand rubles, the total amount of variable expenses 2069384 thousand rubles, while of minimal production volume for the study period – 200,3 thousands, and fixed costs for production of oilseeds amounted to 1168362 thousand rubles, the total amount of variable costs - 83977 thousand rubles. Information which comes from the external environment of the market changes need non-stop control.

Holding absolute cost leadership will facilitate the analysis of response rate, the cost of production of oilseeds in the field on the volume produced oilseeds. The quotients response costs [3, c.24- 25].

$$By = \Delta Z / \Delta N, \quad (1)$$

Where: K - response factor costs change production volume,
Z - changes in expenses for the period , in %;
 ΔN - the volume of production , in %

It is determined that the response factor of the cost was in 2008 – 1,09; 2009 – 1,05; 2010 – 1,3; 2011 – 0,7; 2012 – 1,6.

By the results of the calculations, we can conclude that in the region during the study period 2008-2012, apart from year 2011, progressive cost dominated in the oilseeds production. . The predominance of progressive costs, i.e. costs progressive is creasing faster than production of oilseeds. In 2011, the cost of production had digressive nature, i.e. costs increased more slowly than production of oilseeds. To ensure cost reduction oilseeds and increasing agricultural incomes, it is necessary to decrease money - decreasing costs (fuel, electricity and transport costs) which exceeded the growth proportional costs (salaries cost of working capital, etc.).

An important element in the analysis of fixed costs is to identify reserves to reduce costs is the allocation of useful and useless. Sharing of the costs associated with the unequal change most productive resources:

$$Z_{\text{const}} = Z_{\text{useful}} + Z_{\text{useless}} \quad (2)$$

Size of useful and useless costs determined by the formula:

$$Z_{\text{useless}} = (N_{\text{max-effekt.}}) * Z_{\text{const}} / N_{\text{max.}} \quad (3)$$

Utility costs of production:

$$Z_{\text{useful}} = N_{\text{effect.}} / Z_{\text{const}} / N_{\text{max.}} \quad (4)$$

Plugging in the available data on the costs of production of oilseeds of sunflower in year 2012, we will define the sum of production costs useless mass oilseeds in 351,72 mln. rubles (3) and useful 0,665,97 mln. rubles (4).

So, for the selection and implementation of absolute cost leadership strategy, There is needed non-stop process of analyzing the cost of oilseeds production, and duly reaction to occurring changes in the environment. The market share of the Volgograd region in the Russian Federation for the investigated period under was about 13,5percent. Relatively high market capacity of oil sunflower seeds on the market of oilseeds Russia can not influence on the fluctuations in commodity prices, so to retain their positions in the market – the farmers of the region will take all measures to reduce voltage costs.

Thus, commodity producers of sunflower oilseeds will follow principles of absolute leadership in costs as in the regional market function. If commodity producers set high prices on oilseeds, they will get higher profit during short time, than being engaged in other kinds of activity. Therefore, not having greater barriers of an input on the market of sunflower seeds, they will have finer place in a share of the market at a rate of 47 %, by

making sunflower seeds in those natural zones of area where it is not recommended for cultivation (Gorodishenskiy, Dubovski, Kotelnikovskiy and other districts of Volgograd Region) and it is guaranteed to receive the income of its realization.

REFERENCES

1. Federal Service of State Statistics of Russian Federation // www.gks.ru
2. Lukomets, A. V., Chernovets, K. E. The analysis of stability of sunflower producing in Krasnodar. Region // http://vniimk.ru/files/text/Maslichnie_kulturi/148-149/d5f4caee8fcb3b37d0a7b2fcada383.pdf.
3. Sheremet, A. D., Sayfulin, P. C. The methods of financial analysis. Moscow: INFRA-M, 1996. P. 22, 24-25.

THE IMPLEMENTATION OF LENIENCY PROGRAM IN POLAND AND ITS IMPACT ON MANAGEMENT OF COMPANIES

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Abstract: Competition policy constitutes a basis for the proper functioning of EU's internal market which is the core of economic integration, therefore it is one of the main tasks of the European Commission and national antimonopoly bodies. Poland has implemented the antitrust rules and continuously reforms the above regulations which has a serious influence on the functioning and management of companies and improve the quality of market with regard to competition.

Keywords: competition policy, leniency program, implementation, management

1. INTRODUCTION

Managing a business in the European market is the fully autonomous process especially with regard to the decision of the object, the size and the method of production as well as the sales policy. The best verifier of the efficient management is the market itself which as a result of competition eliminates the inefficient players. European competition rules guarantee the freedom of economic activity, prohibiting only those activities which significantly restrict competition in the market. These are mainly anti-competitive agreements.

The prohibition of the above agreements is one of the key competition-oriented regulations in the European Union and attaching importance to its effective enforcement is related to the awareness of the need to protect the economy from the harmful cartel-like agreements. Cartel monopoly appropriating the market is a hidden phenomenon which means it is difficult to be detected so its prevention appears to be a much more complicated task than fighting any other anticompetitive practices, including the abuse of a dominant position.

Implementation of leniency regulations has made the European Commission possess an innovative legal tool enabling a more effective enforcement of art. 101 of the Treaty on the Functioning of the European Union (TFEU). This program was based on the experience of the states outside Europe (mainly the USA) and assumed the elimination of cartel agreements exploiting the market to be the paramount value. In the consequence the regulations have been introduced which foresee the sanctions to be mitigated for the penitent businessmen who have participated in the illegal collusions but they voluntarily give up the illegal activity and get involved in an effective co-operation with the Commission's services. In the course of time the leniency has become the main weapon at the Commission's disposal for fighting the anticompetitive practices which has made other member states, including Poland implement it into its legal system.

The paper focuses mainly on the implementation of the leniency program in Poland and the analysis of its impact on companies' management through the practical application of leniency program carried out by the European Commission and by the Polish Office of Competition and Consumer Protection. The case study is the Polish cement cartel which was eliminated through the application of leniency program. The method used in the paper is the inquiry into the European and Polish literature regarding competition protection law, documents of the European Commission and the Polish Office of Competition and Consumer Protection as well as the European and Polish regulations including the jurisdiction of the Court of Justice of the European Union.

2. ANTIMONOPOLY POLICY AND LENIENCY PROGRAM IN EUROPEAN UNION

In 2008 the Commissions services decided to make the valuation of losses suffered by the economy in the consequence of cartel activities. 18 cartels were surveyed. They were the object of proceedings in the period 2005-2007. The size of objective markets and the time of the existence of cartels was taken into consideration. Prudent assumptions were also made regarding the estimated prices inflated by them ranging from 5 to 15 per cent, which means that the loss caused by the above mentioned cartels ranged from 4 to 11 billion EUR. It has been decided to assume the average value, i.e. 10 per cent which determines the amount of losses borne by consumers to be as much as 7,6 billion EUR. When analyzing the economic literature according to which the prices were inflated by cartels by 20-25 per cent, it can be found that the amount calculated by the Commission's services is seriously lowered [12]. Consumers' losses resulting from cartel activities reach a shocking size like those borne by other enterprises, which can be shown by analyzing particular examples of illegal market agreements cartels broken by the European Commission or competition protection bodies of member states [13].

The objective scope of the European Commission's leniency program covers the agreements determined under art. 101 TFEU [17]; in Poland it is regulated by art. 6 section 1 of the Law on the Protection of Competition and Consumers. The subjects authorized to enjoy the benefits offered within leniency are the participants of a cartel agreement; however, the fine reduction depends on meeting numerous conditions which will be described below in this section. Anti-cartel program assumes the increase of entrepreneurs' awareness of the risk related to participation in a cartel. Due to its introduction there is no collusion, even the best organized and carefully concealed one, to give a full guarantee of impunity. The essence of the whole undertaking is to encourage informing against other partners in order to avoid fines, so it can be said that the assumptions of leniency are similar to those of another institution functioning within the law, i.e. the institution of crown witness which used to face distrust but today it has become an important tool for fighting the organized crimes. Another similarity between the above mentioned legal measures is constituted by the fact that both cartel collusion and an organized criminal group are difficult to be broken up in another way than by hitting its unity and solidarity. Moreover, the leniency program was intended to trigger rivalry among collusion participants in submitting applications. It is fastness and efficiency that matters as only the first entrepreneur may count on full fine remission. Practice shows the matters to happen where each day and hour of delay in submitting application with antimonopoly body, is decisive. The entrepreneur who joins the program later may only count on a partial

reduction of the fine, although it also seems attractive in the light of loss of 10 per cent of the annual revenues [6].

The Notice of the European Commission which has been in force since 2006 determines the framework of rewarding the co-operation of cartel participants (entrepreneurs participating in the agreement prohibited by virtue of art. 101 TFEU), who, due to their activity, exerted an influence on the functioning of the internal market. According to its provision it is in the interest of all the citizens of the European Union to reward any initiative aimed at a voluntary withdrawal from a cartel. Moreover, the Commission finds the co-operation of an enterprise in respect of detecting the existence of a collusion to be very valuable. Its contribution to the initiation of legal proceedings or to the establishing of a violation may be a factor which justifies the immunity from any fines, provided that certain complementary requirements are met. It should be stressed that the immunity from fines may cover only one subject. Co-operation of one or several enterprises can be regarded as the justification for the reduction of a fine. Any fine reduction is directly proportional to the real contribution of a subject covering the time of co-operation and its quality for the Commission in respect of establishing the existence of a cartel. Reduction of a fine may be offered to those enterprises which provided the evidence complementary to the materials already possessed and, at the same time, increasing their value as a whole. However, it should be noticed that both immunity from and reduction of the fine resulting from the participation in leniency program do not protect the enterprise from civil sanctions related to the violation of the competition law. According to the Notice an enterprise can provide the Commission with the already existing documents and a free description of its knowledge of the cartel and its participation therein. Such a description is prepared and submitted in the framework of leniency program. According to the Commission such solutions have proved useful from the point of view of proceedings efficiency and elimination of cartels. The possibility of submitting voluntary explanations should not be substituted with order of disclosing the information which is issued in civil legal actions. Such a status could effectively discourage the enterprises from the co-operation with the Commission within the framework of the Notice, as the potential program participants would regard their situation in the civil legal proceedings to be worse than that of other enterprises which were not prone for co-operation. Eventual consequence of introducing the order would affect the widely understood public interest which assumes the efficient enforcement of art. 101 TFEU by public authorities in the matters concerning cartel-type agreements which in turn is connected with inefficient enforcement of these regulation in the framework of private actions. Testimonies given before the Commission are subject to strict protection but it does not mean the prohibition of disclosing them to the addressees of reported charges in order to ensure their right of defense. The entrepreneurs may view the files of a given case in Commission's headquarters upon submitting their objections. Moreover, the declaration given by enterprises are transmitted to the public bodies for competition protection in the framework of co-operation within the European Competition Network which tackles the matters of cartels acting in the area of their domestic markets. The Commission tackles those collusions which are functioning in at least three member states [7]. The issued notice determining the rules of leniency program application and participation describes precisely the requirements qualifying for two categories of sanction mitigation which are functioning within the program. The first of the categories which foresees the possibility of making maximum use of the benefits offered within leniency program resulting in the immunity from the fine, has been regulated under section II A of the Notice. As already mentioned, the basic condition for the fine to be remitted is the informant's priority in transmitting the evidence of the existence of a cartel

influencing the EU internal market; additionally, this evidence must be important enough to enable specific inspection to be carried out at the enterprises in connection with the alleged cartel activity, or to enable the violation of treaty regulations to be detected. In order to carry out an inspection by virtue of the law, the co-operating entrepreneur must provide the Commission with the information and evidence materials which cover the following:

- Entrepreneur's statement containing the following information, if known to the entrepreneur when submitting the application:
 1. A precise description of cartel's alleged practices covering its goals, activities and way of functioning, the products or services covered by the cartel, its geographical scope, duration of the cartel and the estimated size of the market influenced by the alleged agreement, the detailed information on the dates and participants of contacts regarding the cartel and, additionally, any explanations in the framework of evidence any items of importance attached to the application;
 2. Name and address of the legal entity applying for the immunity from the fine and the names and addresses of all the entrepreneurs who belong or have belonged to the alleged collusion;
 3. Personal data, functions, business or home addresses of natural persons (if necessary) who, according to the applicant's knowledge participated in the alleged cartel, including the persons on the side of the applicant;
 4. Information related to the alleged cartel on the basis of which the entrepreneur has addressed or intends to address other antimonopoly bodies in or outside the European Union;
- Other evidence materials related to the alleged collusion which are in direct possession of the applying entrepreneur or are available to him at the moment of submitting the application; they cover especially the evidence from the period when particular events occurred.

Providing the materials enabling a control of participants of the alleged cartel or detection of the violation of the Treaty of the Functioning of the European Union does not give a full guarantee of avoidance of the fine. According to the Commission's decision immunity from the fine shall not be applied towards the applicant who disclosed the evidence authorizing for an inspection, if on the date of his application for lenience program participation the Commission was entitled to carry out such an inspection in the light of the evidence which had already been in its possession or such an inspection had already been carried out. Moreover, the immunity from the fine shall be applied when three following conditions are jointly met:

- On the date of application the Commission did not have sufficient evidence materials to establish the violation of art. 101 TFEU;
- No other entrepreneur has been offered the conditional immunity from the fines, i.e. no other subject has been covered by leniency program on the grounds of the evidence transmitted to the Commission before the proceedings in the same case is launched [8].
- The entrepreneur has provided the charging materials and was the first to submit the declaration to the Commission.

Apart from meeting all the above conditions, according to the Commission's requirements, the enterprise should definitely obey the additional directives regarding the co-operation in explaining the cartel affair. In order to be qualified for immunity from the fine it must co-operate in a truthful, complete and continuous way beginning from the moment of submitting the application and within the framework of the procedure carried out by the Commission. The enterprise is obliged to give precise not misleading and complete information. According to the jurisdiction of the Court of Justice the reduction of fine on the basis of a communication regarding the co-operation is justified only if the behavior of the enterprise could be the evidence of its real will of co-operation [16].

What is more, the entrepreneur is obliged to withdraw from the cartel on the date of launching the co-operation at the latest, unless the Commission's decision states otherwise, finding it undesirable in the light of an efficient inspection at the alleged cartel participants. The last condition of the remission of the fine is the lack of the status of a cartel initiator. It means that the entrepreneur who submits the application could not be a subject inclining other to enter into the cartel collusion [9]. Otherwise, he is only entitled to apply for a reduction of the fine.

3. IMPLEMENTATION OF LENIENCY PROGRAM IN POLAND

The leniency program is functioning within the Polish legal system on the basis of the following acts: Law of 16 February 2007 on the protection of competition and consumers [1]; Decree of the Council of Ministers [10]; and other related documents: Explanatory Notes concerning the determination of fines for competition reducing practices [4], Guidelines of the President of the Office for the Protection of Competition and Consumers regarding the leniency program [7].

The program is regulated by art. 109 section 1 and 2 of the Law on the Protection of Competition and Consumers. The Polish version of leniency program was modeled after penalty mitigation programs which are functioning within the European legal systems, especially the regulations applied by the European Commission. The regulations related to the application of leniency procedure by the Office for the Protection of Competition and Consumers cover numerous analogies as compared to the regulations contained in the above analyzed Commission's Notice.

On the basis of art. 109 of the Law, the Council of Ministers has issued a decree which is an executive act to the provisions of the Law. It defines the procedure in case an entrepreneur applies for participation in the program. Its provisions also specify the procedural requirements concerning the submission and consideration of applications and the methods of notifying the entrepreneurs of the standpoint of the President of the Office for the Protection of Competition and Consumers (UOKiK). The detailed determination of the conditions of leniency program is to guarantee the possibility of carrying out the detailed analysis and a fair assessment of meeting the requirements by the subjects involved to be covered by penalty mitigation program [9]. What is more, the regulations added to the above mentioned decree by way of the amendment thereto of 2009 enable the entrepreneurs to submit shortened applications [8]. In order to increase transparency of the regulations contained in the Law and the Decree, the President of the Office for the Protection of Competition and Consumers issued guidelines regarding leniency which constitute a practical manual for the entrepreneurs who want to participate in the program; however, they do not have the legal status.

According to art. 109 of the Law [1], two forms are admitted for the lenient treatment of entrepreneurs by the President of the Office for the Protection of Competition and Consumers, i.e.: immunity from the fine; reduction of the fine.

Remission or reduction of the fine can be applied for by the entrepreneur who participated in an agreement covered by the catalogue of prohibited agreements according to art.6 of the Law on the protection of competition and consumers. As in the Commission's program total remission of the fine can be enjoyed by one single subject which is the first to submit the application and to meet additional conditions, while the reduction may be granted in the case of a larger number of entrepreneurs. Reduction of the fine shall be granted in the following amounts: the second applicant to submit the application – reduction of the fine up to 5 per cent of the annual revenues; the third applicant to submit the application – reduction of the fine up to 7 per cent of the annual revenues; the remaining applicants – reduction of the fine up to 8 per cent of the annual revenues.

The origin of the Polish leniency program was not promising for that institution. New regulations of 2004 were supposed to bring revolutionary changes as far the cartel fighting is concerned; unfortunately it did not happen immediately after their introduction. In the period 2004 – 2006 the President of the Office for the Protection of Competition and Consumers issued 53 decisions regarding the anticompetitive agreements none of which however was supported by evidence materials collected within leniency program [14]. The Polish program did not live up to expectations, contrary to the system of sanction mitigation of the European Commission whose success was spectacular. It is a meaningful fact that during the first two years the Office received the applications for the remission or reduction of fines from four entrepreneurs. Moreover, the materials they provided did not contribute to any fine to be imposed on any enterprise. According to former President of Antimonopoly Office, prof. Anna Fornalczyk, such a state of things was caused by several factors such as reluctance towards any payable denunciations, low fines for cartel activities and inefficiency of the Office for the Protection of Competition and Consumers. In general opinion of the specialists the main reason of the failure were the gaps in the law. Any benefits offered to an entrepreneur depended on the good will of the officials which made him uncertain of the benefits to be enjoyed after acceding to leniency program. According to many experts, another reason of a low number of program participants was a poor general knowledge of Polish entrepreneurs and a short time of binding force of the law [5]. However, in the course of time these circumstances have changed.

“Cement cartel” was the best known example of the collusion the Office managed to break up using the institution of leniency [3]. Simultaneously it was the largest anticompetitive agreement detected in twenty year history of the Polish antimonopoly body. It was formed by the following enterprises: Lafarge Cement, Góraźdze Cement, Grupa Ożarów, Cemex Polska, Dyckerhoff Polska, Cementownia Warta and Cementownia Odra, whose total market shares amounted to nearly 100 per cent. Seven of the above mentioned companies divided the market among themselves for the period of 11 years, establishing among of shares for each of the cartel participants. Minimum prices, amounts of price surges as well as the dates and order of their introduction were established. In order to coordinate their activities confidential trade information was exchanged concerning inter alia the volume of production and sales [11]. As the result of the cartel activities the prices were kept at an inflated level ranging from 4 to 13 per cent per annum at Polskie Składy Budowlane Company [2].

Further development of leniency program aimed at raising its efficiency belonged to the most important priorities of the Office planned for the period 2011-2013. It is the

explicit evidence that the correct functioning of this institution is in the interest of the Office and of the Polish market. In order to ensure it, it is necessary to match a number of elements to one another which constitute the basis of the program and influence its efficiency. These elements are especially the conditions and amount of reduction of the fine in view of the entrepreneur's co-operation with the Office. In the light of the above-said the Office has found it desirable to analyze the experience gained up to the present concerning the application of leniency institution in the context of its legal construction, and, if necessary, to prepare its appropriate modifications [15]. Currently the work on the amendment of the Act on Competition and Consumer Protection is in progress. The main objective of the proposed changes by the Office is to increase the effectiveness of detecting and combating anti-competitive practices of operators and the efficient handling of cases related to antitrust merger control. Key areas of the amendment include among others extending the scope of the leniency program. The draft project amending the Law on Competition and Consumer Protection covers issues such as changes in the leniency program, in particular clarifying certain conditions which must be fulfilled by an entrepreneur seeking leniency, amendment of the provisions relating to reduction of the penalty and the introduction of leniency plus institution aimed at increasing detection of illegal agreements which restrict the competition.

4. SUMMARY

Fighting cartels is one of the most difficult tasks for antimonopoly bodies. Fifteen year of applying leniency program within the European Union has made this process easier, cheaper and faster. Statistics univocally show the number of the detected and broken anticompetitive agreements to grow. Thus, the "active regret" institution is the undertaking which has brought and will bring great successes. However, keeping a high level of its efficiency will depend on matching the regulations comprised by it to the changing market conditions which may make it necessary to introduce a modification of its legal construction.

Polish competition regulations have evolved in compliance with European trends and in particular since Poland's accession to the European Union. The modernization process of antitrust rules made a large impact on Polish entrepreneurs and through the elimination of anti-competitive agreements definitely contributes to improvement of the competition market quality.

Implementation of leniency regulations on the grounds of the Polish competition related policy will only bring the desirable effect when the entrepreneurs are guaranteed the legal certainty which is expressed by the transparency of the regulations, procedures and a strictly determined percentage of reduction of the imposed fine.

REFERENCES

1. Act of 16 February 2007 on Competition and consumer protection (Journal of Laws of 2007, No. 50, item 331)
2. Cement Cartel, (Zmowa cementowa), Portal internetowy - Polityka, <http://www.polityka.pl/rynek/gospodarka/1504828,1,zmowa-cenowa-polskich-cementowni.read>, (10.05.2014)

3. Decision of 8th December 2009 on The recognition of practices restricting competition unlawful agreement between Lafarge Cement SA in Małogoszcz and other entrepreneurs (nr DOK-7/2009), The Office of Competition and Consumer Protection, 31st March 2010., no 1
4. Explanations on setting fines for the use of restrictive practices, Official Journal of the Office of Competition and Consumer Protection no 4, 29th December 2008
5. Kruczek M., State witness fails in Polish business (Świadek koronny zawodzi w polskim biznesie), Rzeczpospolita no. 3920, 21st August 2006
6. Leniency - a way to avoid penalties for prohibited agreement (Leniency – sposób na uniknięcia kary za zakazane porozumienie), Lex a Wolters Kluwer business, Polski Serwer Prawa: <http://lex.pl/?cmd=artykul,2281> (10.05.2014)
7. Leniency - leniency program, (Leniency – program łagodzenia kar), The Office of Competition and Consumer Protection, Warsaw, 2009
8. Leniency program – Changes in Regulations, (Program leniency – zmiany przepisów), eGospodarka.pl, Poradnik Internetu dla Twojej Firmy, <http://www.egospodarka.pl/37813,Program-leniency-zmiany-przepisow,1,11,1.html>, (10.05.2014)
9. Leniency, The Office of Competition and Consumer Protection, Warsaw 2004
10. Regulation of the Council of Ministers of 26 January 2009 concerning the mode of proceeding in cases of enterprises' applications to the President of the Office of Competition and Consumer Protection for immunity from or reduction of fines (Journal of Laws of 2009, No. 20, item 109)
11. Report of Activities 2009, (Sprawozdanie z działalności 2009), The Office of Competition and Consumer Protection, Warsaw, 2010
12. Report of the Commission on Competition Policy in year 2008 of 23rd July 2009, (COM (2009) 374 final version)
13. Reynolds M. J., Immunity and Leniency in EU Cartel Cases: Current Issues (2006) 27(2) European Competition Law Review
14. Rumak E., Sitarek P., Polish Leniency Programme and its Intersection with Private Enforcement of Competition Law, MPRA Paper No. 23809, Yearbook of Antitrust and Regulatory Studies, University of Warsaw, Faculty of Management Press, 2009
15. The Competition Policy in years 2011 – 2013, (Polityka konkurencji na lata 2011 – 2013), The Office of Competition and Consumer Protection, Warsaw 2011
16. The European Court of Justice, Case of 29th June 2006, C-301/04 P - Commission v SGL Carbon AG
17. Treaty on Functioning of European Union, Official Journal, C 115, 9th May 2008

VERIFICATION OF LINEAR MODEL FOR PREDICTING THE MOVEMENT OF STEEL PRICES IN THE WORLD MARKET

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Abstract: This paper presents the verification of the linear model which provides the ability to predict the movement of steel prices in the world market. As the basic input parameters for this model, the prices of non-renewable energy sources (coal, crude oil, fuel - oil, natural gas, liquefied natural gas, propane, including uranium) and iron ore prices are discussed. Given the large number of parameters which are simultaneously monitored, the correlation between the input prices and changes in the price of steel is studied with a systematic approach. The consideration includes two periods. The first period is from January 2006 to June 2012, in which the data were collected and used for the formation of the basic linear model, while the second period is from July 2012 to March of 2014, based on which the verification of the basic model, consideration of its successes and failures, i.e. acceptance or rejection of the model, was carried out.

Keywords: Verification models, systematic approach, steel prices, energy prices, the linear model

1. INTRODUCTION

Steel is one of the most notable metallic materials in the world. The main reasons for the prevalence of its application are reflected in the ability to control its properties across a wide range as well as the relatively low cost of its production. Importance of steel production in the world confirmed by the fact that the production of steel is one of the most important measures of economic strength of each country. Also steel is also strategically important raw materials of each country. It is believed that there is no adequate industrial development without these materials available.

For this reason, in the previous period (from January 2006 to June 2012) steel was the principal subject of our research with the goal of forming a model that will give us the ability to predict future movements in the price of steel in the world market. Steel price forecast is based on knowledge of the prices of other parameters of interest for this model.

After collecting all the data has been modeling on the principles of linear statistics where the corresponding linear equation models.

Then continued with the continuous collection of data for verification of this model. Prediod data collection for model verification is 21 months, that is from July 2012 to March 2014. Results, tables and accompanying charts, which were used to define the basic model forecasts steel prices on the world market, as a function of the considered input parameters and verification of the model are obtained as the output of the software package SPSS. [1]

Steel prices in the world market is formed on the metal exchanges which are a special form of organized between supply and demand in the market. Metal Exchange, as well as many other stock exchanges in the world, operating under strictly defined rules. London Stock Exchange (LME) is the oldest and most important stock exchange in the world of

metal. On the London Stock Exchange to perform the most traffic metals, and hence the stock market has the character of a kind Referential stock relative to other stocks in the world that are engaged in the trade of metals, among which the most important Commodity Exchange of New York (Comex) in New York. Steel prices in other markets are mostly identical, or at least differ in relation to the final price on the London Stock Exchange.

Since the production of steel can not imagine in countries that have poor energy, the basic parameters of importance for predicting the future movement of steel prices in the world market prices are considered non-renewable sources of energy (coal, crude oil, fuel - oil, natural gas, liquefied natural gas, propane, and uranium prices), which with 80% share in total world energy resources. It also discusses the change in the price of iron ore in the world market. Given the large number of parameters are simultaneously monitored the correlation between energy prices and changes in the price of steel is accompanied by a systematic approach. Modeling of such a complex system used theoretical foundations of general systems theory (GST), chaos theory and a new mathematical tool called the effect of the buoy, with the support of statistical tools which is made only modeling. Energy prices, which are discussed in this paper were obtained with the base index (Index Mundi). [2]

In the remainder of this paper examines the success or failure of the basic model, based on our verification of previously specified period. Based on the verification carried out finding acceptance or rejection of the basic model and its practical application for a further period of prediction.

2. THE BASIC MODEL

Before defining the basic model above is all the information from the survey carried out standardization in the first month of the beginning of the observation. So, the first month is taken as the zero point. Then, all the parameters introduced into a standardized SPSS. Then, the reliability test was carried out together, using Alpha Cronbach's coefficient, which represents the correlation between the average of a set of statistical values. As observed statistical collection has a Cronbach Alpha value of 0.861, it is concluded that a set of statistically reliable for further statistical analysis. In Table 1, shows the way of defining the system of the considered variables.

Table 1. Definition of variables [2].

Elements	Variables
Australian thermal coal (price)	X ₁
South African coal (price)	X ₂
Colombian coal (price)	X ₃
Dated Brent (price)	X ₄
Dubai Fateh (price)	X ₅
West Texas Intermediate (price)	X ₆
Heating oil (price)	X ₇
Liquified natural gas (price)	X ₈
Natural gas (price)	X ₉
Propane (price)	X ₁₀
Uranijum (price)	X ₁₁
Iron Ore (price)	X ₁₂
Steel (price)	Y

What followed is a linear modeling of the principle of the statistics. The method that is used is the MLRA-enter, which put all the variables in the linear model [3]. As the dependent variable, that is a variable whose variance is the subject of modeling the price of steel in the world market.

MLRA result shows that this model has a linear correlation coefficient $R = 0.935$. What is more important is the high value of the coefficient of determination of $R^2 = 0.874$, indicating that 87.4% of the variation of the dependent variable Y explained by the independent variables. This means that this model can with 87.4% accuracy predict the value of the price of steel in the knowledge of the value of the other analyzed, the input variables in the global market. We should also add that this model achieves statistic significance. Equation model as follows:

$$Y = -0.093 + 0.147 X_1 + 0.095 X_2 + 0.147 X_3 - 0.294 X_4 - 0.191 X_5 - 0.422 X_6 + 0.736 X_7 + 0.073 X_8 + 0.081 X_9 - 0.432 X_{10} - 0.074 X_{11} - 0.008 X_{12} \quad (1)$$

The above equation model (equation 1) to further verify the new data set and analyze its applicability in the future.

3. VERIFICATION OF THE MODEL

Data for model verification were collected in the period from July 2012 to March 2014. After data collection was carried out also their standardization as in the basic model, but in this case, the zero point is the first month of the verification period that is in July 2012 a year. After standardization was done entering data into SPSS software package and access to the verification of the basic model. Descriptive statistics for the new data set is shown in Table 2.

Table 2. Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
x1	21	.2448	-.1688	.0759	-.042179	.0710672	.005
x2	21	.1886	-.1682	.0204	-.063427	.0595058	.004
x3	21	.2673	-.2095	.0578	-.088048	.0808571	.007
x4	21	.1317	-.0025	.1291	.057790	.0363752	.001
x5	21	.1209	.0000	.1209	.064700	.0334532	.001
x6	21	.2260	-.0137	.2123	.090378	.0649544	.004
x7	21	.1530	-.0249	.1281	.055414	.0455123	.002
x8	21	.1366	-.1366	.0000	-.078285	.0359212	.001
x9	21	1.0574	-.0405	1.0169	.274936	.2522553	.064
x10	21	.7273	-.0909	.6364	.149892	.2092767	.044
x11	21	.3171	-.3171	.0000	-.200329	.1010904	.010
x12	21	.4312	-.2225	.2087	-.001005	.1061592	.011
Valid N (listwise)	21						

Then he made a throw-parameter model equation and the equation in order to calculate the values for the period verifikacije. The actual value of the steel and its predicted value is shown in tabular form in Table 3 and graphically in Figure 1.

Correlation between predicted and actual values presented in Figure 2 through a scattering diagram. From Figure 2 it can be concluded that the value that was predicted by the model does not deviate significantly from the true value, as evidenced by the coefficient of determination $R^2 = 0.942$. That is the connection between these two values is considerably high so that these models can be used to further predict the movement of steel prices in the world market. From this we can conclude that with 94.2% of accuracy can be determined by the value of steel in the world market with knowledge of the anticipated value of Y_1 , which is calculated using the equation and the knowledge of the values of other input parameters analyzed.

Table 3. A real and predicted value of steel [4]

Months	Real value (Y)	Predicted value (Y_1)
Jul-12	0	0.01
Aug-12	0.0063	0
Sep-12	0.0126	0.02
Oct-12	0.0692	0.05
Nov-12	0.0063	0.03
Dec-12	0.0252	0
Jan-13	0.0063	0.01
Feb-13	0	0
Mar-13	-0.0101	-0.01
Apr-13	-0.0214	-0.03
May-13	-0.0566	-0.05
Jun-13	-0.0252	-0.03
Jul-13	0.0126	0.01
Aug-13	0.0503	0.05
Sep-13	0.044	0.04
Oct-13	0.0541	0.06
Nov-13	0.0717	0.07
Dec-13	0.0818	0.08
Jan-14	0.0818	0.09
Feb-14	0.0604	0.06
Mar-14	0.044	0.05

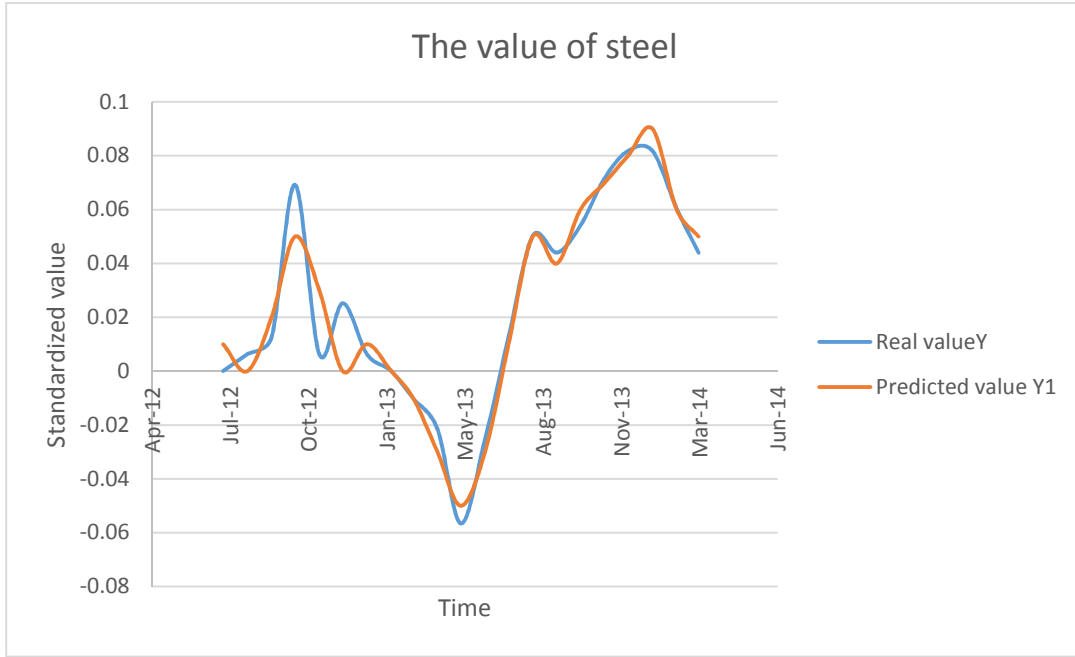


Figure 1. Changes in actual and predicted values of steel in the observed period

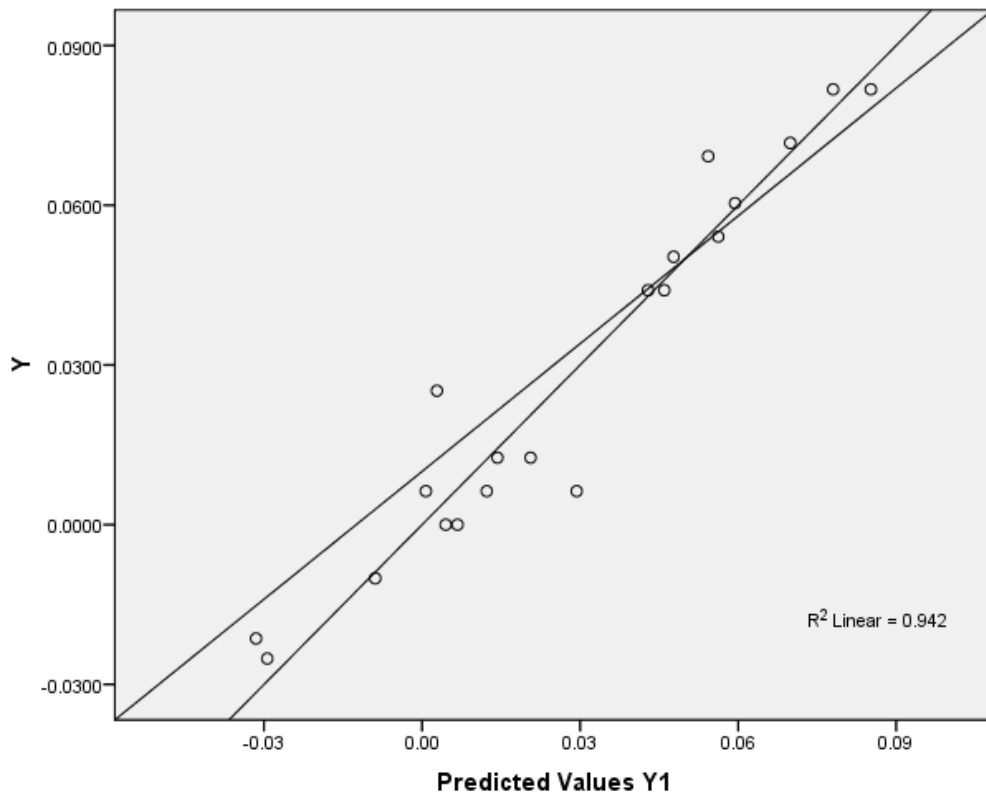


Figure 2. Diagram of scattering

4. CONCLUSION

According to the results presented in this study it can be concluded that the model previously developed acceptable. Based on the verification, which was based on a set of data collected from July 2012 to March 2014 confirms the capability of their use equations to predict future price movements in the global steel market, as can be seen in the high level of determination that is $R^2 = 0.942$. The high correlation of actual and predicted values leads to the conclusion that pznavanjem predicted value can be predicted with 94.2% of the real value of steel in the world market. So I vrifikacija this model in addition to the flow which has proved that the formula can be successfully used in the future to predict price movements based on the knowledge verednosti other model parameters also indirectly proves that the theory of the system and its approach to access in many cases are a very successful means of scientific research and technical problem solving.

REFERENCES

1. PASW Statistics, formerly called SPSS Statistics, 2009, SPSS Inc., Chicago, IL.
2. I. Nikolić, I. Mihajlović, Ž. Živković, Modelin of characteristic parameters influence on the prices of steel, Proceedings, Zbornik radova, IX Symposium of Business and Science SPIN'13, New industrialization, reengineering and sustainability, November 5 – 6 2013, Belgrade, p. 333
3. P. Đorđević, I. Mihajlović, Ž. Živković. Comparison of Linear and Non-Linear Statistics Methods Applied in Industrial Process Modeling Procedure. Serbian Journal of Management, 5 (2), 2010, p. 189
4. <http://www.lme.com/>
5. <http://www.indexmundi.com/commodities/?commodity=energy-price-index>
6. K. E. Boulding, General systems theory - the skeleton of science. E:CO Special Double Issue, 6(1-2), 2004, p. 127.

DEVELOPING EFFICIENT AND EFFECTIVE E-LEARNING MODULE

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Abstract: In this article we describe the development, importance of implementation and principles of designing e-learning modules. Creating successful e-learning course requires that the instructional goals drive the design and performance of the technology. We pointed to the components which are considered to be a way for developing a e-learning module that would be considered valid and effective. This paper also provides basic concepts and information on the processes and resources involved in e-learning development.

Keywords: e-learning, web-based modules, ADDIE Model

1. INTRODUCTION

IT (Informational Technologies) has been implemented to help teaching and learning in many ways. Computers and related technologies are used as tools to generate documents, to process administrative works, to complete the assigned projects, and similar. Computers and related technologies are capable of delivering varied knowledge contents. There are levels of training for physical activities such planting, to the training of higher level thinking skills, such as problem solving and critical thinking.

2. DEVELOPMENT OF E-LEARNING

Educators are placing course materials on the web to meet many different needs. First there was a need to provide similar course content and learning opportunities to students in rural areas of the country, like there is for students in large university centers. The current web-based educational tutorials are generally poor in educational content. The Internet is a relatively new technology and the early adopters were individuals skilled in programming and HTML skills, but not necessarily knowledgeable about educational concepts [1]. Thing that is the obstacle of effective web-based training material is that professionals who are experts in learning theories (traditional teachers) often lack the technical skills to implement a successful web-based course [2]. E-learning can be defined as the use of computer and Internet technologies to create a variety of solutions to enable learning and improve performance.

- E-Learning programs present information consistently and to all trainees.
- E-Learning solutions offer a safe, simulated environment where accidents do not harm equipment or employees.

- E-Learning presents subject matter in a visual format which today's generation understands easily.[3]

The paper describes the instructional design process of developing units for web-delivery that are based on complex and authentic contexts. There is no attempt to simplify instructional sequences, or to structure the learning environment to progress from simple to complex. Instead, the nomination of authentic context, authentic task and integrated assessment guide the development of the learning environment.

Many organizations and institutions are using e-learning because it can be as effective as traditional training at a lower cost. E-learning reaches a wider target audience by engaging learners who have difficulty attending conventional classroom training because they are:

- geographically dispersed with limited time and/or resources to travel;
- busy with work or family commitments which do not allow them to attend courses on specific dates with a fixed schedule;
- located in conflict and post-conflict areas and restricted in their mobility because of security reasons;
- limited from participating in classroom sessions because of cultural or religious beliefs;
- facing difficulties with real-time communication (e.g. foreign language learners or very shy learners).

3. SYNCHRONOUS AND ASYNCHRONOUS E-LEARNING

Synchronous events take place in real time. Synchronous communication between two people requires them to both be present at a given time. Examples of synchronous activities are chat conversations and audio/video conferencing. Tools of synchronous e-learning:

- chat and IM
- video and audio conference
- live webcasting
- application sharing
- whiteboard
- polling

Asynchronous events are time-independent. A self-paced course is an example of asynchronous e-learning because online learning takes place at any time. E-mail or discussion forums are examples of asynchronous communication tools. Tools of asynchronous e-learning:

- e-mail
- discussion forum
- wiki
- blog
- webcasting [4]

Since the Web-based creative option is new to many institutions, there is no standard, accepted definition of what constitutes an online course. An examination of Internet-based courses currently offered reveals two basic categories, with a large middle ground:

- courses that are primarily text based (the text being delivered either online or by mailed hard copy), with computer-mediated enhancements, and
- courses that are designed specifically for the distributed Internet setting, and that merge several smaller educational components into a single course of study.[4]

Developing effective instructional materials depends on a great deal of planning and collaboration, and concerted efforts from many people skilled at using the right tools. These requirements are even more important in online multimedia and course development, which is highly dependent on computer technologies that keep changing.

4. LIMITATION OF E-LEARNING

Although web-based learning systems have a lot of advantages over traditional face-to-face learning, they have certain limitations that hinder the learning process. These limitations are as follows:

- No synchronization and match between course materials and their explanations. Since there is no integration of course explanation with other learning resources, there is possibility of mismatch between the explanations provided in the web-based learning system and any other learning materials that learners might use.
- Lack of contextual understanding, just-in-time feedback and interactions. The greatest advantage of traditional face-to-face education is the personal interaction with learners, and the opportunity for both learners and teachers to take advantage of relative cues to make points and to verify that a point or a question has been understood. But the learners in online learning do not have contextual discussion or explanation for certain concept. This leads to the lack of contextual understanding.
- Lack of platform independent standardized materials. Some web-based learning systems are built according to their requirements, they lack of standards descriptions and reusability.
- No human teacher expression and explanation. Most of existed learning materials are the combinations of text and graphic. The learners do not get human teacher expressions and oral explanations. Therefore, they could miss out the impact of teacher gestures in their learning process.[5]

5. THE ADDIE MODEL

There are many instructional systems design models, most of which are based on popular ones such as the ADDIE model. ADDIE is an acronym referring to the major processes that comprise a generic Instructional Design process: Analysis, Design, Development, Implementation, and Evaluation. Usually these processes are considered to be sequential but also iterative. They sometimes overlap and can be interrelated. [6]

The Elements of the ADDIE Model include:

- Analysis - the process of defining what is to be learned
- Design - the process of specifying how it is to be learned
- Development - the process of authoring and producing the materials
- Implementation - the process of installing the project in the real world context
- Evaluation - the process of determining the adequacy of the instruction

6. COMPONENTS FOR SUCCESSFUL E-LEARNING

There are five eLearning Components that are essential for all successful online courses. Understanding these components will help you design and develop a course that meets computer-based training objectives.

1. Audience represents the most important component. As we begin to develop an online module we must pay attention on:

- Expectations: There is need to know the expected outcomes of the training or course that you develop.
- Learning abilities (prerequisites): Before we design or develop online course, there is need to pay attention the audience's learning abilities and if there are prerequisite topics required for the course or training.
- Available hardware/software is also an important part of knowing our audience understands the capabilities of the learner to access and view your course.
- Learning Environment: Another critical part of the analysis phase is to identify the environment of your audience.
- Instructors could choose the appropriate components they need or modify them according to the course objectives, learner's needs, costs and any other factors.
- Job Responsibilities: As an instructional designer, and especially as an e-learning developer, you must know the job responsibilities of your audience.
- Preferences: This is one of the most overlooked areas when learning about your audience. Your audience will always have a preference in how they learn. Some are more prone to learn from video and audio exercises, while others need more simulated, hands-on exercises to learn.

2. Course structure refers to how a course is designed for e-learning. The structure of a course plays a critical role in how our audience learns the material. During the Design

phase of ADDIE we are solving the problem of how the course should be organized and structured. For e-learning the same principles apply. Storyboarding is a great way to build your course structure. We should consider the following items when structuring our course:

- Group content into logical modules
 - Avoid creating modules that exceed 8-10 pages
 - Incorporate interactive concepts:
 - Use pictures/graphics to help explain ideas, concepts, or statements
3. Page design of an online course is critical to the learning process. How a page is designed can have a huge impact on the learning experience of our audience.
4. Content engagement refers to how the learner interacts with content of the course. Because studies have shown that the learning experience is greatly enhanced when exercises or activities are incorporated into the learning process, content engagement is critical.
5. Usability refers to the testing of e-learning content and applications. Many creative ideas are discarded because they do not work. Likewise, a well organized e-learning course can be useless if it does not function properly. [7]

7. E-LEARNING COURSE DEVELOPMENT

Each step of the model is important in developing an effective e-module. For E-learning to be effective, a designer must know the target audience, understand and articulate educational objectives, develop educational materials and activities that form the basis of a course (online or otherwise), whether computer-based or web-based e-learning must adhere to strict design protocols in terms of technology and aesthetics. Design becomes even more important now since we've become a more visual society, where efficient, eye-pleasing design equates to success. [8]

Clear procedures for implementation and evaluation allow for cost-effectiveness while at the same time ensuring success in meeting learning objectives. Putting resources online that support a traditional lecture course, for example PowerPoint slides, is a start but e-Learning is not about just putting lecture notes online. Creating successful e-learning course content requires that the instructional goals drive the design and performance of the technology. The instructional content must offer a distinction between Web pedagogy and Web distribution. Implementing effective course content in e-learning course can be a challenging process due to the numerous technical and design considerations. A set of design principles that can be applied to design constructivist learning systems: [11]

- Learning should be internally controlled and mediated by the learner. From the students' comments it was obvious that learners had control over their learning and that it was an individual experience different for each learner.
- Focus on realistic approaches to solving real-world problems. Both the learning activity design and the approaches used as described by the students focused on realistic and to some extent creative approaches. As one student pointed out, he or

she had recourse to a third-party to do part of the work which he or she did not like. Although in the context of the activity it would have been advisable that the whole of the activity be carried out by the student, this act was a real-world example of things that happen in reality.

- Foster reflective practice. The learning journal is an efficient and effective tool to foster critical reflection on their own learning and to think aloud about what could be improved. Guiding the reflection through structured questions provide better quality responses and sound clues and hints of where improvement can be brought.
- Present authentic tasks (contextualizing rather than abstracting instruction) and enable context-and content dependent knowledge construction. The storyboarding activity is an example of authentic task where students learn by example and then apply the skills in a different scenario. By exposing them to the techniques of storyboarding, examples of existing storyboards and then asking them to draw a storyboard of an existing animation is an example of context and content dependent knowledge construction.
- Support collaborative construction of knowledge through social negotiation. Discussion forums have been extensively used in this course where students have mainly been interacting among themselves to provide peer-support during [9]
- The activity: It has also been reported in the students' reflection that they used a Facebook group to share concerns and relevant ideas and information regarding the different learning activities that they were engaged into.

8. CENTRALIZING THE E-LEARNING DEVELOPMENT UNIT

Quality courseware production requires a highly organized, concerted effort from many players. Roles in this group include project manager, copy editor, IT expert, HTML coder, media developer, instructional designer, graphic designer, administrative assistant, and, sometimes, copyright officer.[10]

- **Development Team**

The core of an online course development team might comprise as few as five key roles: SME (subject matter expert) or author, graphic designer, Web developer, programmer, and instructional designer. In larger commercial organizations, it is not uncommon for development teams to be much larger, as the expertise in each of these five roles is subdivided and specialists are employed. However, in non-profit education circles, where budgets are tight, it is more likely that a few people will fulfill hyphenated roles; Web developer-programmer, for example.

- **Subject Matter Expert (SME)**

SMEs are responsible for ensuring that the content of the online course is an appropriate alternative to the lecture content normally given in a traditional course. In addition, the SME must write the exercises, activities, and examinations needed to reinforce the new learning. It is also essential that SMEs commit to working as an integral part of the team throughout the development process, ensuring that the online course content is easy to access and interesting for the students.

Other tasks that SMEs perform include:

- ✓ identifying or creating textbooks, readings, and resources;
- ✓ ensuring a pedagogical “match” among the course objectives, content, exercises, examinations, and assignments;
- ✓ identifying materials that require copyright clearance, and providing the instructional designer with the necessary information; and
- ✓ providing other team members with a legible copy of any written material.

- Instructional Designer

In practical terms, the instructional designer:

- ✓ helps to make the SME aware of appropriate pedagogical strategies and options;
- ✓ helps to determine, create, and adapt instructional resources;
- ✓ provides advice on how best to present information;
- ✓ writes statements of learning outcomes;
- ✓ sequences learning outcomes;
- ✓ sequences activities;
- ✓ evaluates instruction;
- ✓ arranges technical production and services;
- ✓ usually acts as project manager;
- ✓ acts as editor; and
- ✓ act as Web developer.

- Web Developer

It is one of the challenges of the Web course designer to help create an atmosphere of confidence in the process in the early stages of development. Web developers should show faculty examples of online materials that illustrate the various kinds of content and interactive options that are available to them. They should then describe to faculty how their courses can be produced using a consistent organizational template that provides students with knowledge of the learning objectives, an outline of the content, assignments, evaluation information, resources, links, a list of requirements, and FAQs.

- Graphic (Visual) Designer

Visual design for e-learning courses, whether print-based or electronic, is driven by the needs of students and academics, and by the content of the course itself. Course materials can be enhanced for distance education by including technical drawings, illustrations, graphics, and photography to interpret course content. Visual design for electronic courses or optional electronic enhancements of print-based courses includes the development and creation of generic or customized templates, navigational icons, icons or images to aid recognition of location within a non-linear presentation of materials, and visuals or graphics to enhance textual content. [10]

- Programmer and Multimedia Author

The programmer is responsible for program functionality. The programmer uses specialized software tools to enable the interactivity that is suggested and desired in online

courses. In the most productive teams, programming is treated as a highly specialized and separate discipline.

9. CONCLUSION

Educational institutions are placing more course material online to supplement classroom and business training situations. E-learning instruction appears to be an improvement over conventional classroom instruction. Creation of a constructive learning environment requires thoughtful planning at module level.

REFERENCES

- [1] Murray, T., From Story Boards to Knowledge Bases, the First Step in Making CAI'Intelligent'. In Carlson & Makedon (Eds.) Educational Multimedia and Hypermedia, Proceedings, (pp. 509-514). Charlottesville VA: AACE, 1996,
- [2] Janicki Thomas, Development and evaluation of a framework for creating web-based learning modules, Wilmington, NC, 2001
- [3] Khan, B. H., A framework for Web-based learning. In B. H. Khan (Ed.), Web-based training. Englewood Cliffs, NJ: Educational Technology Publications, 2001
- [4] <http://www.instructionaldesignexpert.com>
- [5] "The Disadvantages of Online Learning"-E-learning-companion.com
- [6] Strickland, A.W, "ADDIE", Idaho State University College of Education, Science, Math & Technology Education., 2006
- [7] Morrison, Gary R. Designing Effective Instruction, 6th Edition. John Wiley & Sons, 2010.
- [8] Som Naidu, E-Learning A Guidebook of Principles, Procedures and Practices, New Delhi, 2006
- [9] K. Kruse, "Introduction to Instructional Design and the ADDIE Model", [online] Available: www.elearningguru.com/articles/art2_1.htm, 2004.
- [10] Fisher, M., Implementation considerations for instructional design of Web-based learning environments, In Abbey, B., (Ed.) Instructional and Cognitive Impacts of Web-Based Education, London, Idea Group Publishing, 2000
- [11] <http://www.fao.org>
- [12] <http://collaborate.uw.edu>

- [13] Myrna L. Gusdorf, MBA, SPHR, Training design, development and implementation, Society for Human Resource Management. Myrna L. Gusdorf, MBA, SPHR, 2009
- [14] Bates, A. ,Technology, e-Learning and Distance Education London: Routledge, 2005
- [15] Angeli, C., Valanides, N. and Bonk, C. Communication in a Web-based conferencing system: the quality of computer-mediated interactions, British Journal of Educational Technology , 2003
- [16] http://cde.athabascau.ca/online_book/ch7.html

THE IMPACT OF STRATEGIC HUMAN RESOURCE MANAGEMENT ON ORGANIZATIONAL PERFORMANCE

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Abstract: Many organizations are faced with unstable market situation. In order to achieve and sustain competitive advantage in this market environment, they must continually improve organizational performance. Increasingly organizations recognize the potential of their human resources as a source of sustainable competitive advantage. The main goal of the strategic human resource management is the effective use of human resources to meet the strategic requirements of the organization and achieving its goals. It provides vertically linking HR strategies with business strategy and horizontal integration strategies for human resources. Also the strategic human resource management provides the direction of motion in a turbulent environment, and therefore the needs of business and individual and common needs of employees can be achieved through the development and implementation of appropriate policies and programs for human resources.

In this paper is elaborated the question of the impact of employee involvement in the implementation of the strategy of the organization on organizational performance in Republic of Macedonia. For this purpose is necessary organization clearly defines its vision and mission, and employees contribute to their realization. Also is necessary individual and team goals to be aligned with the mission and vision of the organization's strategy.

In this study, primary data were obtained using a structured questionnaire, and data analysis was performed using the statistical program SPSS (Statistical Program for Social Sciences).

Keywords: human resource, strategic human resource management, organizational performance

1. HUMAN RESOURCES AS A SOURCE OF COMPETITIVE ADVANTAGE

The contemporary economic conditions are characterized with amplified competition and information availability for many organizations, impose the human resources as a source for achieving competitive advantage (Schuler at all, 1984 : 241-55). It, primarily, refers to highly skills employees, appropriate organizational culture, managing with the process and the system. This situation is diametrically opposite from the traditional approach, where the accent is placed on transferable resources, such as equipment that can be purchased by competitors.

Armstrong and Baron accentuate that the manager of human resources have to enable the organization to acquire and to maintain the competitive advantage should achieve the following strategic objectives (Armstrong, 2003 : xviii):

- To invest in people by introducing and encouraging the learning process, in order to increase the ability and to harmonize the skills with the objectives of the organization;
- To ensure that the organization determinate the knowledge that are necessary for achieving its goals and satisfying the customers and take steps for the acquisition and development of its intellectual capital;
- To define the behaviors that are necessary for the success of the organization and to ensure that these behaviors are encouraged, valuated and rewarded;
- To encourage people to fully participate in the work that are performing;
- To achieve high commitment of people to the mission and values of the organization.

The economic theory and practice, today, unambiguously emphasize that the competitive advantage of organizations more and more acquires a highly qualified labor force, which enables them to compete on the basis of their responsiveness to market, quality of the products and services, differential products, technological innovations, rather than to rely only on low costs, like it was in the past.

2. THE ROLE AND IMPORTANCE OF STRATEGIC MANAGEMENT OF HUMAN RESOURCES FOR THE ORGANIZATIONS

The appearance of the strategic management in human resources is devoted to exploring the role of human resources in business strategy support, creates an opportunity to demonstrate the value of their organization. The origins of the strategic management of human resources dating from 1984, when Devanna, Fombrun and Tichy intensively were investigated the link between business strategy and the human resources (Wright at all, 2007 : 76).

The management of human resources as a discipline has been witness of the major changes over the past 25 years. These changes are representing two major transformations. The first refers the transformation of personnel management in the management of human resources, while the second refers to the transformation of human resources in strategic management of human resources (Schuler at all, 2007 : xiii). The first transformation allowed to look at the people as an important asset in organizations and their systematically managing. The second transformation is constructed based on knowledge of previous discipline. This transformation is based on the recognition that, in addition to coordination of human resources policies and practices with each other, they should be related to the needs of the organization. Considering that these needs are reflected in the strategies of the organization, "Human Resources" became known as "Strategic management of human resources".

In principle, the main objective of the strategic management of human resources is the effective use of human resources to meet the strategic requirements of the organization and achieving its goals. It should allow (Armstrong, 2009 : 35):

1. To achieve integration - vertically linking HR strategies with business strategy and horizontal integration strategies for human resources;

2. Provide direction of motion in a turbulent environment, and thus the needs of business and individual and common needs of employees can be achieved through the development and implementation of appropriate policies and programs for human resources.

In accordance with the view based on resource, the strategic goal will be to create organizations that are more intelligent and more flexible than its competitors are, by hiring and developing more talented staff and by extending their skills.

In defining the strategic management of human resources, scientists have tried to emphasize its implementing role, as is shown in the following definitions:

- Effective implementation of the business strategy of the organization, involving everyone in the organization, from the top to downwards, to pursue things that make a successful business (Schuler, 1992 : 18);
- Strategic management of human resources in large merge refers to the integration and adaptation. He takes care to ensure that: 1) human resources management is fully integrated with the strategy and the strategic needs of the organization; 2) to align the policies of human resources through the area of policy and through the hierarchy and 3) HR practices are adjusted, accepted and used by line managers and employees as part of their daily work (Greer, 2003 : 207);
- Strategic management of human resources is a form of planned deployment of human resources and activities, who have to enable the organisation to achieve its goals (Wright, 1992 : 295–320);
- Strategic Human Resource Management is an integrated process of systematic development of human resources in order to achieve a competitive advantage that is rare, valuable and difficult to imitate, and that in the long run will ensure achievement of the strategic objectives of the organization and its survival and development through time (Bojadzioski, 2009 : 46);

Given these definitions of strategic management of human resources can be used a comprehensive theoretical framework to organize the knowledge of how HR practices are influenced by strategic considerations. This theoretical framework is developed by Patrick Wright and Gary McMahan and displayed image.

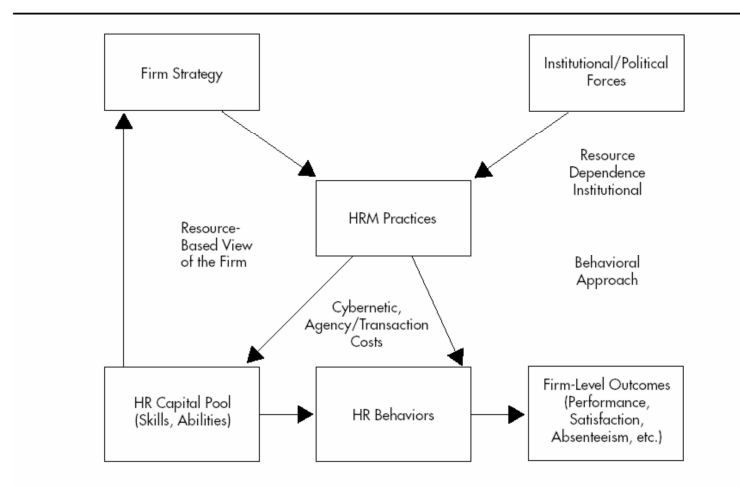


Figure 1. Theoretical frame of strategic human resources management

Source: Patrick M. Wright and Gary C. McMahan: "Theoretical Perspectives for Strategic Human Resource Management", *Journal of Management* 18, no. 2, 1992, p. 299

This framework presents six theoretical approaches of which four provide explanations for practices that result from strategic considerations (McMahan at all, 1992 : 299). The first approach is based on resources and explains practices that provide a competitive advantage, as the only allocation of resources to the organization, organizational culture, as well as the excellent competences (skills). For example, the organization can allocate their resources to create cutting - edge procedures for selection and compensation systems in order to achieve great competence. The second approach is based on behavior. This approach is based on the contingence theory and explains practices designed to control and influence attitudes and behaviors. He emphasizes instrumentality on these practices in achieving strategic goals. The third relies on cybernetic systems. This approach explains the acceptance or abandonment of practices that result from feedback in terms of their contribution to the strategy. Viewed from this perspective, training programs may be accepted in order to help the organization to execute its strategy to be updated in line with feedback. The fourth approach is based on transaction costs. He explains why organizations use control systems, such as performance evaluation and reward systems. If the organization systems lack the performance for evaluation that linked to reward systems, the strategies can't be performed or completed.

The other two theories give an explanation for practices of human resources that are driven by strategic considerations. Depending of resources and theories of the power, who are explaining the practices caused by power and political influence such as legislation, organizing unions, control of resources and expectations for social responsibility. Finally, institutional theory explains that practices such as, for example, the use of improper evaluation of performance may exist due to organizational inertia than a conscious and rational decision (McMahan at all, 1992 : 300).

Strategic Human Resource Management provides numerous benefits to the organization (Brewster at all, 2000 : 56):

- Contributing to the achievement of objectives and the survival of the organization;
- Supporting and successful implementation of the business strategy of the organization;
- Creating and maintain the competitive advantage of the organization;
- Improving the accountability and innovation potential of the organization;
- Increasing the number of viable strategic options for the organization;
- Participating in strategic planning and influencing to the strategic direction of the organization with equal rights as members of top management;
- Improving the collaboration between the Department of Human Resources and line managers.

The widespread popularity of the strategic management in human resources due to a lot of promise for achieving high organizational effectiveness through the development of internally consistent bundles of HR strategies, that are, appropriately associated with business strategies.

3. THE IMPACT OF STRATEGIC HUMAN RESOURCE MANAGEMENT ON ORGANIZATIONAL PERFORMANCE

Many organizations are faced with the unstable market situation. In order to achieve and sustain competitive advantage in this market environment, they must continually

improve organizational performance. Increasingly organizations recognize the potential of their human resources as a source of sustainable competitive advantage.

There are numerous of studies conducted, in the last two decades, suggest the positive relationship between HRM and organizational performance. These studies, to a large extent originate from the U.S., and a lesser extent from the UK and tend to prove that HRM has a positive impact on productivity in the organization (Boselie at all, 2000 : 2). Based on these surveys which are conducted and based on the assumption that people are the key resource in the organization and performance of the organization depends on them. Therefore, if the policies and processes of human resources are developed and implemented effectively, then human resources will have a significant impact on the performance of the organization. Many of surveys conducted in the last two decades trying to answer to two basic questions: Do HR practices positively affect organizational performance? If so, how is this effect achieved? The second issue is more important than the first. It is not enough to justify the management of human resources by proving that it is a good thing. What you need to consider is what can be done to ensure that the management of human resources is a good thing. Guest and other authors present the relationship between human resource management and performance of the organization and they are shown in the image below. Although there are various stakeholders in the organization, the main strategic goal of any business is the higher financial performance or maximizing the wealth of stakeholders (Paul at all, 2003 : 1246-1248). The financial result of the organization greatly depends on effective operational performance. The operational performances of the organization are a function of people, processes and technology. In order to achieve effective interaction of people with technology and processes, people in the organization must be sufficiently competent in terms of the required knowledge, skills and abilities. The competence of individuals is an important factor that decides the operational effectiveness in terms of providing quality products and services for a short time. The practices of human resource management such as selection, training, work environment and performance evaluation can improve the competence of employees for higher performance.

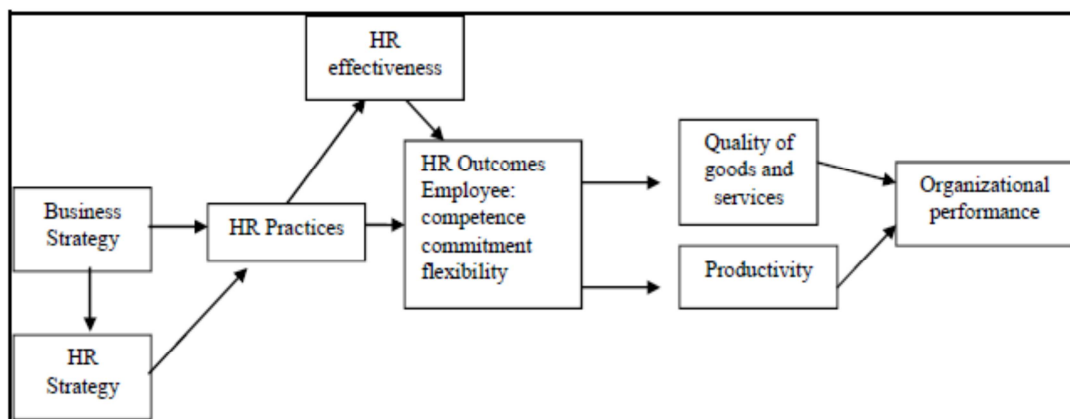


Figure 2. The link between human resource management and performance

Source: Michael Armstrong, *Strategic Human Resource Management: A Guide to Action*, Kogan Page, London, 2006, p. 75

Obviously, human resources rarely have a direct impact on the performance of the organization. Their influence occurs as a result of their contribution to the effective

execution of the strategy of the organization. Be thinking strategically as a manager, is to recognize the importance of the cause - causal connection between human resource decisions and outcomes that guide the strategic success of the organization. Cause - causal connection between human resources and organizational performance will allow HR managers to design programs that will provide better business results, and thus higher organizational performance.

4. ANALYSIS OF THE LINK BETWEEN EMPLOYEE INVOLVEMENT IN THE IMPLEMENTATION OF THE STRATEGY OF ORGANIZATION ON ORGANIZATIONAL PERFORMANCE IN THE REPUBLIC OF MACEDONIA

Along with the elucidation and analysis of theoretical knowledge about the impact of employee involvement in the implementation of the strategy of the organization on organizational performance in the Republic of Macedonia need appropriate supplementation with observations of practice and operation of businesses, and in order to indicate the need for changes in the approach to employee involvement in the implementation of the strategy in organization.

Namely, in this part of the paper is performed checking on theoretical aspects, with particular subject of interest are empirical knowledge and experiences for the connection of multiple factors in the field of human resources with organizational performance.

Considering everything mentioned above for the need of analysis was conducted survey of 273 respondents which are working in organizations in Republic of Macedonia. Questionnaires were voluntarily filled by staff and were asked to respond freely to questions, which were guaranteed anonymity. The analysis of the data is used statistical program SPSS (Statistical Program for Social Sciences). Using the χ^2 - test and Pearson coefficient proves our hypothesis, while using correlation analysis shows the strength of the relationship between the independent variable (employee involvement in the implementation of the strategy of the organization) and the dependent variable (organizational performance).

4.1 TESTING THE HYPOTHESIS

Hypothesis 1: Employee involvement in the implementation of the strategy of the organization, have a positive impact on organizational performance.

Hypothesis 2: Employee involvement in the implementation of the strategy of the organization, have a negative impact on organizational performance.

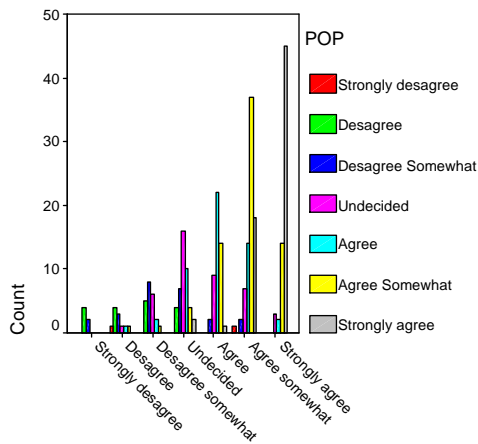
Table 1. Empirical and theoretical frequencies of variables: Employee involvement in the implementation of the strategy of the organization (in rows) and organizational performance (Column)

VVISO * POP Crosstabulation

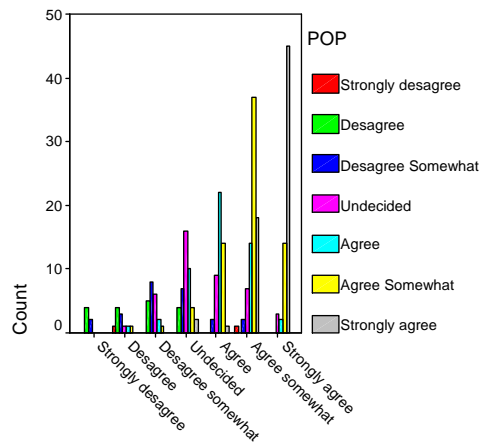
Count		POP							Total
		Strongly disagree	Disagree	Disagree Somewhat	Undecided	Agree	Agree Somewhat	Strongly agree	
VVISO	Strongly disagree		4	2					6
	Disagree	1	4	3	1	1	1		11
	Disagree somewhat		5	8	6	2	1		22
	Undecided		4	7	16	10	4	2	43
	Agree			2	9	22	14	1	48
	Agree somewhat	1		2	7	14	37	18	79
	Strongly agree				3	2	14	45	64
Total		2	17	24	42	51	71	66	273

VVISO * POP Crosstabulation

Expected Count		POP							Total
		Strongly disagree	Disagree	Disagree Somewhat	Undecided	Agree	Agree Somewhat	Strongly agree	
VVISO	Strongly disagree	,0	,4	,5	,9	1,1	1,6	1,5	6,0
	Disagree	,1	,7	1,0	1,7	2,1	2,9	2,7	11,0
	Disagree somewhat	,2	1,4	1,9	3,4	4,1	5,7	5,3	22,0
	Undecided	,3	2,7	3,8	6,6	8,0	11,2	10,4	43,0
	Agree	,4	3,0	4,2	7,4	9,0	12,5	11,6	48,0
	Agree somewhat	,6	4,9	6,9	12,2	14,8	20,5	19,1	79,0
	Strongly agree	,5	4,0	5,6	9,8	12,0	16,6	15,5	64,0
Total		2,0	17,0	24,0	42,0	51,0	71,0	66,0	273,0



VVISO



VVISO

Figure 3. Empirical and theoretical frequencies of variables: Employee involvement in the implementation of the strategy of the organization (in rows) and organizational performance (Column)

Table 2. Grouped data for the given variables

Case Processing Summary

	Cases					
	Valid		Missing		Total	
	N	Percent	N	Percent	N	Percent
VVISO * POP	273	100,0%	0	,0%	273	100,0%

Table 3. Results of χ^2 - test

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	287,724 ^a	36	,000
Likelihood Ratio	255,113	36	,000
Linear-by-Linear Association	151,974	1	,000
N of Valid Cases	273		

a. 29 cells (59,2%) have expected count less than 5. The minimum expected count is ,04.

The calculated value of $\chi^2 = 287,724$

The risk of error from 0.05% and the number of degrees of freedom $df = 6$, theoretical (critical) value of the test χ^2 is $(0.05, 36) = 43,77$

Because $(\chi^2 = 287,724) > (\chi^2 = 43,77)$ hypothesis is accepted and it can be concluded that the employee involvement in the implementation of the strategy of the organization have a positive impact on organizational performance. This is confirmed by the fact that the defined risk of error is $1-\alpha$, ie 0.05 is greater than the value of the realized level of risk of error, which is $p = 0,000$.

The proof of the first hypothesis is rejected the second hypothesis which indicated the negative impact of the employee involvement in the implementation of the strategy of the organization on organizational performance.

Using correlation coefficient analysis and the coefficient of Spearman we can realize how strong is the link between employee involvement in the implementation of the strategy of the organization and organizational performance.

Table 4. Correlation between employee involvement in the implementation of the strategy of the organization and organizational performance

Correlations

			VVISO	POP
Spearman's rho	VVISO	Correlation Coefficient	1,000	,746**
		Sig. (2-tailed)	,	,000
		N	273	273
	POP	Correlation Coefficient	,746**	1,000
		Sig. (2-tailed)	,000	,
		N	273	273

** . Correlation is significant at the .01 level (2-tailed).

Correlation analysis shows that there is a **strong** link between employee involvement in the implementation of the strategy of the organization (independent variable) and organizational performance (dependent variable).

5. CONCLUSION

Considering the importance of the process of strategic human resource management as an important feature in the human resource management in developed market economies, we are inevitably faced with the challenge of its proper treatment in our organizations. Also, in practice, many successful companies in countries with developed market economies, often invest a lot of effort in preparing programs and strategies to manage this phenomenon and raise the level of awareness of management's role in the process of managing employee performance and its impact on organizational performance.

This issue was not yet adequately represented in the Macedonian management practices. Seeing the results of empirical analysis and assessing the need for proper utilization of labor and contribution in improving the conditions of this domain in organizations in the country, we are obliged to point out that employee involvement in the implementation of the strategy of the organization as part of the performance management positively affects on organizational performance in the country, that this hypothesis is accepted, which means that organizations have clearly defined mission, vision and strategy of organization and which are accepted for achievable by their employees, have a positive influence on organizational performances.

REFERENCES

1. Armstrong, Michael, *A handbook of human resource management practice*, 11th Edition, Kogan Page Limited, London, 2009;
2. Armstrong, M, Baron, A, *Strategic HRM: The Key To Improved Business Performance*, CIPD, London, 2003;
3. Baron, James, N., Kreps, David M., *Strategic human resources : frameworks for general managers*, Wiley, 1999;
4. Bratton, John, Gold, Jeffrey, *Human resource management: theory and practice*, 3rd Edition, Palgrave Macmillan, 2003;
5. Brewster, Chris et al., *Contemporary Issues in Human Resource Management: Gaining a Competitive Advantage*, Oxford University Press, Cape Town, 2000;
6. Boselie, P., *Human Resource Management and Performance: Lessons from the Netherlands*, Erasmus Research Institute Of Management, Rotterdam, 2000;
7. Charles R. Greer, *Strategic Human Resource Management*, 2nd Ed, Pearson Custom Publishing, 2003;
8. Schuler, S. Randall, I. C. MacMillan, "Gaining Competitive Advantage through Human Resource Management Practices", *Human Resource Management* 23, no. 3, 1984;

9. Torrington, D, Hall, L, Taylor, S, Human resources management, 7th ed, Prentice Hall, Europe, 2005;
10. Wright, Patrick M., Dunford, Benjamin B., Snell, Scott A., "Human Resources and Resource-Based View of The Firm", in: Randall S. Schuler, Susan E. Jackson, Strategic Human Resource Management, 2nd Ed, Blackwell, USA, 2007;
11. Bojadzioski, D, Menadzment na covecki resursi, Ekonomski fakultet, Skopje, 2009;

MARKETING 3.0 – NEW ISSUES IN MARKETING

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Abstract: People have always tried to make assumption or prediction and created scenarios to predict future changes in our lives. Some of those predictions have proven right, other still seem utopian. And, many actual changes, like the growing importance of the internet in the last years, have not been foreseen, which in effect led to problems for many economics sector. Today, the technological and social changes are coming at an even faster pace and companies in many sectors have to pay very close attention to people's behaviour and needs in order to stay on top of all developments.

The triumph of the internet has not only changed the way we access information, but also the way we communicate. The age of mass communication is slowly being replaced by the age of social media. New ways to find a customer base and retain it are needed. Trust in the brand or product can become one of the key elements which can only be established by the use of adequate kinds of communication with customer and other stakeholders in the age of social media.

This paper is supposed to give insight into the opportunities to adjust basic marketing concept. To 2050 nine billion people will live on the planet and make resources diminish increasingly. So, companies have to communicate an efficient and sustainable message and need to offer products that not only stand out by their quality but also by their benefit for society and nature. The new model of marketing – Marketing 3.0 treats customers like complex and multi – dimensional human beings.

Keywords: changes, social media, marketing 3.0

1. INTRODUCTION

Marketing is a way to grow the organization through applying research and knowledge to the field of possible customer that exist. All organizations can accomplish its own grow by implementing four different activities:

- To find more customer and sell its products
- To sell its products more to each existing customer
- To sell more expensive or advanced products to each customer
- To sell more profitable products to each customer

Which one of this activities will be focus on depend of the size of organization and its customers. How marketing has changed in regard to the “digital era”? The presence of the companies depend on multiple streams of media, so marketing activities that are implemented has changed. The companies have to implement “new rules” of marketing in order to develop an effective marketing strategy.

The old marketing was focused on delivering a one – way more creative message from the organization to potential customer in order to attract more customer and purchasing

more product and service. In the same time, there was a several activities included in the old marketing: advertising was key, advertisement were directed to general public, advertising campaigns was periodical and PR was a separate function from advertising.

Today, we belong in information society where information is everywhere and available to anyone. New wave technology enable connectivity and interactivity of individuals and groups. On the other hand there are three major factors that have influence: cheap computers and mobile phone, low cost Internet and open source. Information society is named as the age of participation where people create news, ideas and entertainment and then consume them. In that kind of society all companies need to accept new rules of the marketing and ensure its place on the Internet to be successful and attract the attention of the individuals who spend their time surfing the internet. Beside of information society is creative society where people believe in self-actualization, they are expressive and collaborative cocreators. In one word they are complex humans, believe in the human spirit and listen to the deepest desires. According to the Maslow's pyramid, in this society, basic needs of survival are replaced by spiritually because of this trend where consumers are looking for product and services that satisfy not only their need, but require from companies to touch their spiritual side. So, the companies have to communicate an efficient and sustainable message to offer not only the quality but also benefit of the products and services to all society and nature. The new rules include:

- Well informed customer willing to hear the truth
- Value instead of their money and time
- Searching on the Internet in order to get more information
- Marketing and PR are designed to interact with specific group of audience
- Content is online permanently, so the marketing campaign is online permanently too

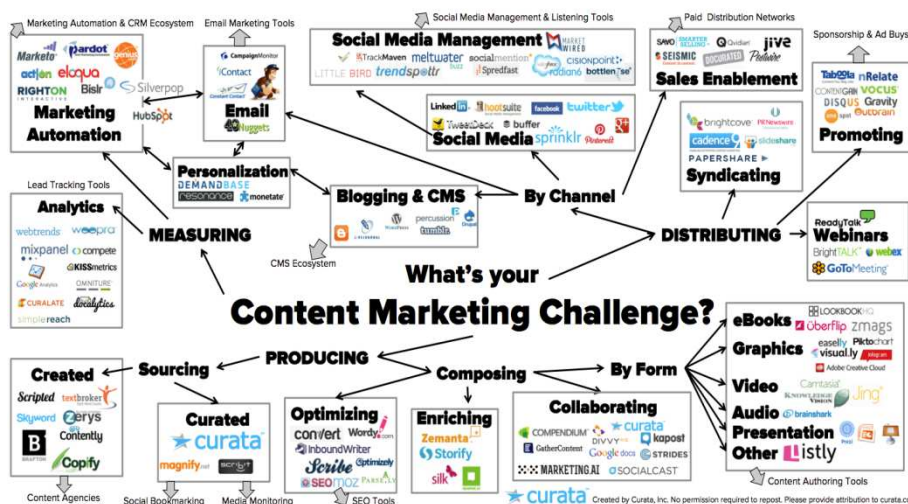


Figure 1. New tools available for companies

New marketing include some new tools which are available like: web sites and pages, blogs, social media sites, podcasts, videos and video blogs. With this social media consumers are going to be able to influence other consumers with their opinions and

experience. On the other hand, this tools are cheaper. So, all of this tools need to be accepted of companies if they want the customer hear the messages which are delivered. The usage of the tools is determine of the company's strategic goals. But first of all, the company need to deliver their promise to get trust in the brand or product and the same time to be established by using the adequate kind of communication. Trust in the companies and theirs products is challenge only marketing can face. "One of the most salien factors in the effectiveness of our present complex social organization is the willingness of one or more individuals in a social unit to trust others. The efficiency, adjustment and survival of any social group depend upon the presence or absence of such trust." Rotter

In every competitive business world there is a need for a more complex and interpersonal approach to marketing. In order to be competitiveness on the market, companies need to establish trust among future and present buyers. According to R. Morgan and S. Hunt in order "to be an effective competitor requires one to be a trusted co-operator." They introduce the theory of Commitment and Trust in Relationship Marketing.

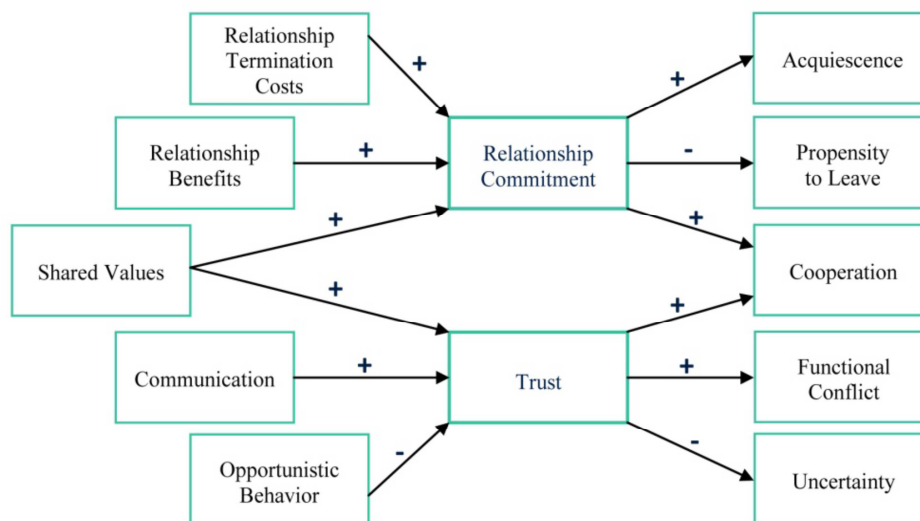


Figure 2. Model of Relationship Marketing

From the model above we can see that trust is a key component of effective business. Trust is a major determinant of relationship commitment, but there are five more component that impact on the quality of relationship. The first one is cost which describe expected losses that can result from termination. If they are relatively high the relationship is viewed as important. The second one is relationship benefit. It explain that if a partner is delivering high valued benefit for the other partner, one will commit oneself to the relationship. Common beliefs shared among partners will provide higher commitment and increased trust. If communications especially previous have been of high quality will enforce trust. One variable that negatively affect trust is opportunistic behaviour, meaning that a partner only act for his own good. On the other side there are five other effect which are result from a quality relationship. The first one is acquiescence that refer to level of acceptance of a partner's request or policies. Propensity to leave means that partner will terminate the relationship but will be less high when partners are committed. Cooperation is refer to work of participants. If participant work together than committed partner will cooperate better. The last two, functional conflict which can be seen as disputer that are resolved in a friendly and cooperative way and decision making uncertainty. Trust

decreases this uncertainty because a partner has confidence that the trustworthy other can be relied on.

2. NEW ISSUES IN THE MARKETING

On the planet will live nine billion people till 2050 according to the report “Vision 2050” by the World Business Council for Sustainable Development. That large number of people will decries resources, so this problem will become very important. For this reason companies need to communicate an efficient and sustainable message and offer not only quality product but also product which provide benefit for society and nature.

The companies are faced with new changes and new rules. In that circumstances the importance of social media grow quickly, but also there are many other factors which affect on the future success of a business, like transparency, individual communication and efficient use of resources. And the last but not least the more important key of economic success will be information. “In 2010, there were 12,5 billion devices connected to the Internet, to 2015 Cisco IBSG predicts there will be 25 billion devices connected to the Internet or 50 billion by 2020.” In the age of information the consumer are well informed and can compare the value of the offered products. Slowly but surely comes the era of Marketing 3.0 or human oriented marketing where consumer will be treated like human beings who are active, anxious and creative. In that kind of marketing, consumer ask about its participation in value creation. Now, companies have to communicate with consumers and marketing managers in order to understand their minds and listen their voice.

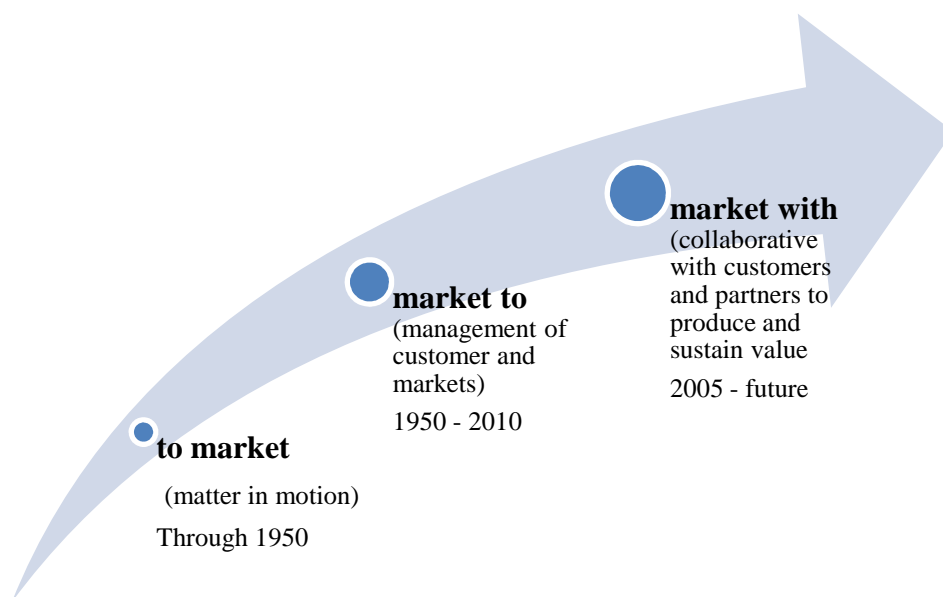


Figure 3. Evolving to a new frame of reference Lusch 2005

According to Stephen Covey, a whole human has four basic components: a physical body, a mind capable of independent thought and analysis, a heart which can feel emotion, and a spirit – soul or philosophical centre. In marketing, the concept of human being starts in the consumer’s mind or how company position the product in the mind of the consumer. Because of position in mind is not longer enough, the concept evolved and became more

emotional and position the product into the hearts of consumers. The concept of Starbucks “third place for drinking coffee” or Apple “creative imagination” is directed to the consumer’s heard and emotions.

3. THE MEANING OF MARKETING 3.0

The concept of marketing is going to redefined in an innovative concept which require a consumer’s involvement in creation of value. This trend of consumer’s participation has significantly influence of the company and determine its way of collaboration and communication. In the same time, this concept require from companies to listen a consumer’s voice carefully in order to understand it senses and emotions.

This concept include three elements: Positioning, Differentiation and Brand. A brand should be positioned in the consumer’s mind in order to ensure a clear brand identity. But it must be supported by strong differentiation to give brand integrity i.e. to position a brand which will allow to create a good company’s brand image. Value of brand need to provide the product with function and features in the same time appeal to consumer’s emotional needs and wants. The focus of each brand is differentiation to reflect its integrity. Differentiation allow each company to get high profit and create a defend position despite competition. The success of the strategy depends of capability of the marketers, knowledge, potential of research activities, experience and coordination with cannel of distribution. That away the company promote its credibility and the consumer’s trust toward company’s brand.



Figure 4. Positioning – Differentiation – Brand triangle

The message of this triangle is completely clear. The marketing it’s not a means which will send lies or untruths. Instead of should be regarded to keep promise to the customers. So positioning should be unique and noticed in the marketplace. In the same time a

company have to include social responsibility in a corporate vision, mission and value. Mission refer to present but vision is oriented on inventing the future. A vision explain a company's aspiration to become, to achieve, to create. The picture that describe a future place where company wish to be in near future is named as company's vision – it is a compass that guides to the future state. The value are the standards of behaviour.

Living in the information society where customer more believe other customer than companies, there is no opportunities for inauthentic brands. They can't survive in a networked community where only 3I model is a way for positioning. In the same time this model is completely complementary in a new era of social media.

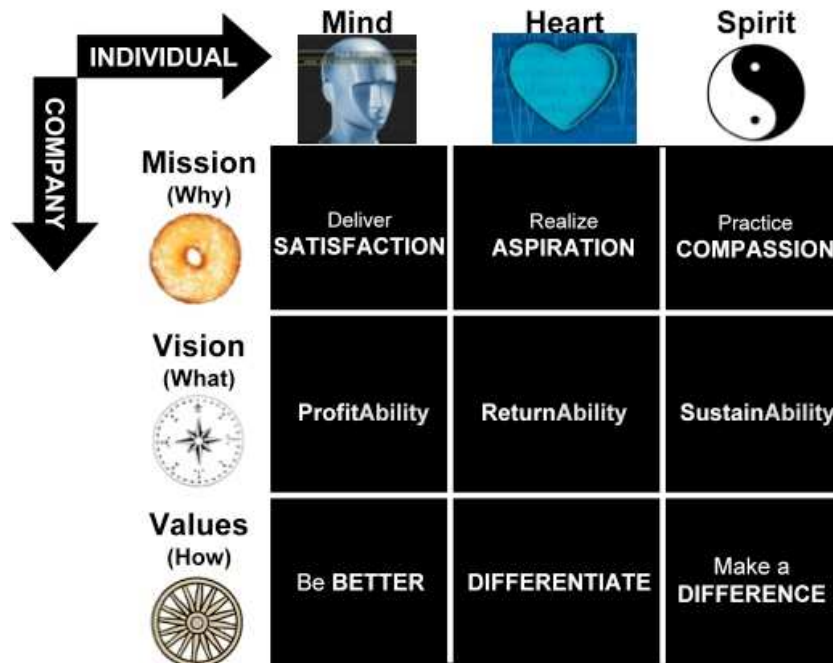


Figure 5. Value – based matrix

The focus of the values-based matrix is to show how marketing has shifted from Product-Centric Marketing 1.0 to Customer-Centric Marketing 2.0 to today's Human-Centric Marketing 3.0. Marketing 1.0 and 2.0 were about how products and services would serves its customers. Actually, in the first stage, marketing was focus on how to make a sale, but in the second stage it became relationship oriented. Third stage is refer to consumer's participation in the process of develop of product and services. Marketing 3.0 explain the connection between brand and human spirit of the customer. Brands that conduct themselves properly with regard to the environment, community and create clear value in according to the social good will be respected. Together with this concept companies is going to promote itself through media in order to influence buying behaviours. The process of collaboration includes shareholders, channel of distribution, employees and consumers. Mission, vision and the values is company's DNA which are presented on the pictures above. On the other axis are hearts, minds and spirit of the current and future customers. While delivering satisfaction to the customer at the product level, brand must have been seen as realizing aspirations at the highest level. In the same time it must promise ProfitAbility, ReturnAbility and SustainAbility. It must also become a brand that is better, different and make a difference to current and future employees.

4. CONCLUSION

The changes in business environment require from companies to develop a new marketing concept. Big recession, climate changes, new social media, consumer empowerment, new wave technology and globalization will continue to create a shift in marketing practice. From the beginning marketing concept past through several phases. From a focus on product management through focus on customer management to the focus on brand management. The classic model of marketing 1.0 was tactical. But, in order to stimulate demand for product, marketing became strategic by developing three strategies – segmentation, targeting and positioning. These strategies allow the beginning of the new modern marketing – Marketing 2.0. New information and creative society appeal different treatment of consumers. They need to be treated as a whole human beings with a body, mind and heart. The companies have to recognize their emotional component. It's time to evolve a third stage of marketing in which marketers should try to understand the anxieties and desire of consumers. This new stage is named Marketing 3.0 human oriented marketing where consumer ask about its participation in creation of value. So, companies have to communicate with consumer in order to understand their minds and listen their voices. New rules and changes require from companies to implement new 3I model – brand identity, brand integrity and brand image - if they want to survive in an networked community. Differentiation is the brand's DNA that reflect the true integrity and proof that a brand is delivering what it promises.

In that circumstances customer more believe other customer than companies, so the importance of social media grow quickly, but also there are many other factors which affect on the future success of a business, like transparency, individual communication and efficient use of resources. The world of social media is still a very new place for economical communication and marketing, which is why companies need to figure out how to successfully integrate it into their marketing concept.

REFERENCES

1. P. Kotler, H. Kartajaya, I. Setiawan "From Products to Customers to the Human spirit Marketing 3.0" John Wiley & Sons, Inc. Hoboken, New Jersey, 2010
2. M.V. Copeland and O.Malik "How to Ride the Fifth Wave" , Business 2.0, July 2005
3. C.K. Prahalad, V. Ramaswamy "The Future of Competition: Co-creaation Unique Value with Consumers" Boston: Harvard Business School Press, 2004
4. P.A.Laudicina "World Out of Balance: Navigating Global Risks to Seize Competitive Advantage, McGraw – Hill, New York, 2005
5. R. Florida "The Flight of the Creative Class: The New Global Competition for Talent" HarperBusiness, New York, 2005
6. G. Zukav "The Heart of Soul: Emotional Awareness" Free Press, NY, 2002
7. J. McCarthy "Basic Marketing: A Managerial Approach" 1st edition, Homewood, IL: Irwin, 1960
8. C.H.Prahalad, M.S.Krishnan "The New Age of Innovation: Driwing Co-created Value Through Global Networks", McGraw-Hill, NY, 2008

9. A.Ries, J.Trout “Positioning: The Battle for Your Mind” MvGraw-Hill, NY, 1981
10. P. Kotler, H. Kartajaya, H.D.Huan, S.Lju “Rethinking Marketing: Sustainable Marketing Enterprise in Asia” Pearson Education Azia, Singapore, 2002
11. A.Wipperfuth, B.Hijack “Marketing Without Marketing” Portfolio, NY, 2005
12. T. L.Friedman “The world is flat: A brief history of the globalized world in the 21st Century”, London, Penguin Group, 2005
13. B.H.Schmitt “Experiential Marketing: How to Get Customers to Sense, Think, Act, Relate to your Company and Brands”, free press, NY, 1999
14. M. Benioff, K.Southwich “Compassionate Capitalism: How Corporations can make doing good an integral part of doing well”, The career press Inc., New Jersey, 2004
15. P.F.Drucker “What Business Can Learn from Nonprofits”, Harvard Business School Press, Boston, 2006
16. S.Brecht, A.Saile, M.Vogelsang “Marketing 3.0 – From Integrated Marketing Communication to the Marketing of Sustainable Leaders”, Stuttgart media university, Stuttgart, Germany, 2011

MEASURING SOCIAL MEDIA RETURN ON INVESTMENTS

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Abstract: Social media and social networks are continuously changing, presenting the main and unconditional leaving and communication part of the contemporary citizen. The way of using this media is an important fact for companies marketing communications and how it influence on the business and marketing communications' results. Nowadays, it is not a question whether to use marketing communications or not, but how and what to use in order to achieve effective marketing communications that provides better business results.

Therefore this paper analyses the possible measurement tools for effectiveness of social media communications, and measuring the investment's return (ROI). The publicized research so far shows that different methods can be applied to different companies and there is no unified method that can be applicable for a company. The market research is based on a company case, implementing a model of measuring their social media campaign and calculating business results, as return on investment.

This research provides valuable models for measuring social media ROI as this presents a contemporary research topic worldwide. This paper also provides valuable recommendations for the business sector. The results are stressing the popularity of Facebook, concluding that social media measurement is possible, but not enough adopted by Macedonian companies. Therefore as a conclusion this paper provides various aspects and opportunities for measuring social media marketing communications' effects on the business results and the marketing ROI.

Keywords: social media networks, marketing communications, return on investments, business results

1. INTRODUCTION

Internet became a platform where one person can communicate with thousand others and very quickly, practically overnight, that communication started including services and products that companies can offer, thus becoming a platform that transformed marketing in general. So, it became an opportunity or a threat to organizations. [2] For customers, it offers wider choice of services and products, with differentiating prices by various suppliers from all around the world. For organizations, it provides an ideal opportunity to expand their market globally, apply newly introduced communication techniques and compete with large companies on equal footing. Following expansion of social media (Facebook, Twitter, LinkedIn), many companies rushed to explore the link between social media and their business. Obviously, social media supports the businesses, but to what extent that supports is positive, or is it increasing effectiveness or not in social marketing program; still remains a subject of concern to many marketers, and needs to be further explored [3]. Having that in mind, continuous search of marketers for an indicator of

effectiveness of social media brought them to the concept of Social media Return on investment - ROI.

2. INFLUENCE OF SOCIAL MEDIA ON BUSINESS RESULTS

Social media influence every aspect of our business and personal lives. Nowadays, it is imperative to integrate social media in company's overall strategy. [4] The overall success of whether small or big business will be partly owed to social media integrated marketing activities. According to Rodriguez, only the forward-thinking companies have implemented social media in their complete business. [7]

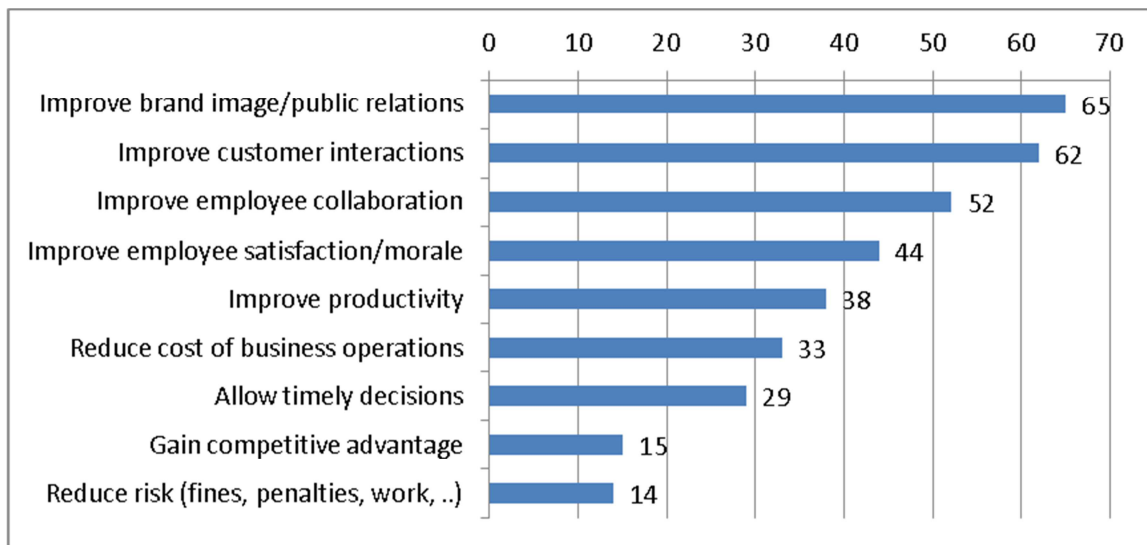


Figure 1. Benefits of social media

Source: SocialTaps.com (2012), *Benefits of social media*, <http://socialtaps.com/the-benefits-of-social-media.html>

Even more, the whole strategies of some companies are based on the social media advantages. Data analyzed from 1669 companies (in different industries), have shown that social media have positive influence on sales performance processes. [7] Sales performance according to their research should be divided in two parts: relationship performance and outcome-based performance. *Relationship sales performance* measures the behavior that strengthens the relations between sellers and consumers. *Based –sales performance* measures increase in sales and the revenue gain of the company. Their research shows that 19 % of the companies increased their revenue compared to previous year, and 21 % expanded their base of customers. This research concludes that social media improved their performance, in such a way that it influenced more their relationship performance rather than outcome revenue. However, the need for overall social media activities outcome, both quantitative and qualitative, brought the marketers to the concept of Social media ROI.

3. ROI FROM SOCIAL MEDIA

Till 2010, many social marketers have claimed that social media could not be measured, and businesses should be satisfied with newly introduced interpersonal engagement, regardless of cost. [5] Some of the past assumptions about social media still have influence at present, like those that social networking has success for fun and friendly products. Other assumptions are that benefits to the company are more on emotional level and that majority of users are teenagers and young adults.

The skepticism towards measuring social media ROI was stepping out in front of the need of more and more entrepreneurs to see financial benefit of money invested in certain social media campaign. Also, there is a need to measure how successful the company's marketing was in the past. This process can ease adoption of the budget and decision-making process inside the company. For example, Powel looks at social media as "de rigueur" in near future, and in order to make right decisions, marketers need to measure effectiveness of social media in order to be certain that their marketing investments are spread optimally across all media, including the new trend of social media marketing. [5] And, when a company knows the ROI for various social media activities, the marketing strategy can be easily refined, most of the problems diagnosed, budget allocations adjusted and the whole cycle repeated. Also, the measurement can help marketers share their results with others in organization in a form they understand and that is ROI.

4. MEASUREMENT AND FINANCIAL ASPECT OF MEASURING SOCIAL MEDIA ROI

The need of managers to get real numbers for effectiveness of social media program has resulted in ready-made software and many methods offered by marketers for measurement of social media ROI. For example, some of the most popular social media measurement tools nowadays are listed by VentureBeat: [10]

- Hootsuite – is considered ideal for managing social networks by tracking conversations and results of the campaign
- SocialBro- helps every business grow through Twitter, analytics for social media presence and enables competitor tracking
- SproutSocial – measures Facebook impressions and twitter followers
- Google Analytics- gives social reports that measures impact of social media presence of the company
- SocialMention - is an analysis platform that "aggregates user generated content from across the universe into a single stream of information". It integrates results from Facebook, You Tube, Twitter, Google, Friendfeed in one place

Some of the authors, like Solis, focus on financial aspect of social media ROI, rather than qualitative aspect.[8] Although, some of the authors, like Ramers, suggest that everything has to be measured and assigned real-money value, others suggest that only those parameters, which are aligned with the objectives of the companies have to be calculated and converted into money.[6] Due to the huge list of metrics, Ramers states that the company has to choose those that are crucial for success of the program. In other

words, the company has to establish KPI (Key performance indicator) and then decide which metrics can support its measurement.[8]

In order to measure KPI, the next important step is assessment of the costs. Calculating the cost of social media effort is a crucial phase before implementing measuring procedure. Costs can be divided as “hard” or “soft” costs. “Hard” costs are costs that we usually pay money for things like: software, service or product. “Soft” costs are difficult to determine, to mention just a few of them: salaries of people working on social media (hour rate, bonuses), time allocated for social media activities etc.

The financial data and ROI can be calculated with the following equation:

$$ROI = \frac{\text{gain_investment} - \text{cost_investment}}{\text{cost_investment}} * 100\% \quad (1)$$

where

Gain_investment - the price for which a company sold the investment

Cost_investment - price that the company initially paid for the investment.

The same formula for measuring ROI is offered in [1].

It is said that ROI can be connected only with financial outcome and never with non-financial outcome because the unit of measurement (currency) must be the same in all parts of equation.

Another formula gives priorities to defining key drivers (*to be measured for success*), that are considered to be in alignment with business objectives and benefits of the company. [5]

In this case, the ROI equation which is usually used is

$$\text{Mrktng_ROI} = \left(\frac{\text{Inc_Revenue} * \text{Contrib_Margin\%}}{\text{Mrktng_cost}} - 1 \right) * 100\% \quad (2)$$

Contribution margin can be calculated per unit or as a total contribution margin:

$$\text{Unit_CM} = \text{UnitPrice} - \text{VariableCostPerUnit} \quad (3)$$

where *variable costs* are “those which vary in proportion to the level of production”.

Variable cost may be direct as well as indirect. Direct variable cost includes direct material cost and direct labor cost. Indirect variable costs include certain variable overheads.

$$\text{Total_CM} = \text{TotalSales} - \text{TotalVariableCosts} \quad (4)$$

This measurement of ROI is needed when marketers usually present numbers outside the marketing team. But for internal use, only for marketing purposes, they can use simpler equation [5]:

$$ROMI = \frac{\text{IncrementalRevenue}}{\text{MarketingCost}} \quad (5)$$

In order to support the idea of measurement of social media ROI, a case study was developed for a Macedonian company (School for foreign languages and computers).

5. RESEARCH METHODOLOGY

The research approach for the case study is quantitative and qualitative. Quantitative aspect can be seen through some of the collected data that are presented (social media ROI for each Facebook activity converted to money). The data collected using interviews with the manager of the company and its customers are used to illustrate qualitative aspect of this research.

The sample selection was done for one industry – education, specifically privately owned school for foreign languages and computers.

6. RESEARCH RESULTS

An interview with the manager gave clear picture of the present marketing approach of the company and its future vision and goals. Namely, till 2011 the school has advertised itself only in local newspapers and with sharing flyers. Following the trend in online space for marketing and also attracting new customers, by offering discounts to new entrants in the school, the general manager agreed to use online social media tools for its marketing activities. It went along with the decision of the company, (due to the business reasons), to reduce the overall marketing budget to 60 % of the previous years.

The short term goal of the company was to fill the non-profitable groups, and to attract new customers in all other groups of the school.

The manager limited the budget for this online marketing campaign to 200 Euro and they were expected to be used in the period of 2 weeks. The rest of the money was to be used to continue the traditional marketing campaign (as before- newspapers, flyers) which required much more money.

To boost the number of entrants and increase visibility of the school, and if this is considered satisfactory at the end of the period than for the next marketing cycle, more money will be invested in this type of marketing.

Finally, based on this interview a tailor-made campaign was designed and Facebook was chosen as a principal carrier. In order to do that additional research was conducted about the mechanism of Facebook advertising technology.

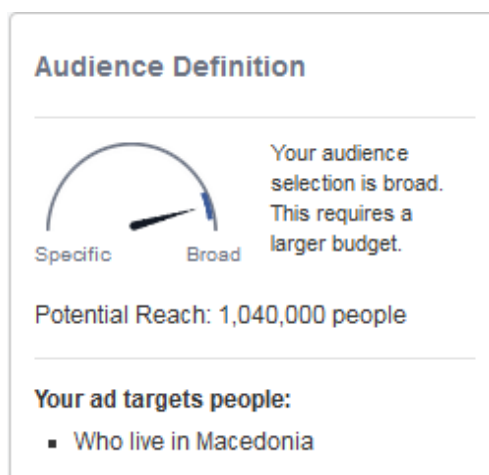


Figure 2. Facebook potential reach in Macedonia

Source: (2014) www.facebook.com

- *First social media advertising activity*

According to the requirements stated in the interview, the marketing team along with the manager of the company decided to start a campaign in a form of an offer - the advertisement which offers general discount for all language courses, and not to specific ones (due to the limited budget), in order to attract new customers, no matter of language course or level.

To measure the effect of this campaign on this social media, KPI for the campaign was chosen as:

- Number of new entrants into not profitable groups, which were attracted by this Facebook Ad, for the period of 15 days after the starting date.
- Number of entrants to existing profitable groups will be considered extra gain

Since Facebook Ad technology includes an option to define the target group, the target of this campaign was decided to be all citizens of Skopje, from 13-65 years old. Also, considering that it is important to locate influencers that can amplify the reach of the campaign, it was decided to use the influencers – the “friends” from the Facebook profile of the company.

The decision was made to launch a coupon, with a message that is short, precise, and attractive and aligned to short-term goal of the company - to fill up the not profit group, gain new candidates for existing groups, and, based on the generated interest, maybe to create new profitable groups. The coupon offered what was considered to be the edge of this campaign:

- 20 % discount which is the biggest discount compared to the rival companies (which offer 10%), and
- The discount is valid for all months of attendance (unlike the rival companies which offered the discount only for the first month)

The campaign in a form of a Facebook offer started on 30th of September 2012, for a period of one week.

The effect of the campaign was very carefully monitored in the first two days. Judged by the interest it generated, it was decided to launch in parallel additional campaign (as influencer) on another social media – the web page sakampopust.mk, which enables group discount. This part of the campaign was realized by 3 variations of the coupon which expired in one month.

Considering that monitoring and managing marketing campaign is a continuous process during its lifetime and a limited period after, one of the elements is to manage negative comments, if any, but in this campaign there were no negative comments. The interest for the coupon measured by the number of claimed coupons (141), based on the Facebook statistics module as well as enrollments by the Facebook profile page, was considered to be a sign that the campaign is a successful one.

To calculate the media ROI of this campaign, the following parameters were taken into account:

- The cost of the social media Ads
- The fee for designing the add , and
- per-diems of the marketing personal (for following its effects)

The average activity of marketing personal was defined as 2 hours per day, so the calculation is

$$2h * 10 \text{ days} * 3 \text{ Euros} = 60 \text{ Euro salary}$$

The salary, classified as a soft cost, was calculated based on the average salary per hour in industry in Macedonia, and that is 1h labor = 3 euro, approximately calculated as 150% of average Macedonian salary in industry (State Statistical Office, 2013).

Finally, considering that the cost for sakampopust.mk was 70\$, the total cost of the campaign can be estimated as:

Table 1. Total costs for first social media activity

No.	description	Amount paid	Conversion
1	The FB Ad	31\$	31\$
2	Sakampopust.mk cost	70\$	70\$
3	Personal costs	60 EUR	72\$
		Total	173\$
		In den	8.181 Den

Table developed by the authors based on the payments for this social media campaign, conversion of currency relies on data taken on 07.02.2012 from the site of National bank of Macedonia.

Other hard costs like electricity, server, and monthly internet costs were not included in this calculation because they are regular company costs, and should not be connected to the launched Facebook Ad.

The statistics generated by the specialized modules of the social media in question, enabled gathering the following results.

15 coupons were sold, and 10 of them were for joining the non-profitable groups, so they were made profitable. Other 5 coupons were sold to candidates that entered the existing, already profitable groups, so they can be considered extra gain.

$$\text{Gains} = 15 \text{ coupons} * 4,800 \text{ den} = 72,000 \text{ den (1,522\$)}$$

So, financial side of Social media ROI can be calculated (using formula (1)) as

$$\text{ROI} = (1522 \$ - 173 \$) / 173 \$ = 7,79 \text{ or } 779\%$$

This means that for every dollar invested in the campaign, the company received approximately 7,8 dollars back.

After completion of the campaign the results were presented to the manager. The results were also stored in a database, for using and comparing with other Facebook ads in the future. This step was necessary in order the manager to have clear picture of success of the campaign (in this case 779% ROI), and adjusting the marketing campaigns in future.

The positive experience connected to the first social media marketing activity opened a way for further investment in social media marketing activities.

- Second social media activity

According to the requirements, the marketing team along with the manager of the company decided to start a campaign - the advertisement which offers 50% discount for all

language courses, only for the first month of the selected course and not to specific ones (due to the limited budget), in order to attract new customers, no matter of language course or level.

The budget for online marketing campaign was limited to max 200 Euro, for the 2 weeks period of duration of the campaign. Finally, Facebook was chosen as a principal carrier.

To measure the effect of this campaign on this social media, KPI for the campaign was chosen to be:

- Number of new entrants into all groups, which were attracted by this Facebook Ad, for the period of 15 days after the starting date.

The campaign in a form of a Facebook Ad was started on 20th of January 2013, for a period of one week. The target of this campaign was decided to be the same as in the first social media campaign.

The effect of the campaign was again very carefully monitored in the first two days. Reports from the Facebook statistic page were generated in order to see the peaks when the campaign had reached its maximum. At the moment when there was a noticeable decrease (graph on Facebook statistic page), the company decided to include influencers to strengthen the campaign. It was decided to launch again in parallel additional campaign on another social media – the web page sakampopust.mk.

There was an obvious positive influence of sakampopust.mk, towards attracting new users. This was confirmed by interviewing some of the candidates (a phone poll) how they were triggered to choose this company; the answers were that they saw an advertisement on sakampopust.mk or Facebook Company's Page.

To calculate the media ROI of this campaign, the following parameters were taken into account:

- The cost of the social media Ads
- The fee for designing the add , and
- per-diems of the marketing personal (for following its effects)

so, the total cost of the campaign can be estimated as

Table 2. Total costs for second social media activity

No.		Amount paid	Conversion
1	The FB Ad	15\$	15\$
2	Sakampopust.mk cost	90\$	90\$
3	Personal costs	60 EUR	72\$
	Total		177\$
	In denars		8.081 Den

Table developed by the authors (2013) based on the data from payments for this social media campaign, the conversion is based on the from 28.01.2013

The average activity of marketing personal was (again) defined as 2 hours per day, so the calculation is **2h * 10 days * 3 Euros = 60 Euro salary**
During the campaign message 18 new customers entered the existing groups, so the gains are

$$18 \text{ new customers} * 5,500 \text{ den} = 99,000 \text{ den (2168\$)}$$

The financial side of Social media ROI can be calculated applying the following formula

$$\text{ROI} = (2168 \$ - (72\$+90\$+15\$))/177\$ = 11.2 \text{ or usually expressed as } 1120\%$$

i.e. the explanation is that for every dollar invested in the campaign, the company receives 11,2 dollars back.

7. NON FINANCIAL SIDE OF ROI

The non financial side of ROI can be seen by the Facebook statistics page, like impressions, likes etc.

Table 3– Non financial gain

category	First media activity	Second media activity
Impressions	588,170	377,702
Likes	102	95

Table developed by the authors – based on data on Facebook statistic page of the company (2012, 2013)

These data were taken from the report, generated by Facebook, for the selected campaign.

Also, additional benefit for the company is the effect of the social media by itself due to the company's prolonged activity i. e. increased visibility which should have some long term effects on attracting new clients.

8. CONCLUSION AND RECOMMENDATIONS

Social media should be integral part of overall marketing strategy of the company because social media marketing costs less than traditional media; but the company has to select appropriate social media tool for advertising, to meet specific predefined goals.

The measurement of social media ROI is possible, and each company can adopt the measurement process to its need. The popularity of Social networks, especially Facebook, is very high and on the rise in Macedonia, but the measurement of social media ROI in Macedonian companies is low although the measurement of social media ROI worldwide is a hot research topic and continuously improving.

Further research should concentrate on finding methodologies and techniques for measuring non-financial aspect of ROI that can help companies adjust their activities in order to fulfill their long term goals. The same measurement of social media ROI should be applied to other companies in Macedonia and to different industries, not only education as in this case study. It is going to provide possibilities for comparison of measurement results of social media ROI for different cases which is of crucial importance for refining the methodology of social media ROI measurement. Also the other aspects of presence of companies, not only on Facebook, but also on other social networks like Twitter, LinkedIn should be measured and compared to those on Facebook.

Other important thing is that social media scene is changing on a daily basis, so the companies have to continuously upgrade their skills and social media engagement in order to produce greater results. Finally, the rising trend of using smart phones and tablets, poses a challenge for social media activities, and should be researched as a new technological

platform which, unlike accessing internet in the working hours or in the leisure time in the evening, has no limitation to a time of day of type of activity.

REFERENCES

- [1.] O. Blanchard, *Managing and measuring social media efforts*, Pearson Education, Boston (2011) .
- [2.] O. Chaffey, *Internet Marketing*, Pearson Education, Essex England (2009), p.31
- [3.] J. Dickey , F.William, *The Evolution (Revolution) of Social Media and Social Networking as a Necessary Topic in the Marketing Curriculum: A Case for Integrating Social Media into Marketing Classes*. p.31 (2010) [Electronic version]
- [4.] E. Qualman, *How social media transforms the way we live and do business* (2013) [Electronic version]
- [5.] G. Powell, *ROI of Social media*, John Wiley & Sons (Asia), Singapore (2011)
- [6.] J. Ramers, [Four Ways to Measure Your Social Media ROI](#), Full Text Available By:.. Corporate Meetings & Incentives, (2011) [Electronic version]
- [7.] M. Rodriguez, **SocialMedia's** Influence on Business-To-Business **Sales** Performance. *Journal of Personal Selling &Sales Management*. (2012) [Electronic version]
- [8.] B.Solis, *Social media measurement*. 4imprint, Inc., (2011)
- [9.] State Statistical Office, *Average Monthly salary*, (2014)
- [10.] VentureBeat, *10 Most popular social media measurement tools*, 2014

MBTI PERSONALITY TYPES ANALYSIS, IN A VEHICLE SERVICE CENTRE

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Abstract: The authors of this paper after making reorganization of the hierarchical structure in an importers service center for vehicles in the Republic of Macedonia start to think how to make an analysis of the types of person in the hierarchy of teams, in a way to be more efficient and effective, and increase percentage of profitability. For this purpose they used the MBTI (Myers and Brigs Type Indicator) questionnaire, which has given to all of the employees from the after - sales department in the importers center to fill, after which presentation has come to outlining the type of personality of each employee. An analysis of the types of personalities and review of the possibility of their regrouping in order to create complementary teams, who would have to reached the goal of increasing of profitability. In the end was made a review of the benefits that would be achieved after analysis of the types of people in groups and launching of the first measurements of the performance of the work after changing the hierarchy. Also there was given the predictions for increasing the performance of the work in the future.

Keywords: Service, MBTI, Personality types, Organizational structure, Teams.

1. INTRODUCTION

People come together for different reasons: to socialize (picnic group), to play (a group of children on the street), to hunt (hunting gang) or to do something that can not do alone (team). The reason for grouping is a major criterion in the selection of the group members, and later in staying together. After the initial formation of the group, it is possible to connect to other members, even incidentally. The initial collection of the group means that the group is formed. It is only the germs of that group, which can be born under certain conditions to live some time with all changes in every living organism occur. These changes occur in the birth, life and work of the group referred to as group dynamics. The main division of the groups is on formal and informal groups (Figure 1). In any larger social community (company, association, political party, sports club, close family, etc.) these two types of groups exist.

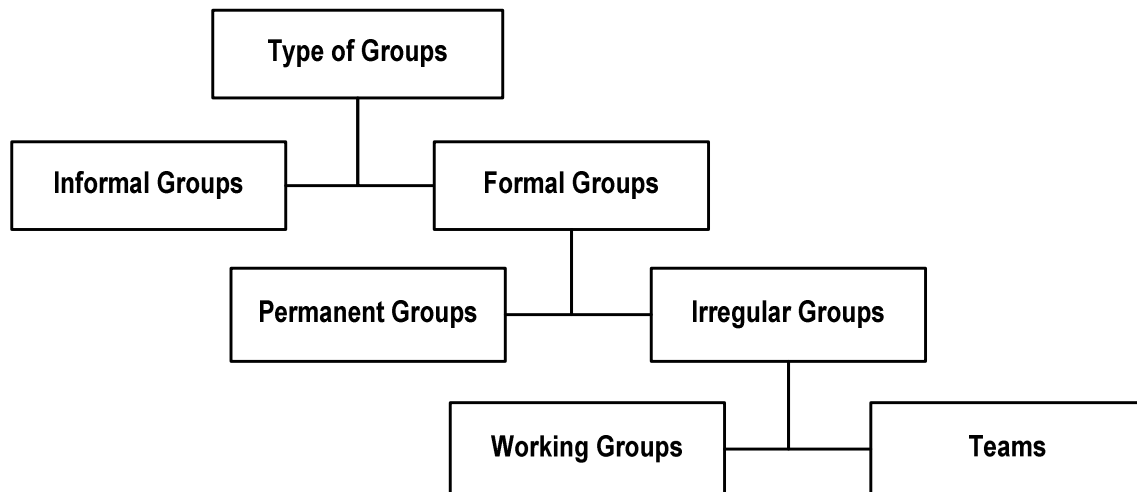


Figure 1. The main division of the groups

Formal groups are forming by a certain member of the wider social community who has power to do it, specifying the objective of the establishment, membership of the group, and, usually the leader of the group. Such groups are: grade plant, class in school, a committee to celebrate the anniversary of the company, board and etc. Informal groups are occurring spontaneously and they are articulated around a common interest (going to work with a few colleagues with one vehicle, etc.). The initiator of the informal group most often is a future leader of the group.

According to the purpose for which they were established, groups can be permanent (relatively permanent, such as organizational units, the complex plant equipment) and irregular (when they are forming for a specific task: commission team, strike committee, etc.).

The above general characteristics of the groups as formal and informal are required for running the daily activities in to the company. Also, as it was mentioned before, the implementation of organizational changes as a basic strategy is using a team or teamwork. It is useful in this division to see the team as a special kind of group.

Team falls under formal groups. In the background is the one of the first specification of the team, and it is specific purpose for which it is formed. On this basis, the team should be includes in permanent groups. However, some theoreticians, in team and working groups include irregular (repetitive) tasks such as crews of complex systems: air crew, crew excavator and etc. [1]

In order to meet the requirements of this paper work, the authors have chosen one of the biggest sales and service importer center in the Republic of Macedonia. The company has been operating since 1991 on the Macedonian market and it has already had an organizational set up in all sectors of its operation. The analysis of already made reorganization in after sales shows that the teams can function even better if they are formed in a way which contains complementary members. The authors of the paper has used MBTI type indicator, as an aim of the research.

The Myers Briggs Type Indicator - MBTI is the most widely used questionnaire, used to determine the type of personality. It helps to understand ourselves, to understand where we are in the framework that explains the differences between people in a positive and constructive way. This tool helps us to notice the significant differences among people and to understand how different types can work together in a complementary way. Knowing your personality type helps people in choosing and making a progress in the career,

evaluation and maintenance of friendships, raising children, as well as in understanding and enriching social life. The Organizations use it to improve communication between employees, teamwork and leadership.

Developed by Isabel Briggs Myers and Katharine Cook Briggs and based on the theory of Carl Gustav Jung for tempers among people and is one of the few models of personality differences that describes positively. According to this survey there are no good and bad types, but each type has its strengths and potential weaknesses. Developed 20 years before it was first released in 1962. Each year more than 2,000,000 people around the world fill in the Myers Briggs indicator of types that makes this tool a universal tool for understanding the modern world.

Myers Briggs indicator of personality type is a tool that is widely used. It is used to improve the work in teams, and individual work. Provides an understanding of the own style and personality of the others. By understanding the differences in the types, the teams and individuals can work more effectively, with improved communication and reduced conflicts.

This tool can be used individually and in a group, it has a wide range of application on the workplace including: individual development, mentoring, management development and leadership; development and team work; organizational change and communication improvement.

This tool provides an accurate picture of the type of personality and sets preferences based on four dichotomies:

- **Extraversion - Introversion** (describes where people prefer to focus their attention and where they get their energy - from the outer world of people and activity or their inner world of ideas and experiences),
- **Sensing - Intuition** (describes how people prefer to perceive information - focusing on existing facts and reality or patterns, meanings, relationships and opportunities that exceed physical reality),
- **Thinking – Feeling** (describes how people prefer to make decisions - based on logical analysis or guided by concern for their impact on others) and
- **Judging - Perceiving** (describes how people prefer to deal with the outside world - a planned, organized way, or in a flexible, spontaneous way).

The combination of these preferences results in 16 different personality types. Understanding the characteristics that are unique for certain type of personality provides insight into how these characteristics affect individual ways of communicating and interacting with others.

The basic idea behind this typology is not new. Even more than seventy years ago the famous Swiss psychologist Carl Jung described these types. Later, American Katherine Briggs and her daughter Isabel Briggs Myers have elaborated this model and have developed four dimensions that determine the type. Thus they made this basic idea to be useful in a practical way for many people. Isabella has made a major contribution to the understanding of human behavior and psychological development of a reliable instrument that identifies sixteen different types. It is about the Myers-Briggs Type Indicator (MBTI). The purpose of this tool is the determination of basic preferences of people through self-identifying easily recognized reactions, which further provides important insights for our behavior and the behavior of others. [2]

2. TEMPORARY SITUATION

In order to make the research, the organizational structure of the after-sales department in the vehicles importer center was considered, which is the subject of the research .namely, the vehicle importer center has been existing on the territory of the Republic of Macedonia since 1991, is one of the largest centers and it has developed a hierarchical structure. The current situation of the after sales department is presented in Figure 2, where it can be seen that the direct executors are in already formed teams and in a team of: one (1) Service Advisor two (2) mechanics 1 (one) Electrician in - service repair department and one (1) service advisor for body shop - one (1) remove-fitting worker, 2 (two) panel beaters, two (2) preparers and one (1) painter in the body shop.

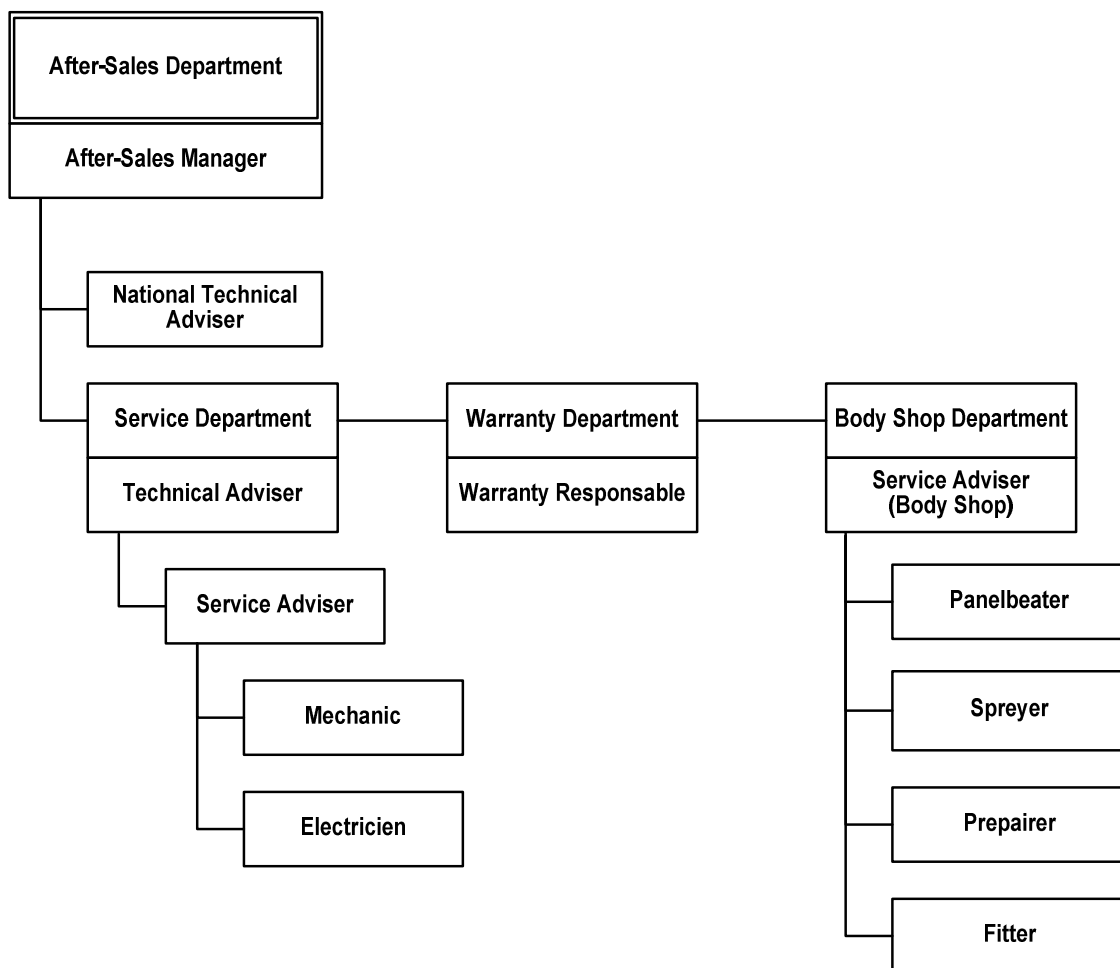


Figure 2. After-Sales and Service organizational structure

This reorganization dates from 2012 and has already achieved initial results for which improvement there is a need of more detailed analysis which is a subject of the authors of this paper. [3]

3. INVESTIGATION AND ANALYSIS

According to MBTI method the authors of this paper started with the research (initial filling in of questioners and subsequent visual presentation and survey) to 40 (forty) people in the service department of the vehicle importer center. When you take into account all employees who were divided up according to job positions, graphically represented in Figure 3.

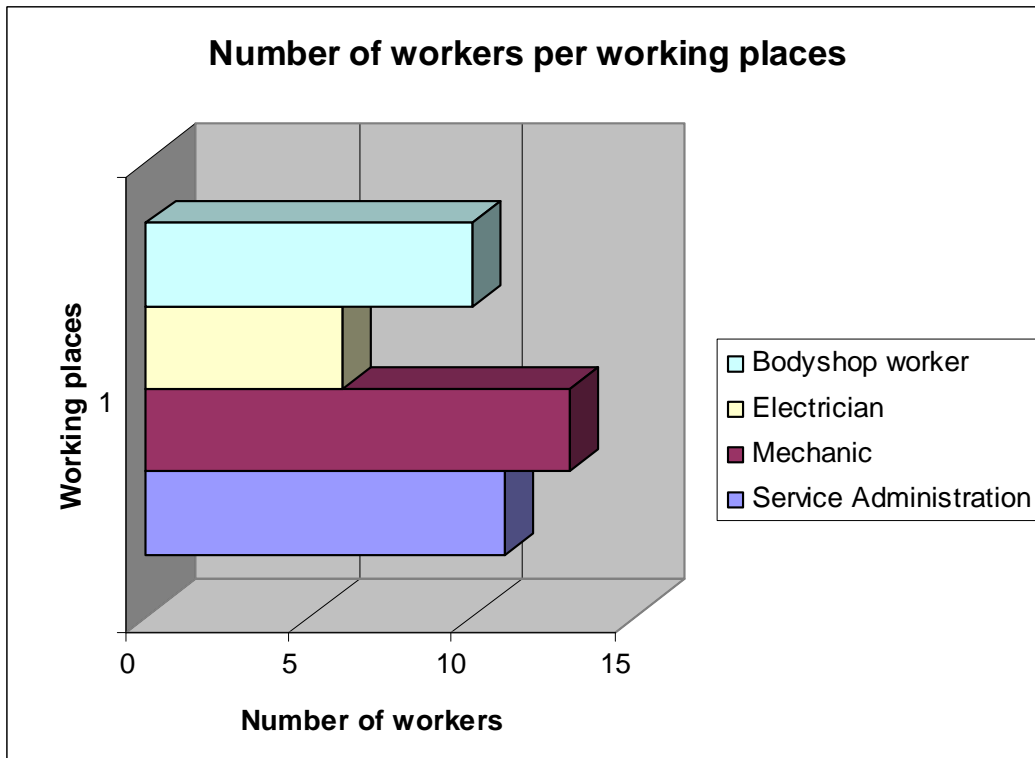


Figure 3. Number of workers per working place

During 2013, on several occasions over a period of one (1) month, a research was done where the employees, divided into groups according to job positions of each group, on a different day, were given to fill in MBTI questionnaires and they were explained how to fill in the same, as there would be no doubt and in order to obtain realistic results. After completing the questionnaire and the break, we went on by a practical presentation of the personality types according to MBTI methodology, type by type, in order the present to be able to discover the type themselves, independently of actual tests (completed questionnaire). After the self-revel of the type, the employees were revealed the type of discover type them self by which it has been concluded that more than 70 % of the questionnaires types and presentation were filled.

The results of the research, with revealing type of the person of this group of 40 employees of the service center are given in Figure 4 and Figure 5.

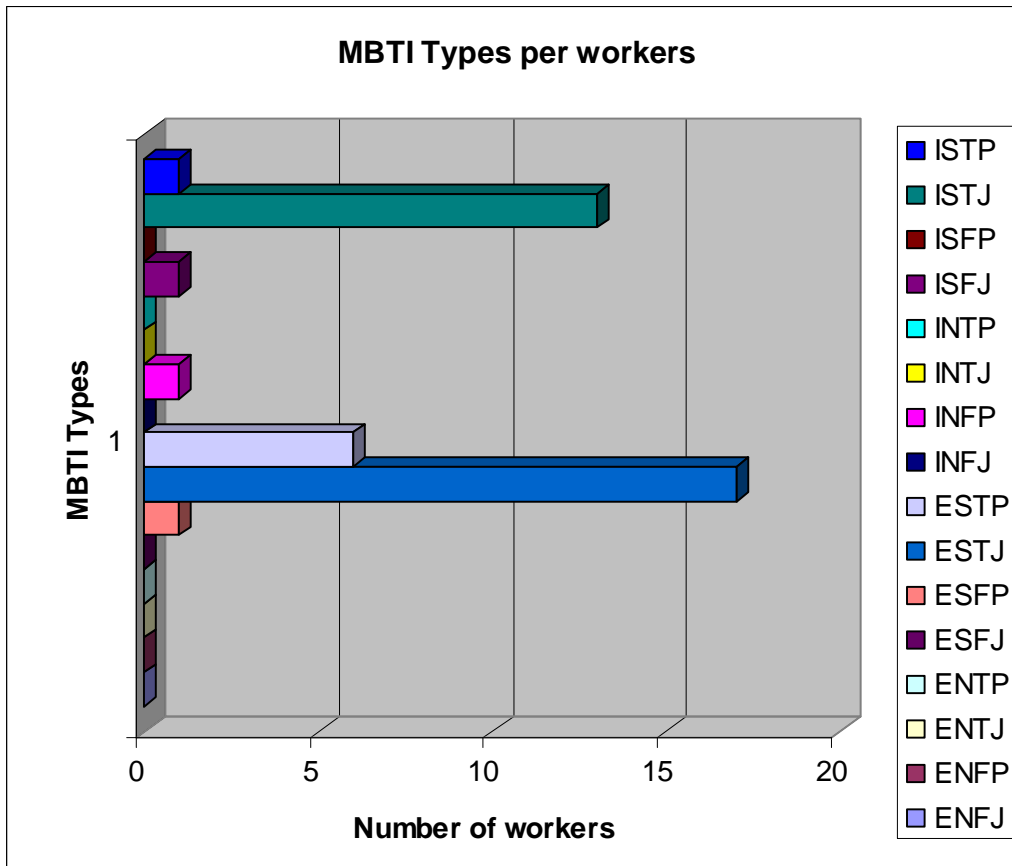


Figure 4. MBTI Types per workers

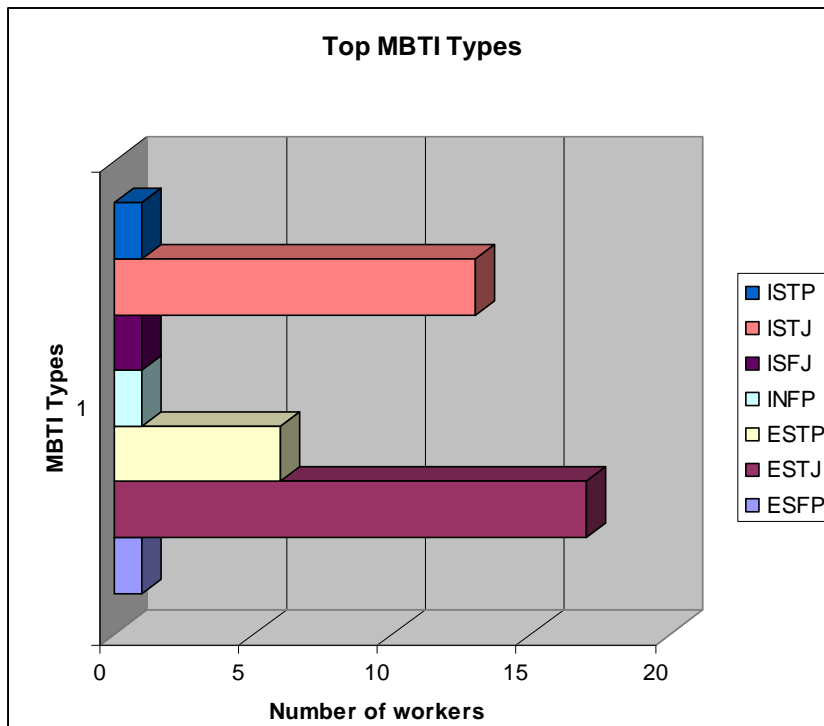


Figure 5. Top MBTI Types

The made research and Figure 4 and 5 show that the majority of employees are from types ESTJ (17) and ISTJ (13), fewer from ESTP type (6), and ESFP, INFP, ISFJ and ISTP (1), while the remaining nine (9) types are not present.

The description of the most frequent types ESTJ, ISTJ and ESTP with their basic features and what they do in the best form will be discussed in this paper, where you can see that these types of people are affected exactly for the functions of the jobs they perform.

Profile of **ISTJ** type of person

I Deep concentration
S Reliance on facts
T Logic and analysis
J Organization

Serious, quiet, achieve successes by concentration and thoroughness. Practical, neat, logical, realistic people that you can rely. They take care about everything to be well organized. Take responsibility. They make decisions themselves about what should be achieved and operate on it calmly, regardless of protests and obstacles.

In the Best Form:

ISTJ types are very responsible and loyal to the organization, family and relationships with other people in their lives. They work with steady energy to fulfill duties as delegated and in time. They would have dealt with all sorts of obstacles to finish something they think is necessary, but refuse to do anything about things that have no meaning for them.

ISTJ types generally prefer to work alone and to be responsible for the results, but they are pretty good in teamwork if it is necessary for the work to be done. In this case the roles should be clearly defined, and the people involved in the team must perform prescribed tasks.

Features of ISTJ types:

ISTJ types largely rely on facts. The Sensing is primarily used internally, where you have a stock of information used to understand the present. Because of this they are:

- practical, reasonable and realistic;
- systematic.

ISTJ types use Thinking in decision making and in taking an objective, logical and determined approach. They prefer to direct to the task or the system as a whole, instead of people. ISTJ types usually are:

- logical and analytical;
- objective and reasonable.

ISTJ types are clear and consistent in their attitude because they came to them by using

logical criteria based on their own experience and knowledge. They believe that the standard procedures exist because they work. ISTJ types will support change only when the facts show that it will bring better results.

Profile of **ESTJ** type of person

E	Width of interest
S	Reliance on facts
T	Logic and analysis
J	Organization

Practical, realistic, rely on facts with natural talent for business or mechanics. Not interested in abstract theories, they want learning to be directly and immediately applicable. They want organize and conduct activities. Often become good administrators, they are energetic, quickly implement decisions, and take care of routine details.

The Best Form:

ESTJ types want to organize projects, operations, procedures and people and then act to get things done. Live on clear standards and beliefs, making systematic efforts to monitor the same, they expect the same from others. Appreciate the competence, performance and results.

Features of ESTJ types:

ESTJ types take objective approach to problem solving and they are firm when the situation demands it. They use primarily external opinion to organize their life and work, not patient in terms of confusion, inefficiency or half measures. ESTJ types tend to prove as:

- logical, analytical, objectively critical;
- decisive, clear and trustworthy.

ESTJ types are directed toward the present - what is real and current. They apply and adapt relevant past experiences of dealing with problems. Prefer jobs where results are immediate, visible and tangible. ESTJ types usually are:

- practical, realistic and rely on facts;
- systematic and pragmatic.

ESTJ types are great administrators because they understand the systems and logistics. They can afford to lay down the necessary steps to carry out tasks, to anticipate potential problems, allocate tasks and rule with resources. They cover all holes, they tighten all the ropes and finish things on time. When they see that things do not work, they will plan and act to correct the situation. Otherwise, they prefer reviewed procedures and systems. Their orientation is towards tasks and action towards the ultimate goal.

Profile of **ESTP** type of person

E	Width of interest
S	Reliance on facts
T	Logic and analysis
P	Adaptability

Good at problem solving "on the spot". They want action and enjoy in everything that comes across. Tended to enjoy in mechanical things and sports, with friends and do not want a long explanation. Best with real things that can be done, that can be handled that can be disassembled or to be completed.

The Best form:

ESTP types are vigorous, actively solve problems creatively respond to challenging situations in their environment. Rarely permit interfering of rules or standard procedures, finding new ways to use the existing systems. They develop easy ways to perform difficult tasks and you make works fun. They are flexible, adaptable, innovative, able to reconcile the conflicting parties and good team member.

As comrades they are popular, especially with activities (parties, sports or work) because of their enthusiasm for life and their enjoyment in the present.

Features of ESTP types:

ESTP types are interested in everything going on around them - activities, food, clothes, people and nature - all offering new experiences . Because they learn more from practice than theory, tend to be immersed in things, learning and believing to their ability to react. ESTP types are:

- practical and realistic;
- aware of the environment;
- directed to momentary experiences.

ESTP types make decisions by means of logical analysis and reasoning and being firm when the situation demands it of them. But in most situations, they prefer to deal flexibly than to judge. ESTP types are usually:

- analytical, rational, problem solver;
- Direct and trustworthy.

ESTP types are experts to assess what is needed at a given moment , act quickly to meet the need . They naturally take things as they are more willing to search for satisfactory solutions rather than impose their own "should" and "must". [4]

4. IMPLICATIONS AND CONCLUSIONS

After the implementation of the new organization increase of profitability in the department is unavoidable, first of all in reference to financial input as well as in reference to the increased number of entrances in the service department. We came to the same conclusion after conveyed customer satisfaction interview for 2011, 2012 and 2013 which showed more than 90% of satisfied customers and which has to be a target for the future as well, figure 6. [5]

From these studies started in September 2012 when a new organization introduced and can say that it is not accepted with pleasure by the direct repairers but with MBTI type reorganization the pleasure is in the higher level.

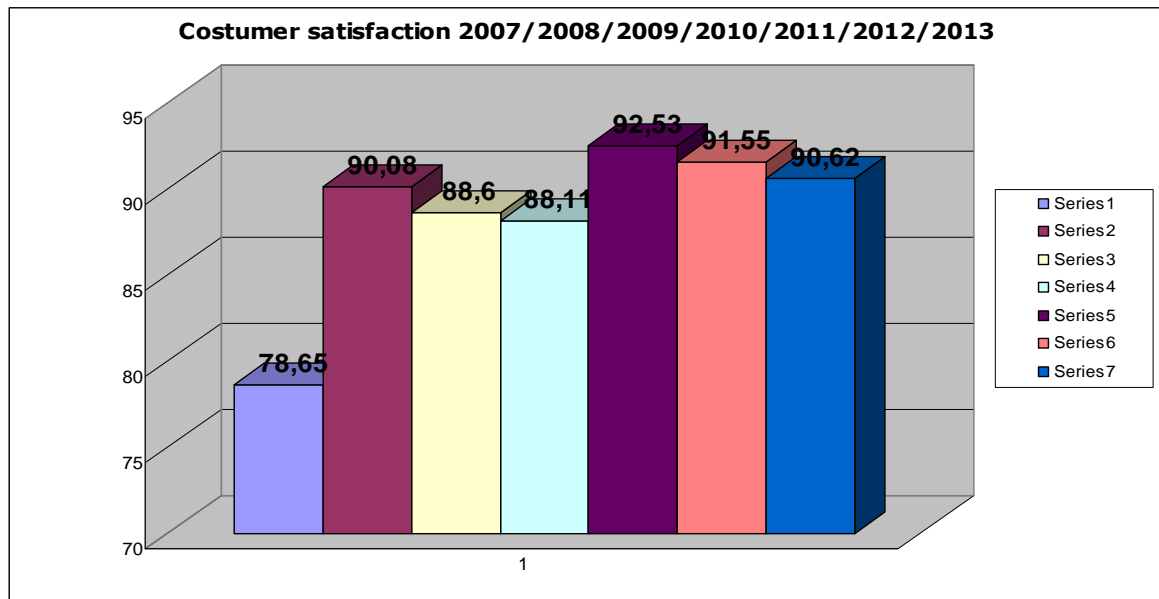


Figure 6. Costumer satisfaction by years

REFERENCES

1. C. Smilevski. The Challenge and Mastery of Organizational Changes, Detra centar, Skopje 2000. p. 67.
2. <http://bas.edu.mk/node/175>
3. V. Stamboliski, V. Donev , R. Polenakovic, Improving the organizational structure in the after-sales of vehicles by establishing and developing effective teams, IX May Conference on Strategic Management with international participation, University of Belgrade, Technical Faculty in Bor, Serbia, 2013, p. 8.
4. L. Demarest, MBTI looking at type in the workplace, Center of applications of psychological type, Gainesville, USA, 1997, p. 27.
5. V. Stamboliski, Key factors analyses which provide optimization of after-sales activities while maintaining the vehicles in direction to customer satisfaction, Master thesis, Faculty of Mechanical Engineering, 2010, p. 81.

THE INFLUENCE OF THE GLOBAL FINANCIAL CRISIS ON THE ANTI-CRISIS STRATEGY OF FOOTBALL CLUBS

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Abstract: The study aims to determine the characteristics of anti-crisis strategy of football clubs. Activities of football clubs now more and more features of the business project: a significant portion of revenue is selling football paraphernalia, players football clubs are seen as an asset that can bring in revenue, the financial results of football clubs are considered sponsors and investors on a par with sports results. Crisis of recent years could not but affect the sports field: reduced value sponsorship contributions, reduced purchasing power of the fans. The article presents a study that might be affecting the crisis tendencies of the world economy on the financial results of the largest football clubs in the world. In addition, an attempt to generalize the tools anti-crisis strategy biggest football clubs.

Information base studies are published financial reports of football clubs, the data and results of the official websites of specialized analysts - Deloitte Football Money League.

The study group held football clubs in character dynamics of financial indicators for 2006-2012. Separates the region's anti-crisis strategy - selling football paraphernalia and shown to affect this part of the sales in the financial performance and success of overcoming the global financial crisis.

Keywords: sport management, anti-crisis strategy, effectiveness, football clubs, business models.

1. INTRODUCTION

The use of economic and management tools in the strategic management of a football club has now been confirmed by numerous examples. Experience the biggest football clubs says that football is becoming increasingly like a business project. Hence the interest in the scientific community to the strategic and operational management tasks in this field. Subjected to statistical analysis of the results of matches, the physical parameters of the players. Oberstone J. [1] reveals patterns of matches between the results and the parameters of the game. This is the percentage of goals from outside the penalty area goals; percentage of strikes that led to the shot; the average number of goals conceded in one match; the total amount of the ball players of his team; ratio of short and long transmission; The number of yellow cards. Together, these variables explain more than 99% of points in the English Premier League.

Morrow, S. [3,4], Szymanski, S [5] examined the financial aspects of football clubs. S. Ward et al. [2] continued economic issues management football clubs. We study the efficiency of football clubs from the standpoint of non-profit organizations. Focusing on Exeter City FC, operating as a nonprofit organization, this research examines the range of business and financial management issues facing the club. The main findings reveal that supporter ownership allowed a greater sense of "buy in" and inclusion of a wider cross-

section of stakeholders. However, the evidence shows limitations to mutuality in identifying alternative revenue streams, overly bureaucratic decision making, and ability to developing capabilities to compete.

Impact of the global financial crisis applies to this activity through the following factors: the level of effective demand for football memorabilia and tickets to football matches, the cost of broadcasts on TV, football clubs transfer policy. The article analyzes the financial dynamics of the largest football clubs in for 2006-2012. and identifies factors affecting their dynamics. On the basis of analysis of the dynamics of revenue biggest football clubs are divided into the following groups:

1. “Leaders”. This group consisted of FC, which shows no deterioration of financial results for the period under review. This group consisted of the following clubs: Real Madrid (Madrid), Barcelona, Manchester United, Napoli.

Table 1. Revenue of group “Leaders”, m Euro [6]

№	Football club	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
1	Real Madrid	351	366	401	439	480	513
2	FC Barcelona	290	309	366	398	451	483
3	Manchester United	315	325	327	350	367	396
4	Napoli	38	78	88	92	115	148

Based on regression analysis revealed patterns between financial performance and financial structure of income clubs. These clubs are playing for different countries, so the impact of national and state support as a factor of success is difficult to call.

2. «Successful». Футбольные клубы испытали влияние только одной волны кризиса в сезоне 2008/2009 г. или 2010/2011 г. В эту группу вошли следующие футбольные клубы: Manchester City, Borussia Dortmund, Juventus, Olympique de Marseille.

Table 2. Revenue of group “Successful”, m Euro [6]

№	Football club	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
1	Manchester City	85	104	102	153	170	286
2	Olympique de Marseille	99	127	133	141	150	136
3	Juventus	141	168	203	205	154	195
4	Borussia Dortmund	96	108	104	105	136	189

3. «Crisis». Football clubs in this group showed financial results, which for several years been subjected to the negative effects of the crisis. This group includes the following football clubs: Bayern Munich, Chelsea, Arsenal, AC Milan, Liverpool, Internazionale, Tottenham Hotspur, Schalke 04, Olympique Lyonnais, Hamburger SV, AS Roma, Newcastle United, Valencia. Basically, the revenue decline was in the seasons 2008/2009 and 2010/2011. A number of clubs revenue decline was observed for several consecutive years.

Table 3. Revenue of Football clubs in group “Crisis”, m Euro [6]

№	Football club	2006/07	2007/08	2008/09	2009/10	2010/11	2011/12
1	Bayern Munich	223	295	290	323	321	368
2	Chelsea	283	270	245	259	253	323
3	Arsenal	264	264	263	274	251	290
5	AC Milan	229	210	197	244	235	257
6	Liverpool	207	207	217	225	203	195
7	Internazionale	177	173	197	225	211	186
8	Tottenham Hotspur	153	145	143	146	181	178
9	Schalke 04	114	148	125	140	202	175
10	Olympique Lyonnais	141	156	140	146	133	132
11	Hamburger SV	120	128	147	146	129	121
12	AS Roma	145	175	146	123	144	116
13	Newcastle United	129	126	101	64	98	115
14	Valencia	108	99	82	99	117	111

Analysis of income, in particular the dynamics of the part of revenue from the sale of club attributes, showed considerable variation in the selected groups. Of the analyzed population of football clubs were excluded those which lacked data on the structure of earnings. Thus, the first group of "leaders" has been deleted club Napoli. From "Successful" was expelled club Borussia Dortmund. From the group "Crisis" excluded clubs Newcastle United, Valencia, AS Roma. The results are shown in Fig. 1-3

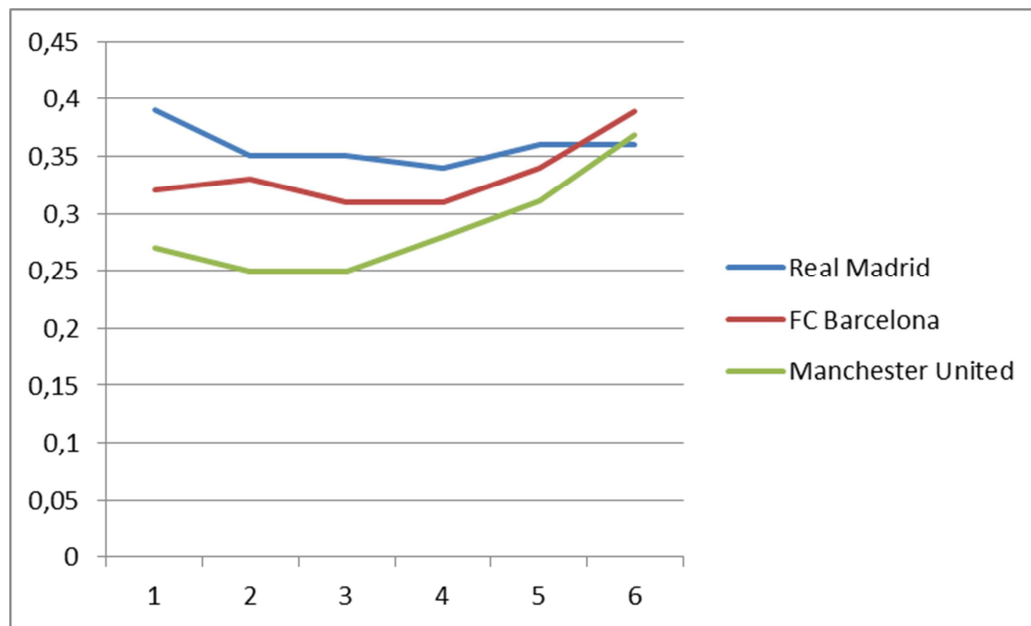


Figure 3. Dynamics of part revenue from the sale of club attributes in group “Leaders”

Group "Leaders" which characterize the maximally income among European clubs, shows a steady level of part of revenue from the sale of football attributes. Maximum popularity of these clubs among the analyzed forms the basis of financial stability. Thus, the leading clubs, which have large financial resources and of fan loyalty, did not change the structure of revenues.

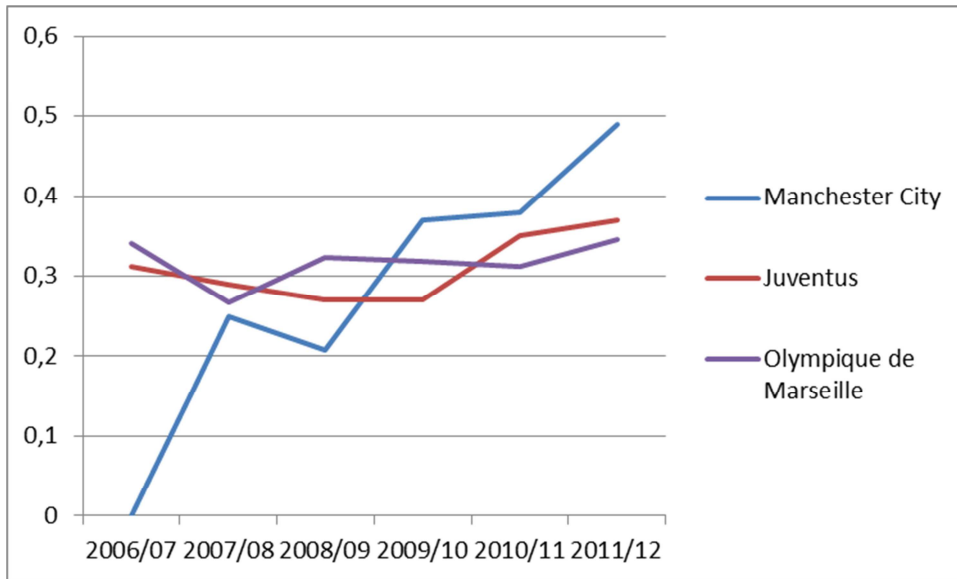


Figure 4. Dynamics of part revenue from the sale of club attributes in group "Successful"

Under "Successful" significantly increase the share of revenues from the sale of football attributes. Overcoming the crisis of 2008/2009 carried out, including the expense of the resource. Proceeds from the sale of tickets for matches and television broadcasts are not subjected to significant fluctuations.

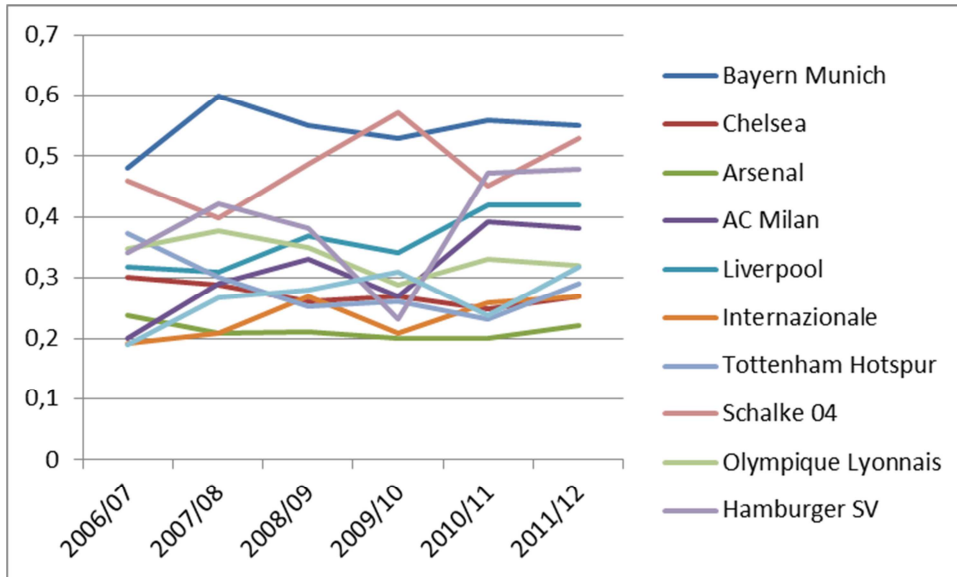


Figure 5. Dynamics of part revenue from the sale of club attributes in group "Crisis"

Group clubs "Crisis " is characterized by two trends:

1. Revenues from sales of football attributes does not change significantly during the analyzed period . That is , the item sales clubs are not used as an anti-crisis measures (Arsenal, AS Roma, Tottenham Hotspur);

2 . Revenues from sales of football attributes varies significantly throughout the period. With major fluctuations occur in the season of 2009/2010 , after the crisis in the revenue decline in 2008/2009 . That is football clubs in response to the decline in revenues in the 2008/2009 . or sharply increased share of revenue from sales of sports paraphernalia, or significantly increased its (AC Milan, Schalke 04 , Hamburger SV, Olympique Lyonnais).

The analysis of the dynamics and structure of income showed that despite the fact that football clubs sector refers to non-profit organizations , the revenue is a significant indicator of the success and effectiveness of the club. Revenue, on the one hand , characterizes the popularity of the club through merchandising . On the other hand , falling incomes during the crisis , primarily affect on this part of income. Consequently, the anti-crisis strategy football clubs should largely focus on this part of consumers.

REFERENCES

1. Oberstone J. Comparing English Premier League Goalkeepers: Identifying the Pitch Actions that Differentiate the Best from the Rest, *Journal of Quantitative Analysis in Sports*, Vol. 6, No. 1,(2010)
2. Sara Ward, Thomas J. Scanlon, and Tony Hines Mutuality Ownership Form and Professional Sports: Football. *Nonprofit and Voluntary Sector Quarterly* XX(X) 1 – 18 P. 1-18
3. Morrow, S. (1999). *The business of football: Accountability and finance in football*. Hampshire
4. Morrow, S. (2003). *The people's game? Football, finance and society*. Basingstoke, UK: MacMillan Business.
5. Szymanski, S., & Kuypers, T. (1999). *Winners and losers: The business strategy of football*.
6. Deloitte Football Money League.

CLARIFICATION OF THE LIMITATIONS OF APPLYING OF MASS CUSTOMIZATION IN THE INDUSTRIAL ENTERPRISES

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Abstract: In this report are clarified the limitations of applying of mass customization in the industrial enterprises related to the manufactured products, the supply chain, the use of information technology, the customers' needs and the opportunities for implementing manufacturing systems in them. Emphasis has been made on the study of the manufacturing limitations, as they are the biggest challenge for the implementation of mass customization. Based on the made conclusions the specific requirements for the manufacturing system of the industrial enterprise will be determined.

Keywords: Mass customization, manufacturing strategies, manufacturing systems, supply chain limitations, product limitations, manufacturing limitations, information technologies limitations

1. INTRODUCTION

Over the past several decades manufacturing strategies have evolved to accommodate market changes. Mass production grew out of the need to spread the benefits of advancing technology at the beginning of the 20th century; the low costs achieved made products more accessible to a greater population. In mass production, a brainchild of Henry Ford, identical items were produced in large quantities using assembly lines, enabling greater efficiency and lower unit cost. Ford's production line was designed to produce a high volume with, little-or-no variety. Thus the popular slogan - the customer could get "any colour, as long as it's black."

As customers began to demand variety and were prepared to pay the extra cost, manufacturers opted for product differentiation strategies as a way to achieve competitive advantage. The highly specialized production lines were not efficient when more product variety was introduced.

The manufacturing industry has evolved over the past several decades in response to the changing customer needs. Customer demand was met by producing standardized products to stock in large volumes by applying mass production techniques. This enabled manufacturers to benefit from economies of scale and achieve lower unit costs.

Technological advances, in manufacturing as well as information, have provided the impetus for changes in many paradigms, including customer expectations. Customers have become more demanding and started wanting products that can meet their specific individual requirements.

2. CLARIFICATION OF THE LIMITATIONS OF APPLYING OF MASS CUSTOMIZATION IN THE INDUSTRIAL ENTERPRISES

Marketing, manufacturing, call-centers, management – there is a big variety of fields, where mass customization has been implemented nowadays. The most important thing regarding mass customization is that flexible manufacturing systems must be used in order for the customer's demands to be met. At the same time these systems also have to combine low cost per unit and flexibility to meet any customer demands at any time.

Today, manufacturers in many industries are faced with very high product variety and much smaller batches, which can approach one unit.

There is a connection between the product customization and the expenses of the products. Customers can either buy low-cost standard products or personalized products but on higher price. Therefore the main target of mass customization is to manufacture customized low-cost products.

The limitations when applying mass customization can be classified as being related to the product and to the technology.

Different enterprises are trying to implement mass customization and the interest in this field grew over the past several years. Still, as pointed in various researches, the successful implementation of mass customization strategies has its limitations.

2. 1. PRODUCT LIMITATIONS

Not all products are appropriate for customization. For example commodities (such as oil or wheat) may not require differentiation by customization [16]. Collecting product-related information from customers to identify attributes to be customized and incorporating this information into product specifications is an extremely complex and costly process which is another drawback to implementing mass customization [3].

In an exploratory study conducted among several British firms, understanding customer wants was one of the two most frequently cited difficulties to implementing mass customization [3]. Therefore, a systematic approach to communicate effectively with customers and gain accurate and reliable product information is essential [13].

Customizing products in times of high market turbulence requires *dynamic stability*; firms designed to serve a wide range of customers with changing product demand (dynamic) while building on existing process capabilities, experience, and knowledge (stability). Whether transforming from a mass production system, or building a new mass customization facility, a more fundamental reconsideration of operational systems is required for a strongly customer-focused mass customizer [13].

2.2. LIMITATIONS RELATED TO SUPPLY CHAIN

Another major hurdle to successful mass customization is overhauling the supply chain to provide the quick responsiveness without increasing the cost. The traditional supply chain was structured around a push production philosophy of manufacturing to stock and subsequent distribution. But with mass customization, there has been a change in traditional methods - inventory is not made-to-stock but made-to-order [7]. Many studies have attempted to understand the needs of and determine approaches to reconfigure the supply chain to increase responsiveness [11, 21].

In Ahlstrom and Westbrook's survey of companies supply chain management was listed as one of the top two difficulties to implementing mass customization [3]. Zipkin

[22] emphasized the importance of better logistics networks, integrating e-commerce, for better direct-to-customer distribution.

Mass customization also requires more responsive suppliers for effective inventory management and order fulfillment [13]. Postponed differentiation strategies to achieve mass customization call for reconfiguring the supply chain to place some traditional production operations further down in the distribution channel [6, 21].

2.3. INFORMATION TECHNOLOGIES LIMITATIONS

The information technology nowadays contributes enormously for making mass customization possible. It provides the platform for the receipt of customer orders and enables their quick transfer to the production floor. However, getting the required information from the customer and integrating it in the manufacturing process are other problems in mass customization. There are many studies that research these issues.

Mass customisation uses some of the techniques of mass production; for example, its output is based on a small number of platforms, core components that underline the product. In the case of a watch, the internal mechanism is a platform to which can be added a wide variety of personalised options at later stages of production. Thus the purchaser of a Swatch has thousands of different options in terms of colour, straps, fascia, and so on.

The information technology made the mass customisation possible. Levi Strauss, which pioneered the idea in 1994 with its Original Spin jeans for women, measured customers in its stores and sent their details electronically to its factory. The customised jeans were then cut electronically and mailed to the customer.

The internet has greatly increased the possibilities for mass customisation. For example, Dell, a computer company, established its leadership of the PC market by allowing customers more or less to assemble their own PCs online. The company put together the components as requested at the last minute before delivery. Ford likewise allows its customers to build a vehicle from a palette of online options [8].

2.4. LIMITATIONS RELATED TO THE CUSTOMER DEMANDS

Approaching the issue from an automobile manufacturing perspective, Agrawal, et al. [2] too emphasize the need for many operational changes in the organization to achieve the flexibility required for mass customization and the difficulties in transforming the system. For example, customers may like to choose the color of their cars; but paint shops are run in batches to reduce cost and wastage [2]. The mass customization manufacturing system needs to have the flexibility to provide the customers with the choice of color—a very trivial option from the customer's perspective—without adding significantly to the cost.

As MacCarthy and Brabazon [13] argue the process of engaging the customer is one other challenge to mass customization because customer behavior is less well understood. Mass customization is all about providing the customer with exactly what he or she wants. However, getting information from customers for customization is difficult. That is, 'to give customers exactly what they want, you first have to learn what that is' [22]. Customization is a necessity to meet varied customer demand; but it should not proliferate to a level where customers are overwhelmed with, or do not want, that many options to choose from or customize [16]. For example, Nissan once had 87 different varieties of steering wheels for customers to choose from; but most disliked having to select from that many options [12, 16].

2.5. MANUFACTURING LIMITATIONS

The greatest challenge to implementing mass customization probably is determining the most suitable manufacturing configuration that gives the required process flexibility at a low cost [13, 14]. As has been emphasized by many, mass production and mass customization require completely different organizational structures and processes. Flexible manufacturing techniques provide the capabilities required to provide high product variety within a short time. Large volume standardized production help achieve low cost through economies of scale. Mass customization manufacturing systems require high flexibility achieved at a low cost; a fusion of two opposite approaches, which is no simple feat. Zipkin [22] supports this view stating that process flexibility required to fabricate customized products is a major limitation to implementing mass customization. He emphasizes the need for highly flexible manufacturing technologies and also suggests that mass customization should be approached cautiously because developing such technologies is expensive and time consuming.

As Pine, et al. [15] describe, breaking away from the traditional, long-lasting, manufacturing configuration to build a dynamic structure that gives the flexibility is difficult. Empirical studies of companies engaged in mass customization reveal that the inflexibility of factories is one of the greatest barriers to implementing mass customization [3].

Whether a company chooses to transform from a mass production system to mass customization (e.g., Melbo men's suits [22]) or to apply both strategies simultaneously with separate factories (e.g., the NBIC case [7, 10]), implementing mass customization calls for a different type of production system. As pointed out by Pine, et al. [16], mass production and mass customization require different organizational structures, values, management roles and systems, learning methods, and ways of relating to customers.

Traditional manufacturing operates on the premise of economies of scale—achieving low-cost through large volume production of similar items. To the contrary, mass customization has to focus on economies of scope - applying the same processes to manufacture a greater variety of products (or services) faster and at a low cost [14].

Therefore, being an efficient mass producer does not assure success as a mass customizer. This is because the two systems require different organizational structures, values, management roles and systems, learning methods, and ways of relating to customers [14]. Unsuccessful efforts at mass customization by many companies due to the lack of appropriate systems can be found in the literature [12, 16].

However, this does not signify that a company cannot employ mass production and mass customization strategies simultaneously. Kotha [7, 10] presented one of the earliest case studies on mass customization manufacturing by describing the case of the Japanese bicycle manufacturer. The company had two factories; one mass producing standard bicycles and the other for mass customization. While not much information is available on how the mass customization facility was designed and implemented, a learning relationship between the two factories has been reported [4, 7, and 10].

According to Feitzinger and Lee [6] one of the organizational design principles for effective mass customization is using modular processes. Process modularity is the standardization of process modules to enable frequent and easy re-sequencing or to allow for new modules to be added quickly depending on changing product requirements [20]. Therefore unlike the long and dedicated production lines often used in mass production systems, smaller, easily reconfigurable, process modules or micro factories [13] are necessary to customize products.

Through the synthesis of available literature and four case studies, Spring and Dalrymple [19] addressed some manufacturing issues in mass customization. They demonstrated the importance of the relationship between the degree of design activity and volume of manufacture to classify customized products.

In an exploratory study conducted among British companies, the most widely used approaches to product customization were found to be assembling products from core components, doing materials processing, and increasing inventory [3]. However, they provided no additional information explaining the meaning of 'materials processing' in this context.

Duray [4] used a classification scheme developed in a previous work by Duray, et al. [5], based on the extent of customer involvement in organizational activities and modularity, to conduct an exploratory study and evaluate the progression of companies from standard or custom manufacturer to mass customizer.

Building on the previous findings of Kotha [7, 10], Duray found that companies practicing mass customization continued to produce non-mass customized products (standard or custom) in the same plant [4]. The findings of Duray are not conclusive as to if standard and custom producers use significantly different approaches for mass customization.

Qiao, [17] assert that fixed and centralized control would not work in mass customization manufacturing. They propose three steps to overcome this situation. First, a generalized production line platform (GPLP) is suggested to make the physical reconfiguration simpler. A GPLP is a collection of basic workbenches fitted with fixtures and tooling required, which can be reorganized according to production requirements. The GPLPs are formed into functional modules each for a typical manufacturing capability which are then combined and reconfigured as demanded. This supports Pine's [14] thinking that investing in general-purpose processes, rather than specialized systems, is more beneficial in achieving flexibility and responsiveness.

Though many facets of customization have been studied, there is a notable lack of literature linking customization to other broader issues relating to manufacturing [18, 19]. Many have conducted exploratory studies to identify the manufacturing practices of mass customizers. While some insights can be gained from these studies to develop manufacturing systems for mass customization, no studies have addressed this issue directly.

As pointed out by Lampel and Mintzberg [12] smaller modules or micro factories are necessary to produce customized products. These modules must comprise of general, multi-purpose machines that can be used for a variety of operations to achieve the flexibility required with mass customization [20]. However, none of these issues have been addressed jointly in the literature with respect to mass customization manufacturing.

3. CONCLUSIONS

In this paper are analyzed the limitations for implementation of mass customization in manufacturing enterprises related to the manufactured products, supply chain, use of information technologies, customer demands and opportunities for manufacturing system implementation in them. On the bases of this analysis can be determined that the biggest challenge for mass customization in the manufacturing is creating a manufacturing system that can provide flexibility and at the same time low-cost products. The mass customization needs manufacturing system that can provide flexibility and also product

variety determined by the customers. Another requirement for the manufacturing system is to provide options for adapting to the dynamic changes and variation of the product mix. The flexibility and the quick response are mandatory so that the customers' orders can be transformed into manufactured products in a short period of time.

Considering the conclusions made regarding the limitations of the implementation of mass customization in the industrial enterprises there is a need for specific requirements to the manufacturing system to be determined.

REFERENCES

1. Abdel-Malek, L., Das, S.K., and Wolf, C., (2000), "Design and implementation of flexible manufacturing solutions in agile enterprises", *International Journal of Agile Manufacturing Systems*, Vol. 2, No. 3, pp. 187-195.
2. Agrawal, M., Kumaresh, T.V., and Mercer, G.A., (2001), "The False Promise of Mass Customization", *The McKinsey Quarterly*, No. 3.
3. Ahlstrom, P., and Westbrook, R., (1999), "Implications of Mass Customization for Operations Management: An Exploratory Study", *International Journal of Operations & Production Management*, Vol. 19, No. 3, pp. 262-274.
4. Duray, R., (2002), "Mass Customization Origins: Mass or Custom Manufacturing?", *International Journal of Operations & Production Management*, Vol. 22, No. 3, pp. 314-328.
5. Duray, R., Ward, P.T., Milligan, G.W., and Berry, W.L., (2000), "Approaches to Mass Customization: Configurations and Empirical Validation", *Journal of Operations Management*, Vol. 18, pp. 605 – 625.
6. Feitzinger, E. and Lee, H.L., (1997), "Mass Customization at Hewlett-Packard: The Power of Postponement", *Harvard Business Review*, January-February, pp. 116-121.
7. Gilmore, J.H. and Pine II, B.J., (1997), "The Four Faces of Mass Customization", *Harvard Business Review*, January-February, pp. 91-101.
8. Hindle, T. *Guide to Management Ideas and Gurus* (The Economist), 2008
9. Kotha, S., (1995), "Mass Customization: Implementing the Emerging Paradigm for Competitive Advantage", *Strategic Management Journal*, Vol. 16, pp. 21-42.
10. Kotha, S., (1996), "From Mass Production to Mass Customization: The Case of the National Bicycle Company of Japan", *European Management Journal*, Vol. 14, No. 5, pp. 442-450.
11. Lambert, D.M., Cooper, M.C., and Pagh, J.D., (1998), "Supply Chain Management: Implementation Issues and Research Opportunities", *The International Journal of Logistics Management*, Vol. 9, No. 2, pp 1-19.
12. Lampel, J. and Mintzberg, H., (1996), "Customizing Customization", *Sloan Management Review*, Fall 1996, pp. 21-29.
13. MacCarthy, B., and Brabazon, P., (2003), "In the Business of Mass Customization", *IEE Manufacturing Engineer*, August/September, pp. 30-33.

14. Pine II, B.J., (1993), *Mass Customization: The New Frontier in Business Competition*, Harvard Business School Press, Boston, MA.
15. Pine II, B.J., Peppers, D., and Rogers, M, (1995), "Do You Want to Keep Your Customers for Ever?", *Harvard Business Review*, March-April, 1995, pp. 103-114.
16. Pine II, B.J., Victor, and Boynton, A.C., (1993), "Making Mass Customization Work", *Harvard Business Review*, September – October, 1993, pp. 108-116.
17. Qiao, G., Lu, R., and McLean, R., (2004), "Process Control and Logistics Management for Mass Customization Manufacturing", Presented at the IIE Annual Conference, May 15-19, 2004, Houston, TX.
18. Sievanen, M., (2002), "What is Customization?", 9th International Annual Conference of European Operations Management Association, June 2-4, 2002, Copenhagen, Denmark.
19. Spring, M. and Dalrymple, J.F., (2000), "Product Customisation and Manufacturing Strategy", *International Journal of Operations & Production Management*, Vol. 20, No. 4, pp. 441-467.
20. Tu, Q., Vonderembse, M.A., Ragu-Nathan, T.S., and Ragu-Nathan, B., (2004), "Measuring Modularity-Based Manufacturing Practices and Their Impact on Mass Customization Capability: A Customer Driver Perspective", *Decision Sciences*, Vol. 5, No. 2, pp. 147-168
21. Van Hoek, R. I., (2000), "The Role of Third-Party Logistics Providers in Mass Customization", *The International Journal of Logistics Management*, Vol. 11, No. 1, pp. 37-46.
22. Zipkin, P., (2001), "The Limits of Mass Customization", *MIT Sloan Management Review*, Spring 2001, pp. 81-87.

TESTING HERZBERG'S DUALITY THEORY: ANALYZING JOB SATISFACTION AMONG STATE ADMINISTRATION EMPLOYEES

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Abstract: Although academics have not reached a universal agreement on the definition of job satisfaction, a significant group of researchers regards it as a multidimensional structure and refer to it as the degree to which people enjoy doing their jobs (Chien, 2013). The concept of job satisfaction has been a research interest to many academics; however motivation and job satisfaction studies in the public administration have been rare. The same applies for the Macedonian public administration- there were rare attempts to scrutinize and understand job satisfaction among these employees. By applying a quantitative approach, this research analyses how personal and job characteristics impact job satisfaction among 532 public administration employees in three cities in Republic of Macedonia. This study also attempts to assess the effect of Herzberg's motivators and hygiene factors on overall job satisfaction. The data was analyzed using principal component analysis (PCA), t-test, and a multiple regression analysis was conducted to evaluate the predictive weight of the constructs in the conceptual model. The results show that several personal characteristics have a significant relationship with most dimensions of the perceived work environment and job satisfaction; however it provides inconclusive support of the duality theory. The significance of this research is not only in its testing of the duality theory, but in the contribution to the knowledge and understanding of levers that would improve job satisfaction among the public administration employees. Based on the research results, recommendations will be discussed for managers of public administration, as well as implications for academic researchers in the relevant field.

Keywords: job satisfaction, quality of worklife, public administration, Herzberg, motivation

1. INTRODUCTION

Despite the fact that the academic world has not reached a consensus on a universal definition of job satisfaction, researchers agree that it is *a multidimensional structure measured by the degree to which people enjoy doing their job* (Chien, 2013). It represents a measure for quality of work life and has been shown to influence behavior, performance, loyalty and tendency of workers to leave the organization (Price and Mueller, 1986; Savić et al, 2014). The impact of job satisfaction among public administration employees attitudes has been a leading area of research in the developed world for years (Schmidt; 1976; Park et al, 1988; Write and Davis, 2003; Kim, 2005; Bullens and Broeck, 2007). But surprisingly, very limited number of studies have been conducted on job satisfaction in the

context of the public administration in developing. This study has been conducted to fill the existing research gap and to explore the relationship between personal, job characteristics and workplace environment on job satisfaction in Macedonia, through the lenses of Herzberg's two factor theory.

2. HERZBERG'S DUAL FACTOR THEORY

The emergence of Herzberg's dual factor theory challenged the dominant theoretical assumptions that "job satisfaction and dissatisfaction could be presented on a continuum, at the midpoint of which, an individual would experience a neutral public being neither satisfied nor dissatisfied" (Jones and Lloyd, 2005, p.932). Herzberg suggested that the work composites of two main sets of items: motivators and hygiene factors (Hodson, 2014). Using the critical incident method, Herzberg asked a sample of 200 male engineers and accountants to describe either a time when they felt exceptionally good or a time when they felt exceptionally bad about their job (Herzberg, 1959). When employees were describing when they felt exceptionally bad, they were often describing the hygiene factors. These are related to the environmental factors in the workplace and are underlined by its physical and psychological conditions, and include: supervision, company policy and administration, relationship with supervisor, work conditions, salary, relationship with coworkers, personal life, subordinates, status and security. In case absence of one or more of these hygiene factors occurs, the result will be experienced job dissatisfaction by the employee. While the hygiene factors dealt with the primary disruptions in the external workplace context, the motivators deal with the internal states of the employees mind (Hodson, 2014). When respondents in Herzberg's research described a situation when they felt exceptionally good about their job, spoke of motivators. These include: responsibility, personal growth opportunities, achievement, recognition, opportunities for promotion and work itself. An improvement in motivators result in an increased job satisfaction, thus a deterioration in one or more motivators would prompt a move in the opposite direction (leading to no job satisfaction). This research caused a plethora of other replication studies. Some of the studies were summarized in Herzberg's book *The Work And Nature Of Man* (1966) and supported the findings of his theory. In addition, a range of researchers severely criticised Herzberg's research on the grounds of sample selection and a single measure of job attitude (Ewen, 1964); poor respondent recall (Hardin, 1965), the role of money as a hygiene factor was disputed (Opsahl and Dunnette, 1966) or that in a recall study ego defences would be invoked when respondents are asked to attribute the sources of work dissatisfaction, whilst attributing sources of satisfaction to personal achievement and capability (Vroom, 1964). Furthermore some researchers believe that job satisfaction and its determinants are changing over the working life of employees (Katz, 1978) or employees may create their own satisfaction when tasks become redundant (Roy, 1960; Burawoy, 1979). It is interesting to note that when Herzberg's theory was tested, a pattern emerged that created two "types" of psychologists who diverged dramatically on their findings. Researchers that used the critical incident method (used by Herzberg) received results consistent with his theory and supported the duality theory. On the other hand researchers that used research methods such as survey, supported the uniscale model that conflicts with Herzberg's theory. This resulted in a plethora of critiques that Herzberg's results were method bound (Hulin and Smith, 1965). Although critiques of Herzberg's theory could point to alternative results from the application of other research methods, no one could

clearly explain why Herzberg's method produced the same results with such consistency (Jones and Lloyd, 2005)

3. JOB SATISFICATION OF PUBLIC ADMINISTRATION EMPLOYEES

The interest of scholars in motivation and job satisfaction of public administration employees dates back to the beginnings of public administration. The basis for this interest is the prevailing concern that the motivation of public administration employees directly affects the quality and content of public outputs (Perry and Wise, 1990). The last fifty years have brought dramatical changes to the public administration through a change in its scope, internal structure and the management of the public services (Farnham and Horton 1996; Steijn, 2002). In 1995 Robert Behn wrote that motivating public sector employees has become one of the 'biggest' questions of public management. Yet, typical research on job satisfaction has mainly been concerned with private sector employees, offering only limited understanding of what consists and drives the motivation of public sector employees (Houston, 2005). The Public Service Motivation (PSM) theory treats public service as a calling (sense of duty), thus assuming that these employees are driven by the commitment for the common good, rather than simple self-interest (Brewer and Sleden, 1998; Crewson, 1997; Houston, 2005). A range of studies made efforts to analyze different determinants of public administration employees such as personal characteristics (Reiner and Zhao, 1999; Bright, 2005; Dehart-Davis et al., 2007;), work preferences (Brewer et al., 2000; Bright, 2005), effectiveness of public-sector diversity management programs (Naff and Kellogg, 2003), impact of perceptions (Scott and Pandey, 2005), tendency for charitable giving (Houston, 2006), volunteering (Reed and Selbee, 2001) socio-economic status (Goss, 1999); and the connections between motivation, job satisfaction, and turnover intentions of public administration employees (Naff and Crum, 1999; Bright, 2008). However little empirical attention has been given to evaluating job-satisfaction levels among public-sector employees. Given that the monetary reward system in the public sector systematically differs from that of the private sector (in terms of pay, benefits, and material value), it seems likely that studies of financially driven job satisfaction levels among private-sector employees may not be applicable to public-sector employees. (DeSantis and Durst, 1996; Brewer and Selden, 2008; Brewer, Sleden and Facer, 2000). Attempts have been made to investigate the valuing of intrinsic awards in contrast to extrinsic ones and have found that public employees pay less emphasis on extrinsic motivators such as higher pay (Jurkiewicz et al, 1998), and more emphasis on service to society and the importance of meaningful work (Crewson, 1997; Houston, 2000). In addition, perceptions of recognition, discrimination and external relations were the best explanatory variables for of job satisfaction (Johnsrud and Rosser, 1999). Volkwein and Parmley found that teamwork (which is considered as a synonym for positive relationships with colleagues) is partially associated with satisfaction. In summary, these studies do not give a clear explanation as Herzberg's theory suggest. The academic literature does not have a conclusive notion of what comprises the job satisfaction among public administration. Therefore, this study seeks to deepen the academic understanding of this phenomenon.

4. RESEARCH QUESTIONS AND RESEARCH MODEL

The research is modeled around previous research done in the field (Smerek and Peterson, 2007; Volkwein and Parmley, 2000). Based on the review of the academic

literature, the following research question were set (1) What is the influence of personal and job characteristics on job satisfaction? And (2) Is Herzberg's dual factor theory relevant in the context of the Macedonian public administration? The dependent variable is Job Satisfaction and is build on three items from the questionnaire (1) Comparison of current job to the ideal job; (2) Overall satisfaction with current job and (3) Extent to which the current job meets the expectation set at the start of employment. Personal characteristics include age, gender, and ethnic minority status. Job characteristics are: working position, tenure and supervisory role. The research also identifies 10 work place dimension (Table 2) extracted using participative component analyses.

5. RESEARCH APPROACH

For the purpose of the research, a survey was conducted among public administration employees in four cities in Republic of Macedonia. The survey was distributed in person among the public administration employees. The survey was anonymous and no marks were printed on the questionnaires that could identify the respondent. The researcher left a printed copy of the questionnaire to each of the employees and a box in which the employees could leave their completed questionnaires. This method of distribution was selected for the following reasons (1) Previous social research found that employees are less likely to use "don't know" or "refuse to answer" in self administered questionnaires (SAQ), compared to i.e. computer assisted self administered questionnaires (ACASI) (Turner et al., 1998); (2) this method may results in less misreporting due to the availability of the researcher to answer any misunderstandings (Gideon, 2012); (3) ACASI approach requires that all the respondents are computer literate and have experience in online completion of questionnaires, which is not the case with all employees of the public administration and (4) the researcher can encourage hesitant employees about the anonymity of the survey (Mensch et al, 2008). The questionaiire was consisted of 109 items covering the following topics: of training and development; recognition and praise; collaboration and teamwork; communication; alignment with mission and goals; and feelings about one's job. The responses to each of the questions were measured on the five-point Likert type scale. The second part of the survey was consisted of five questions that gathered demographic data about the respondents: gender, age, education, tenure and working position. The questionaiire represented an adapted version of a research instrument originally developed by Smerek and Peterson (2007).

6. POPULATION AND SAMPLE

The survey was administered among 650 employees from the Macedonian public service sector. All of the employees were working in local administrations of municipalities in Macedonia. A total of 532 questionnaires were returned completed to the researchers, resulting in an overall response rate of 85.8%. Taking into consideration the specific population in the study, public administration of local municipalities in Macedonia, the results of the survey may vary compared to other sectors of public administration (i.e. those working in ministries of internal affairs). In other words, this sample may have different determinants of job satisfaction compared to individuals form other public administration departments.

Table 2. Results from Principal Component Analysis of Work Environment and Job Satisfaction

TABLE 2 - Results from Principal Component Analysis of Work Environment and Job Satisfaction			
	Loading		Loading
<i>Job satisfaction (α=0.834)</i>		<i>Supervision (α=0.933)</i>	
Imagine your ideal job. How well does it compare with your current job?	0.688	My supervisor effectively communicates and cooperates with employees	0.892
Overall, how satisfied are you with your job?	0.655	My supervisor makes good decision for the organization	0.877
Think about the expectation you had when you started your current job. To what extent does your job fulfill these expectations?	0.663	My supervisor manages to create and sustain an environment of trust	0.871
<i>Recognition (α=0.834)</i>		<i>Salary (α=0.821)</i>	
Expressions of thanks and appreciation are common in my department	0.71	I feel that the supervisor cares about me as a person	0.829
My contributions are valued by the members of my department	0.621	The supervisor cares about the family life of the employees	0.784
My good work is recognized by the colleagues	0.587	Overall rating of the supervisor	0.741
In last week I have received recognition for doing something well	0.567	My supervisor is an ethical decision maker	0.726
My contribution are valued by members of the wider community	0.525	My supervisor gives me constructive feedback	0.714
I get recognition everytime I do something extraordinary	0.511	My supervisor treats me with respect	0.711
<i>Work itself (α=0.872)</i>		<i>Relationship with colleagues (α=0.912)</i>	
My job gives me a sense of accomplishment	0.768	My supervisor is available for contact and consultation / he is easily approachable	0.706
I enjoy the type of work I do	0.725	My supervisor always gives me feedback	0.695
My job gives me a feeling of making a difference in the community	0.709	My supervisor takes my opinion into account	0.683
I make a difference in my department	0.662	My supervisor is manages low performing employees effectively	0.649
I am perfectly fit for this job	0.654	My supervisor understand where the organization is at this moment	0.523
My job is interesting	0.58	My supervisor cares about the future of the organization	0.511
<i>Opportunities for advancement (α=0.890)</i>		<i>Core values (α=0.710)</i>	
I understand what is required for me in order to advance in my job	0.801	I am paid fairly for the work I do	0.842
Opportunities for advancement exist in the department where I work	0.751	My salary is competitive	0.824
Information about vacancies is readily available to employees	0.65	The amount of my salary is an important part of the decision to stay with this organization	0.813
Internal candidates receive fair opportunities for applying for open positions within the company	0.663	<i>Good feeling about organization (α=0.923)</i>	
<i>Professional growth opportunities (α=0.887)</i>		I can always count on my colleagues for help	
My supervisor informs me on the opportunities for my advancement	0.81	I am trusted by my colleagues	0.875
I went through necessary training in order to get ready for my job	0.798	Me and my colleagues work as a team	0.898
There is someone in the organization who encourages and supports my professional development	0.697	My colleagues care and support each other	0.888
In this last years, a person from the organization has consulted me about the opportunities for my professional progress	0.682	At least one person at my department cares about me as a person	0.879
In the last year, I have been offered opportunities for learning and advancing professionally	0.651	I am trusted by my colleagues	0.875
The organization is interested in my professional growth	0.647	I trust my colleagues	0.869
My colleagues are interested in professional growth opportunities	0.644	When I first came to this department, I was made to feel welcome	0.651
I had opportunities to develop and learn during my work	0.567	I respect my colleagues	0.855
<i>Responsibility (α=0.862)</i>		I am respected by my colleagues	
My opinion is considered by my colleagues	0.684	My colleagues nurture a positive working environment	0.819
I have control over the work I do	0.663	We make new colleagues in our department to feel welcome	0.728
I have the necessary tools and equipment to do my job well	0.628	<i>Core values (α=0.710)</i>	
The workplace enables me to do my job appropriately	0.59	Our everyday work is governed by a clear and consistent set of values	0.643
The design of the workplace supports the amount of privacy necessary for my job	0.579	Not respecting organizational core values will get you in trouble	0.51
I have independence in the work I do	0.575	<i>Good feeling about organization (α=0.923)</i>	
I have a say in my department	0.535	I have a strong feeling of belonging to the organization	0.882
		I am strongly committed to the organization	0.846
		I always say that I work at a great place	0.824
		I enjoy discussion my work at the organization with other people	0.754
		I care about the future of the organization	0.729

6. ANALYSIS OF DATA

After the gathering of the research data, a principal components factor analysis (PCA) with oblimin rotation was performed in order to examine the factor structure of the data. Principle component analyses is used to discover components that underlie performance on a group of variables by looking at all variance of the data. This analyses is recommended as a factor extraction method due to the clearness of its statistical procedure and the desirable statistical nature of the factor score estimates (Nakata, 2006). In order to determine whether the sample was adequate for performing PCA, Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy and a Bartlett's test for sphericity were conducted. KMO serves as a qualitative index of the strength and relations among variables (Hancock, 2002). In cases when the KMO value is below 0.6, then it is not advisable to perform factor analyses. The calculated KMO value was 0.803 thus was considered adequate for factor analyses. The results indicated that the correlation matrix was adequate and PCA can be performed. The items that did not clearly load into a single factor or which did not have a minimal value of 0.5, were removed from the analysis. A total of 71 questions from the original 109, converged in ten factors. For each of these factors a reliability test was conducted ranging from 0.510 to 0.901, with an average reliability of 0.71. Table 1 presents the reliability results for each of the extracted factors.

7. RESEARCH RESULTS

The PCA analysis resulted in the extraction of ten workplace factors. For the purpose of the research, a comparison of these factors was made with the motivators and hygiene factors found in Herzberg's theory. Regarding the motivators, *recognition*, *work itself*, *advancement*, *growth opportunities* and *responsibility*, resulted from the principle component analysis. In accordance to the original survey model used, there were no related items for *achievement* in the survey. The item *positive attitude towards organization* was classified as an intrinsic factor (Smerek and Peterson, 2007). In terms of the hygiene factors in Herzberg's theory, less similarities were found with the survey results. Comparable factors did not emerge for *company policy and administration*, *personal life* and *work conditions*. In addition the survey had questions that fell under the following hygiene factors: *status*, *security* and *relationship with subordinates*, but they did not emerge as single factors. In line with Smerek and Peterson's recommendation, the item *core values* was included as a hygiene factor since its absence would lead to a dissatisfying workplace (p.241). In order to address the first objective of the research, t-test analyses was conducted to analyze the relationship of gender, ethnic minority status and supervisory role on job satisfaction (Table 3). The results from the t-test indicated that overall females had higher reported satisfaction levels with their workplace compared to males. Females were more satisfied in seven out of ten workplace factors. It is interesting to note that women were less satisfied compared to their male colleagues with their *work itself*, *supervision* and *good relationship with coworkers*. The greatest gender discrepancy was found in *recognition*, where females had much higher scores compared to their male colleagues. The analysis did not find statistical significant gender difference on item *presence of core values*. These findings are in line with the research done by Kim (2005) who found that female workers were more satisfied with their job compared to their male counterparts in public administration in Seoul. Considering the ethnic minority status, the overall job satisfaction level of minorities is lower (M=3.2) compared with non-minority employees (M=3.7). Both groups exhibited the same level of satisfaction on items *opportunities for growth* and *responsibility*.

Table 3. T – test and correlation of personal and job characteristics with workplace factors and job satisfaction (N=573)

Factor	Age		Tenure		Gender			Supervisory role			Ethnic Minority status			
	r	Sig	r	Sig	Male	Female	Sig	Supervisor	Non-Supervisor	Sig	Non-minority	Minority	Sig	
Motivators	Recognition	0.04		0.01		3.4	3.8	*	3.8	3.1	**	3.5	3.1	/
	Work Itself	0.05		0.03		4.1	3.9	**	3.9	3.5	*	4	4.1	**
	Opportunity for advancement	-0.04		-0.07	**	3	2.9	**	4	3.2	**	3	2.9	**
	Opportunities for Growth	-0.02		-0.11	**	3.2	3.5	**	4.1	3.2	*	3.2	3.2	**
	Responsibility	-0.03		-0.03		3	3.4	**	4	3.3	**	3.3	3.3	*
	Positive feelings about organization	0.09	**	0.01		3.7	3.8	*	4.3	3.8	/	3.6	3.2	**
Hygiene factors	Supervision	-0.06	*	-0.09	*	3.5	3.2	*	4.8	3.3	**	3.3	3	*
	Satisfaction with salary	0.04		-0.02		3.1	3.2	**	3.2	3.1	**	3.2	3.4	**
	Good relationship with co-workers	0.03		0.06	**	4.2	4	**	3.8	4.1	*	4.2	3.5	**
	Presence of core values	-0.05	**	-0.04		3.4	3.7	/	3.9	3.5	**	3.4	3.3	*
	Job Satisfaction	0.12	**	-0.02	*	3.5	3.7	*	3.9	3.4	**	3.7	3.2	**

* $p < 0.05$ (two tailed t-test) ** $p < 0.01$ (two tailed t-test)

Minority employees were more satisfied compared to the non-minority employees in terms of the *salary* and *work itself*. The greatest differences in responses is seen on opinion about *good relationship with coworkers*. The analysis did not find statistical significant gender difference on item *recognition*. Regarding the supervisory role of the respondents, the t-test results indicated that employees who had supervisory roles had overall higher levels of job satisfaction compared to those who did not supervise other employees. Respondents with supervisory role have lowest satisfaction levels with their *salary*, while those without any supervisory role had lowest satisfaction with *salary and recognition*. The greatest difference is found in the responses regarding the *responsibility*, followed by *opportunities for growth* and *responsibility*. Although this is not surprising as a finding, it is uncertain whether it performing of supervisory role that influences the respondent to give a more positive feedback regarding those items. Least similarities between the two groups were found in the *satisfaction with salary*. This is in line with the findings from Lambert (2004) and Samad (2006). The results from the performed correlation of personal and job characteristics with the ten workplace factors and job satisfaction are presented in Table 4. Age of employees has a small, but significant positive correlation with *positive feelings about organization* and *job satisfaction*. This means that job satisfaction and positive feelings about the organization, increase with the employee's age. Age had a significant negative correlation with opportunities for growth meaning that that *growth opportunities* decline as the worker ages. On the other hand a small, but significant negative correlation is found between age of employees and *supervision* and *good relationship with colleagues*. On the other hand, the longer the tenure of employees in the organization the less satisfied they are with the *opportunities for their advancement, supervision* and *opportunities for growth*. Significant positive relationship is observed between *tenure* and *relationships with colleagues*. Lastly, the research examines the relative influence of workplace dimensions, personal and job characteristics on job satisfaction. The model explains 53% of the variance in the dependent variable ($R^2=0.53$). The analysis shows that the only variables from the personal and work characteristics with significant positive coefficients are age and tenure. None of the remaining work and personal characteristics had significant coefficients with job satisfaction. It should be noted that gender, ethnic status and supervisory role did not exhibit impact on the dependent variable. From the motivators, *work itself* was the variable with the highest influence

($\beta=0.37$; $p<0.01$), followed by *opportunity for advancement* ($\beta=0.17$; $p<0.01$), and *responsibility* ($\beta=0.16$; $p<0.01$). From the hygiene factors, four were significant predictors of job satisfaction: *satisfaction with salary* ($\beta=0.16$; $p<0.01$), *supervision* ($\beta=0.11$; $p<0.01$) and *good relationship with colleagues* ($\beta=0.03$; $p<0.01$). The analysis of the results from the model suggests that the workplace environment contributes more to predicting the job satisfaction level compared to personal and job characteristics. However, this model does not provide a clear delineation of job satisfaction factors as in the Herzberg's theory (although the significance of *work itself* is in line with Herzberg's findings).

8. DISCUSSION

The regression model analyzed three personal and two job characteristics as predictors for job satisfaction of employees. They found that age and tenure were significant predictors of job satisfaction. The role of age in explaining job satisfaction was examined by earlier research. In example Herzberg et al (1957) suggested that the relationship between age and job satisfaction was U-shaped. Although discarded at first, mainly because of insufficient sample sizes, latter studies have confirmed this relationship (Janson and Marin, 1982; Kacmar and Ferris, 1989) In example the research done by Clark, Oswald and Warr (1996) found that job satisfaction initially declined, bottoming at the age of 31 years, then increased in linear manner until the individual is 60 years old. Some of the explanations provided are that as workers get older their their expectations decline, therefore making them easier to please (Janson and Marin, 1982). Then work alternatives are of less interest to older workers, while young workers have more energy and risk taking behavior therefore making them more interested in work alternative (Pond and Greyer, 1987; 1991). However, the same researchers investigated age as a predictor of job satisfaction which considering the type of work conducted. They found that age is not a significant predictor of job satisfaction among blue-collar workers compared to white collar workers. Interestingly, Sarker et al (2005) have analyzed whether age and tenure are individual determinants of job satisfaction. They found that The employee age is not significantly associated with overall job satisfaction level, but that tenure is. The researchers also found that there is a significant relationship between tenure and certain aspects of satisfaction i.e. job, pay and fringe benefits, but the effect of tenure on satisfaction is significantly modified by age. In terms of the workplace environment the results of the research indicate that the most powerful predictor of job satisfaction is work itself. This is also in line with previous research done in the field i.e. McInnis (1999) found that work itself and autonomy to be the most significant predictors of job satisfaction among administration workers in Australia. Smerek and Peterson (2007) found work itself to be one of the most significant determinants of job satisfaction in a sample of 1031 university administrators. They suggest that although changing this variable is difficult, still job redesign offers a viable framework for this endeavor (p.247) Furthermore, the regression analysis suggests that workplace environment had a much higher influence on job satisfaction compared to the personal and job characteristics. Apart from the work itself, supervision, salary, colleagues, as well as opportunities for advancement and growth are significant predictors of job satisfaction. Taking into account that the personal and job characteristics are more difficult (if somewhat impossible) to modify, the values of the workplace determinants are perceptually based and can be modified more easily. Therefore paying more attention to communication within the department, human relations and

providing growth and advancement opportunities, should impact job satisfaction among public administration employees.

8. LIMITATIONS OF THE RESEARCH

One of the limitations of applying Herzberg's two factor theory is in the methodology used in the research. Previous studies done in the field have found that the usage of the critical incident method (used in the original Herzberg analysis) delivered results that supported Herzberg's conclusion; on the other hand research using other methods delivered results supporting an unisolar theory of job satisfaction thus directly conflicting Herzberg's approach (Behling, Labovitz and Kosmo, 1968). Taking into account the impact that methodological approach has on the obtained research results, the theoretical and practical implications of this study should be treated with caution. Another limitation is that the impact of temperamental predispositions to job satisfaction is not included in the analysis. In general outcomes of different personality types in the workplace are generally unknown in the context of job satisfaction, however Smerek and Peterson (2007) consider that previous life experience prior to entering the current position, influences the level of job satisfaction as well. Finally, the research does not analyze the differences in job satisfaction taking into consideration the level of education of employees, since employees with higher levels of education i.e. master or doctorate degree, may differ in the determinants of job satisfaction in comparison to their colleagues with secondary or university education.

REFERENCES:

- C.Hodson, *Psychology and work*. Routledge. 2014.
- N.B. Jones, and C.G. Lloyd, Does Herzberg's motivation theory have staying power? *Journal of Management Development*, Vol. 24 No. 10. (2005) pp. 929-943.
- V.H. Vroom, *Work and Motivation*, Wiley, New York, NY, (1964).
- C.L. Hulin, and P.C. Smith, "A linear model of job satisfaction", *Journal of Applied Psychology*, Vol. 49 No. 2, (1965), pp. 209-16.
- L. Bright, Does Public Service Motivation Really Make a Difference on the Job Satisfaction and Turnover Intentions of Public Employees? *The American Review of Public Administration*. Volume 38 Number 2 (2008) p. 149-166
- R. Opsahl, and M. Dunnette, "The role of financial compensation in industrial motivation", *Psychological Bulletin*, Vol. 66 No. 2, (1966), pp. 94-118.
- M.D. Reiner, J. Zhao 'The determinants of job satisfaction among United States Air Force Security Police', in: *Review of Public Personnel Administration* 19 (3) (1999), pp. 5-18.
- F. Herzberg *Work and the Nature of Man*. Ohio: World Publishing (1966).
- Y. Nakata, *Motivation and Experience in Foreign Language Learning*. Peter Lang (2006).
V.S. DeSantis, S.L. Durst, *The American Review of Public Administration*, vol. 26 no. 3 (1996) pp.327-343.

- S.B. Pond, P.D. Gayer, Employee age as a moderator of the relationship between work alternatives and job satisfaction. *Journal of applied psychology*. 72. (1991) pp. 552-557.
- S.B. Pond, P.D. Gayer Differences in the relation between Job satisfaction and perceived work alternatives -among older and young blue-collar workers. *Journal of Vocational Behavior*, 39, (1991). pp. 251-262.
- S.J.Sarker, A. Crossman, P. Chinmeteevituck, *The relationships of age and length of service with job satisfaction: an examination of hotel employees in Thailand*. *Journal of Managerial Psychology*, 18 (7). (2003) pp. 745-758. ISSN 0268-3946
- M. Buelens, H. Van den Broeck, An analysis of differences in work motivation between public and private sector organizations. *Public Administration Review*, 67(1), (2007) pp. 65-74.
- B.E. Wright, B.S. Davis, Job Satisfaction in the Public Sector the Role of the Work Environment. *The American Review of Public Administration*, 33(1), (2003) pp.70-90.
- G.L. Schmidt,. Job satisfaction among secondary school administrators. *Educational Administration Quarterly*, 12(2), (1976) pp.68-86.
- S. Kim, Gender differences in the job satisfaction of public employees: a study of Seoul Metropolitan Government, Korea. *Sex Roles*, 52(9-10), (2005) pp. 667-681.
- C. Park, N.P. Lovrich, D.L. Soden Testing Herzberg's motivation theory in a comparative study of us and Korean public employees. *Review of Public Personnel Administration*, 8(3), (1988) pp. 40-60.
- M. Savić, Dj. Djordjević, Dj. Nikolić, I. Mihajlović, and Ž. Živković, Modeling the influence of eqm criteria on employees satisfaction and loyalty in transition economy: the study of banking sector in Serbia. *Serbian Journal of Management* 9 (1) (2014) pp.15 – 30.
- R.E. Smerek, M. Peterson, Examining Herzberg's Theory: Improving Job Satisfaction Among Non-Academic Employees at University. *Research in Higher Education*. 48(2). (2007) pp.229-250.

STRATEGIC POSITION OF SERBIAN ECONOMY AND INTERNATIONAL COMPETITIVENESS RANKING

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Abstract: In the Global Competitiveness Report for 2013, issued by World Economic Forum, the best ranked national economies are Switzerland, Singapore, Finland, Germany and United States. Observing the Western Balkan countries, Albania is ranked 95th, Bosnia and Herzegovina 87th, Croatia 75th, Macedonia (FYR) 67th and Serbia 101st among 148 countries. Position of Serbia is lowest in the Western Balkan region and has deteriorated for 6 places since last year. According to assessments from the Report, the most problematic factors for doing business in Serbia relate to corruption, inefficient government bureaucracy, access to financing, government instability and inadequate supply of infrastructure.

Keywords: competitiveness, macroeconomic environment, corruption.

1. INTRODUCTION

The Global Competitiveness Report issued by the World Economic Forum is the internationally accepted report for the analysis of national economies. That Report defines competitiveness as a set of institutions, policies and factors that determine the level of productivity of a country. The level of productivity sets the sustainable level of prosperity that can be earned by the economy. The World Economic Forum ranks competitiveness of nations in relation to 12 pillars of economic competitiveness: institutions, infrastructure, macroeconomic stability, health and primary education, higher education and training, goods market efficiency, labor market efficiency, financial market efficiency, technological readiness, market size, business sophistication and innovation. These pillars are divided into three groups – 'Basic requirements', 'Efficiency enhancers' and 'Innovation and sophistication factors'. In the group of 'Basic requirements' there are 4 pillars: institutions, infrastructure, macroeconomic stability, health and primary education. 'Efficiency enhancers' consists of higher education and training, goods market efficiency, labor market efficiency, financial market efficiency, technological readiness and market size. Pillars business sophistication and innovation are parts of the third group 'Innovation and sophistication factors'. Carefully chosen indicators are defining each pillar. The 12 pillars reinforce each other, and a weakness in one area has a negative impact in others. A strong innovation capacity will be very difficult to achieve without a healthy, well-educated and trained workforce that is adept at absorbing new technologies, and without sufficient financing for research and development or an efficient goods market that makes it possible to take new innovations to market. Although the pillars are aggregated into a single index, measures are reported for the 12 pillars separately because such details provide a sense of the specific areas in which a particular country needs to improve. [12]

Observing the Western Balkan countries, according to The Global Competitiveness Report for 2013, Albania is ranked 95th, Bosnia and Herzegovina 87th, Croatia 75th, Macedonia (FYR) 67th and Serbia 101st. Serbia is lowest ranked country in the Western Balkan region. Constraints are related to the regulation of the goods and services market, market dominance and intensity of local competition. There are poor indicators in the area of macroeconomic environment, infrastructure, goods market efficiency, financial market development and business sophistication.

2. DEVELOPMENT OF THE CONCEPT OF COMPETITIVENESS

The concept of competitiveness is the result of a long history, which has helped to define the various aspects of this modern and complex concept. The classical economists have identified four factors of production assets - land, capital, natural resources and manpower. The representatives of the classical schools have accented importance of achieving advantages in costs. Adam Smith in his theory of absolute advantages believes that whoever produces with the lowest cost in the world has an absolute advantage and therefore determines the basis for competition. David Ricardo with his law of comparative advantage puts emphasis on the manner in which nations compete. Ricardo expresses moderate attitude in his theory of relative advantage. According to this theory, specialized manufacturing and international trade should be applied if the production costs vary by country. This means that the basis of export may represent only a relative advantage. Marxists economists underlined the impact of sociopolitical environment on economic development. Mercantilists believed that the prosperity of a nation depends on its capital. For mercantilists competitiveness means the country's ability to export and the "winner" is a country whose volume of exports exceeds imports. Supporters of mercantilism were French and English traders in the 17th century. They promoted social protection and stability, which were essential for the expansion of their activities. Max Weber, German sociologist, established the link between values, religious beliefs and economic performance of nations. Joseph Schumpeter emphasized the role of the entrepreneurship as a factor of competitiveness. He underlined importance of innovation and technological advancement and pointed out that the big companies that have the resources and capital to invest in research and development truly innovate and initiate economic progress. Neoclassical economists thought that it is unacceptable for government to interfere in the economic processes. While the market is thought to be imperfect, the potential gain from attempting to correct market imperfections is considered insignificant. Representatives of the neoclassical school were skeptical about the intervention that would lead to the definition of production rules in the real world. Products that require production facilities, of which there are plenty in the local area, will be cheaper to produce than products requiring manufacturing resources that are rare in a particular local area and this will result in higher competitiveness of a given country. Alfred Sloan and Peter Drucker developed the concept of management as a key productive asset for competitiveness. Robert Solow studied the factors that lead to economic prosperity in the United States between the year 1948 and 1982 and stressed the importance of education, technological innovation and know-how. His model of economic growth has allowed the determinants of economic growth to increase the results of production (labor force and capital) and of technical progress. Using this model, Solow has calculated that about four-fifths of the growth in production of results per worker in the United States is achieved due to the technical progress. Paul Romer has followed the work of Joseph Schumpeter and Robert Solow, and

proposed a change in the neoclassical model. Knowledge in addition to capital and labor force became the third factor of production in the leading economies. The idea of a "knowledge-based economy" began to refer to different companies with the most advanced technology, especially in the field of computer, telecommunications and service industries. Many analysts believe that today's global economy is in transition to a "knowledge economy". Resources such as "know-how" may become more important than other economic resources. "New trade theorists" believed that the use of protectionist measures in order to create a huge manufacturing base in certain industries would led to these sectors to dominate the market. However, many of these scholars have been skeptical of government activism in promoting industries that pay extremely high wages. The competitiveness of the national economy, as well as corporations, was determined with the efficiency of government economic policy. Michael Porter tried to gather all these ideas in a systematic model, called the "diamond of competitiveness", which was used for the estimation of the relative competitiveness of the national economy. [6]

3. INTERNATIONAL COMPETITIVENESS RANKING

In the Global Competitiveness Report for 2013, issued by World Economic Forum, the best ranked countries are Switzerland, Singapore, Finland, Germany and United States. Switzerland is on the top position because of innovation and labor market efficiency as well as the sophistication of its business sector. Productivity is enhanced by a business sector that offers excellent on-the-job-training opportunities, both citizens and private companies that are proactive at adapting the latest technologies, and labor markets that balance employee protection with business efficiency. Public institutions in Switzerland are among the most effective and transparent in the world. Switzerland has an independent judiciary, a strong rule of law, a highly accountable public sector, excellent infrastructure and highly developed financial markets. Macroeconomic environment is among the most stable in the world. Singapore is on 2nd place as a result of goods market efficiency, labor market efficiency and financial market development. Singapore has excellent roads, ports, and air transport facilities. Strong focus on education has translated into a steady improvement of its ranking in the higher education and training pillar. Finland ranks 3rd in the Report, thanks to highly transparent public institutions, ethical private institutions, and well-established primary and higher education. The result is the workforce with the skills needed for a changing work environment. Improving the country's capacity to adopt the latest technologies could lead to important synergies that could reinforce the country's competitive position going forward. Germany is ranked 4th, because of first-rate facilities across all modes of transport. The goods market is efficient and characterized by intense local competition and low market dominance by large companies. Germany's business sector is sophisticated, especially in the domain of production processes and distribution channels. German companies are among the most innovative in the world and display a high capacity for innovation. Germany benefits from its significant market size, which is based on large domestic market and strong exports. The United States are on 5th position. Companies are highly sophisticated and innovative, supported by an excellent university system that collaborates with the business sector. Combined with flexible labor markets and the scale opportunities afforded by the sheer size of its domestic economy, the largest in the world by far, these qualities make the United States very competitive. [12]

4. STRATEGIC POSITION OF REPUBLIC OF SERBIA

Observing the Western Balkan countries, according to The Global Competitiveness Report for 2013, Albania is ranked 95th, Bosnia and Herzegovina 87th, Croatia 75th, Macedonia (FYR) 67th and Serbia 101st.

Table 1. Western Balkan countries competitiveness rank 2007-2013 according to Global Competitiveness Report

Year	Albania	Bosnia and Herzegovina	Croatia	Macedonia, FYR	Montenegro	Serbia
2007 (131)	109	106	57	94	82	91
2008 (134)	108	107	61	89	65	85
2009 (133)	96	109	72	84	62	93
2010 (139)	88	102	77	79	49	96
2011 (142)	78	100	76	79	60	95
2012 (144)	89	88	81	80	72	95
2013 (148)	95	87	75	73	67	101

Albania regressed by 6 positions. It is ranked 95th, as opposed to last year when it was in 89th position. The most problematic factors for doing business are corruption, access to financing, inefficient government bureaucracy, tax regulations and crime and theft. Bosnia and Herzegovina is in the 87th position in the latest Report. Compared to the last year ranking, it progressed by 1 position. The most problematic factors for doing business are access to financing, policy instability, tax rates, government instability and inflation. Croatia has progressed six positions compared to the last-year's Report. It is on 75th position. The most problematic factors for doing business have been identified as inefficient government bureaucracy, policy instability, corruption, tax rates and restrictive labor regulations. Macedonia (FYR) has progressed 7 positions compared to the last year and is now in 73rd position. The most problematic factors for doing business have been identified as access to financing, inadequate supply of infrastructure, inadequately educated workforce, poor work ethic in national labor force and inefficient government bureaucracy. Montenegro has progressed by five positions and is now in 67th position, as opposed to last year when it was in 72nd position. The most problematic factors for doing business were identified as access to financing, corruption, inefficient government bureaucracy, tax rates and inadequate supply of infrastructure. Serbia is ranked 101st with 3.8 points out of possible 7 among 148 ranked countries. Position of Serbia has deteriorated for 6 places since last year, when 144 countries were ranked and when it was on 95th place with score of 3.9. According to assessments from the Report, the most problematic factors for doing business in Serbia relate to corruption, inefficient government bureaucracy, access to financing, government instability and inadequate supply of infrastructure. Also, higher education is the area that needs reforms. [11]

Global Competitiveness Index

	Rank (out of 148)	Score (1-7)
GCI 2013-2014	101	3.8
GCI 2012-2013 (out of 144).....	95	3.9
GCI 2011-2012 (out of 142).....	95	3.9
Basic requirements (40.0%).....	106	4.0
Institutions	126	3.2
Infrastructure	90	3.5
Macroeconomic environment	136	3.4
Health and primary education.....	69	5.7
Efficiency enhancers (50.0%).....	92	3.8
Higher education and training.....	83	4.0
Goods market efficiency	132	3.6
Labor market efficiency	119	3.9
Financial market development	115	3.5
Technological readiness.....	60	3.9
Market size.....	69	3.7
Innovation and sophistication factors (10.0%).....	125	3.0
Business sophistication	137	3.2
Innovation.....	112	2.9



Figure 1. The Global Competitiveness Index 2013-2014 [12]

Some of the lowest positions in the Global Competitiveness Report for 2013 considering Serbia are in the area of education. In the fifth pillar of competitiveness, that describes higher education and training, are two indicators, “Availability of research and training services” (121th place) and “Extent of staff training” (140st place) which are related to the possibilities given to employees in terms of conducting research and training and upgrading professional qualifications, regarding which Serbia ranks low. The unsatisfactory position of Serbia is to be expected, considering the small number of properly educated management executives. This is a significant defect, since it is crucial for top management to constantly upgrade their skills and knowledge and to support the “life-long learning” process. The “Quality of management schools“ indicator ranks Serbia very low at the 114th place, and according to the “Availability of research and training services“ indicator, Serbia is at a low 121th place. Serbia has absolutely unacceptable evaluations for the “Extent of staff training“ indicator – 140th place, “Reliance on professional management“ indicator - 135th place, and “Country capacity to retain talent“ – 146th place. According to the twelfth observed indicator, “Reliance on professional management”, which is evaluated by the survey, the World Economic Forum has ranked Serbia 135th, which represents one of the lowest positions amongst the indicators [12]. Certainly, statistical data concerning the education of some of the current executive staff have to exist. As regards the indicator, “Country capacity to retain talent”, Serbia occupies 146th place, which means that in that area almost nothing has been done. In recent years, around 4,000 young people with university degrees leave Serbia every year. So far, around 400,000 persons, mostly young and educated, have left Serbia since 1990. With these data in mind, it comes as no surprise that Serbia is almost in last place in the Global Competitiveness Report issued by the World Economic Forum, when “brain drain” is the focus. [1]

5. CONCLUSION

Serbia is lowest ranked country in the Western Balkan region in competitiveness. Significant weaknesses have been observed in the context of firm strategy and rivalry.

They are primarily related to the regulation of the goods and services market, including specifically anti-monopoly policy, market dominance and intensity of local competition, where the government role is dominant. As for the weaknesses in the domain of corporate governance (the efficiency of corporate boards and impact of audit reports), the responsibility must be shared between business sector and state. There are still poor indicators in the key issues for the economy, such as macroeconomic environment, infrastructure, goods market efficiency, financial market development, and business sophistication, which show what is the future of economic development of the country and what are the business conditions. The unsustainable low level of Serbia's competitiveness due to competitive disadvantages in logistical infrastructure, capital market infrastructure, administrative infrastructure and innovation infrastructure have substantively ranked Serbia very low. The high level of competition on the local market is important for achieving high performance. Competition determines firm entry and exit. Since competition is so important, the government's influence on productivity is of great significance, especially through tax incentives and competition law. Competitive advantages in the strategy and rivalry context are connected with openness and vigorous local competition and with rules and incentives which encourage investment and productivity. According to the local competition the following major weaknesses have been manifested: market dominance, efficiency of antitrust policy and intensity of local competition. Rules and incentives also generate weaknesses in the field of foreign direct investment inflow, taxation, prevalence of foreign ownership and corporate governance. The manifested weaknesses point to the need for profound changes within structural adjustment, including both the role of government and the strengthening of rivalry on the domestic market, so that the Serbian economy can obtain all characteristics of a market economy. The dominant characteristic of this segment is the low level of cluster development and availability of latest technologies. Weaknesses are also reflected in the local availability of research and training services and low level quality and quantity of local suppliers. Related and supporting industries help us perceive the ability of locally available suppliers, service providers and collaborative partners, as well as supporting industries, to specialize and, thus, raise competitiveness. Companies still rely excessively on competitiveness based on low prices and costs. It has also been observed that the quality of management teams is not adequate, in addition to low investments in skills and technologies at this level of development. The evident weakness also lies in firms insufficient focus on unique products and services, coupled with the low degree of innovativeness and corporate governance transparency. For the improvement of education and innovation infrastructure, capital market and financial system, the government's responsibility must be shared with education, university, research and financial institutions.[8] In the area of higher education better integration of faculties would help foster a more transparent management of the higher education sector by facilitating the data collection process, the standardization of exams or the application of quality assurance mechanisms. Anonymous student evaluations of teaching staff should be introduced. To include Serbian students and teaching staff from all academic fields in international networks is of great importance for the future of universities and society as a whole. "Being a student" has so far been perceived more as a permanent social category rather than a temporary occupation leading to an academic degree. Thus the university does not function as an educational institution producing graduates, but as an alternative to the labor market. The existing systems of higher education can be seen as obstacles on the road to economic growth and, especially, to technological progress. The reason is that the current educational systems are unable to accept and change themselves in

response to the demands of the changing world environment. A change in the mode of education delivery is also needed. Advances in communication and multimedia technology, including the Internet, offer new ways of teaching and delivering course materials to students. The most important recommendations in the area of higher education are to create a student-oriented curriculum and to reduce the content of curricula. The student curriculum is overburdened and outdated, and needs to be brought in line with modern developments and practices.

REFERENCES

1. D. Škunca, Education in the purpose of improving competitiveness of Republic of Serbia, Book of proceedings of 9th International May Conference on Starategic Management, 24th-26th May, Bor, Serbia, 2013, p. 829-834.
2. I. Bagarić, Technology Management (Tehnološki menadžment), Fakultet za preduzetni menadžment, Beograd. 2005.
3. M. Pečujlić, Globalization – two faces of world (Globalizacija - dva lika sveta), Gutenbergova galaksija, Belgrade, 2002.
4. M. Porter, Competitive Advantage, The Free Press, New York, 1985.
5. M. Porter, Competitive Strategy, The Free Press, New York, 1980.
6. M. Porter, The Competitive Advantage of Nations, Macmillan, New York, 1990.
7. N. Savić, Comparative Analysis Based on New Competitiveness Index, Panoeconomicus, 1 (2012), p. 105-115.
8. National Strategy for Economic Development of Republic of Serbia: 2006-2012, Government of Serbia, Belgrade, 2006.
9. S. Garelli, Competitiveness of Nations: The Fundamentals, IMD, Laussane, 2006.
10. S. Garelli, The World Competitiveness Landscape in 2006, IMD, Laussane, 2006.
11. Strengthening Integrity and Fighting Corruption in Education: Serbia, OECD, Paris, 2012.
12. The Global Competitiveness Report 2013-2014, World Economic Forum, Geneve, 2013.
13. W. Lewis, The Power of Productivity, University of Chicago Press, Chicago, 2004.

SWOT ANALYSIS OF SERBIAN ECONOMY

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Abstract: This paper explores SWOT analysis of Serbian economy. It focuses particularly on the areas in which economy needs reform. The findings suggest that Serbia could use good geostrategic position, but needs to minimize the monopolistic market. Research results suggest that industry clusters, as well as entrepreneurship as a form of self-employment can upgrade Serbian economy. Entrepreneurship promotion is crucial for future development. With high unemployment rates, self-employment can make it easier for young people to start working, in addition to helping upgrade Serbian economy.

Keywords: competitiveness, macroeconomic environment, corruption.

1. INTRODUCTION

Strategic position of Serbian economy is defined by national conditions that determine how companies are created, organized and managed, as well as the nature and extent of domestic rivalry. Companies will be more competitive in those areas where the state allows them the fastest accumulation of capital. It is necessary that state gives quality and timely information to domestic companies. National economy would be more competitive as environment is more dynamic, because it will stimulate firms to constantly improve. Industry clusters lead to productivity increase, higher innovation rates and faster new business development and standard of living of a country's population can be improved by raising productivity which represents the main factor for international competitiveness. Corruption, as well as inefficient government bureaucracy needs to be minimized because they are most problematic for doing business in Serbia. The competitiveness of the national economy is consolidation of performances of companies and individuals at the micro level - the real factors of economic growth. Competitiveness can be defined as the ability of the economy to compete with other economies, or as the ability of an economy to really develop on sound economic grounds - on the basis of its own resources. Competitiveness of nations is the area of economic theory which analysis the ability of national economy to create and sustain environment which add value to companies and prosperity to people.[10] Organization for economic cooperation and development defines competitiveness as a measure of a country's ability in selling its products in international markets while at the same time raising real income of its citizens. There is a strong link between the competitiveness of nations and the new, global world order. Globalization has eliminated the boundaries between states and created a vast area. [4]

2. THE ASPECT OF ECONOMY AND STATE

For the purpose of this paper SWOT analysis will be used for evaluation of the strengths, weaknesses, opportunities, and threats for Serbian economy. Main strengths of Serbian economy are good geostrategic position and good climate conditions for agriculture. Weaknesses are related to economy and state - monopolistic market, high rate of unemployment and law system. Opportunities are development of industry clusters and youth entrepreneurship. Threats are related to education system that is educating young people who are prepared to leave country as soon as they finish their studies. The task of government should be to create political stability and continuity in the conduct of economic policy which would provide a stable and predictable environment for entrepreneurs. The government should enforce a competitive atmosphere, which exists in developed market economies. This means to ensure macroeconomic stability and accession to the European Union, while attracting foreign direct investments and implement a general deregulation of business. The level of public expenditure is too high, which means that the economy allocates too many resources in the form of taxes to fund the government. Public expenditures should be reduced gradually and thus create a stimulating business environment. Economy requires an efficient state administration with rational costs. It is necessary to increase the efficiency of the state administration, which should be more oriented towards the customer. Getting building permit is extremely bureaucratic and time-consuming process. Despite some improvement, there are still too many laws and regulations that are defining this area. The procedure is almost impossible to finish in a time period shorter than six months, and in extreme situations, this procedure takes more than a year. In order to obtain a building permit it is necessary to provide a range of other supporting permits. Changes to legislation should increase the degree of labor market flexibility. Serbia is late in the integration process. The simplification of administrative procedures, lowering their costs and general deregulation of business is of great importance. Costly and time-consuming administrative procedures, especially when it comes to licensing and obtaining construction permits, discourage new businesses and investments. Many business areas are regulated by non-transparent regulations and companies, investors and citizens are often unable to cope with this situation. The regulation that is effective in one moment can become ineffective in the future as a result of social, economic, technological and other changes. Deregulation comes as a set of measures and policies that require significant financial resources and it consist of setting the new regulations and improving the quality of existing ones. Protection of property rights and contractual obligations has adequate legislation. However, the problem arises when the court implements some of these rights, because the processes are time-consuming and often last for several years. It is certain that the enforcement proceedings are worst point of the functioning of the legal system and that in the future significant improvements are needed. Also, courts for small claims values should be established and it would be much faster bringing the final decision. In Serbia, the grey economy is still widespread. The negative effects of this economy are reflected in the loss of tax revenue of the state, in an inefficient allocation of resources and in reducing of the possibilities of macroeconomic policy. Grey economy represents unfair competition to those companies that regularly settle their fiscal obligations. The objective of economic policy should be translation of grey economy into legal businesses. The most appropriate method is a combination of incentives and penalties. It is necessary to take a set of coordinated measures:

- The reduction of tax rates. Progressive tax rates should be replaced by proportional tax rates.
- The stimulation of cashless payment instruments. The emphasis should be on encouraging the use of cashless payment instruments and not on introducing restrictions of use of cash in favor of these instruments.
- The reduction of transaction costs - foreign trade procedures and payment transactions.
- Implementation of higher level of control of the inspection and customs authorities, as well as the degree of efficiency of the judicial system. [9]

The passive role of the economy and the expectation that the state will be responsible for improving competitiveness and increasing exports is a mistake. The introduction of international standards of quality is of great importance, because in a number of activities such as construction and food industry is not possible to perform in foreign markets without the adoption of these standards. This should be a common task for government and business. Government should assist interested companies. Connecting businesses to export clusters is a successful strategy to increase competitiveness in the international perspective. Connecting in this manner provides a number of advantages, starting from a better strategic positioning, product quality, to providing more resources for entry into foreign markets. The initiative for clustering must be given by enterprise and it is necessary for state to regulate this area. All studies show that the level of technical equipment and the use of modern information technology in the Serbian economy is low. Only a small number of companies have set funds for its own research and innovation. Without drastic changes of attitude towards these issues the level of competitiveness of Serbian economy will remain low. It is essential that there is a greater degree of cooperation, exchange of opinions and work between representatives of industry and government. [9]

3. THE EDUCATION REFORM

The education system is inadequate in terms of the needs of the economy. It is not fast enough to react to the changes in the environment. Development of new products, new production processes, new organizations and changes in both the local and the global marketplace require new qualifications. Inadequate financial situation of employees in lower and secondary education has resulted in frequent strikes, interruptions of teaching and shortening hours. International comparative tests have shown that students in Serbia are significantly behind the developed countries. When it comes to higher education curricula - it is inadequate, outdated and too extensive. A number of teachers do not work on personal development. Although there is continuously growing number of citizens with basic and higher education, a consequence of this situation is that the economy gets inadequate staff. Upon completion of education students are usually not able to automatically engage in the work process, but they acquire necessary knowledge, skills and competences most often through work, which produces costs for the economy. The educational systems produce a profile for which there is no need and a number of educational profiles that are required are not educated. The consequence of this is the rise of structural unemployment in Serbia. Priority tasks when it comes to the education system should be:

- Adjusting the educational profile and enrollment policy with the needs of the economy.

- Increasing the participation of practical training in curricula.
- The regulation of non-formal education and accreditation of institutions engaged in informal education.
- Building connection between secondary and higher education institutions with industry which will provide practical training for students.
- Getting curricula in line with the economy, as well as eliminating outdated educational profile.

Adjusting the educational profile with the needs of the economy would be useful. All social partners who can contribute to its improvement should be included - Chamber of Commerce, the National Employment Service, the Association of Employers, trade unions and higher education institutions. [9]

The Global Competitiveness Report for 2013 issued by World Economic Forum measures competitiveness of 148 countries. Serbia is ranked 101st for Global Competitiveness Index. Global competitiveness factors defined by World Economic Forum cannot be completely and directly implemented on Republic of Serbia. In order to create factors specific to the Republic of Serbia it is crucial to put focus on connection between politics and economics, export value, state of primary education, quality of managers and management schools, transparency of goods market and antimonopoly policy, protection of consumers and terms of crediting economic entities. The primary goal should be to create strategy for enhancing competitiveness of Serbia by focusing on these aspects of Serbian economy competitiveness and especially on upgrading the whole education system and on creation of professional managers. In Global Competitiveness Report Serbia has the best rank in the area of technological readiness – 60th place. According to this Report Serbia is ranked for the secondary education enrollment – 62nd place and for the tertiary education enrollment Serbia is ranked 50th. But, this ranking is not presenting realistic situation in Serbia, since almost half population in Republic of Serbia is not adequate lettered, according to data issued by the Statistical office of the Republic of Serbia. The authorities are inconsistent in approaching official corruption and investigations are often politically motivated. Demands for bribes are expected at all stages of a business transaction. A deeply rooted practice favors certain parties based on connections. Competitiveness of Serbian economy is not good, but it can be upgraded by involving efficient managers in the process. They will be able to improve domestic economy by focusing on investments in technology and on modernization of production processes. It is crucial for achieving higher export growth. The increase of export revenues is important for providing resources for financing import of equipment and technology. Adequate education and implementation of efficient management strategies can improve competitiveness of a Serbian economy. There is need to increase competitiveness and to raise quality of managers in Serbia. Modernization of education system is very important. In order to achieve strategic goals Serbia need to have more highly educated managers.[1]

4. THE PROMOTION OF YOUTH ENTREPRENEURSHIP

Youth entrepreneurship is a critical issue for Serbia's economic and social future. Self-employment can serve as an important means for young people to join the labor force, in addition to supporting Serbia's economic growth. A robust youth entrepreneurship sector is a key area of focus for a number of European Union frameworks and programs. Improving the environment for young entrepreneurs is crucial because a number of important

constraints remain, most notably with regards to the policy environment, the lack of financing opportunities, the lack of entrepreneurial culture, and youths' need to obtain business skills and information. In small business, Serbia should recognize the positive development towards solving the problem of high unemployment. Self-employment by starting up small businesses is one of the ways of seeking a solution to this problem. The success of the reform process in Serbia is largely dependent on creating new and better jobs. Employment is the primary source of individuals necessary for contributing to the economic development of the society and participation in the benefits brought by this development. In addition, the political support for a sustainable reform process is uncertain in societies with a high unemployment rate and in which too many people do not have an opportunity to be productive on the labor market. The current business climate in Serbia is not stimulative for small business start-up and self-employment, especially for young people. The global economic crisis has had a significantly negative influence. Serbian state authorities have been trying to improve the conditions for small business and self-employment, but there are still numerous obstacles. Some incentives, such as providing favorable start-up loans for beginners, have certainly contributed to it, but they could not compensate for an unfavorable economic environment. There has been a noticeable stagnation in number of enterprises, entrepreneurial climate deterioration and increasing unemployment in Serbia recently. The state had neither been making sufficient efforts to help potential entrepreneurs to overcome financial limitations, nor creating the ambient and supporting those who wanted to start-up their own business. It is on the policy creators to recognize that young, educated people in Serbia are interested in self-employment and entrepreneurial career and in creation of the ambient that will provide the expression and realization of such an interest. In the existing circumstances in Serbia, the growth of small business and self-employment of young people requires the action of policy makers to overcome internal obstacles and constraints and encourage entrepreneurship. Long-term solutions for creation jobs and self-employment require promotion of entrepreneurship that is encouraging economic growth. Good results can be achieved by overcoming the crisis and creating a favorable business climate. [3]

5. CONCLUSION

Long-term solutions for creation jobs and self-employment require promotion of entrepreneurship that is encouraging economic growth. Adequate education and implementation of efficient management strategies can improve competitiveness of a Serbian economy. There is need to increase competitiveness and to raise quality of managers in Serbia. There is lack of good managers in Serbia and it is very important to determine connection between efficient management and increase of competitiveness. Modernization of education system is very important. In order to achieve strategic goals Serbia need to have more highly educated managers. Youth entrepreneurship is a critical issue for Serbia's economic and social future. Self-employment can serve as an important means for young people to join the labor force, in addition to supporting Serbia's economic growth. A robust youth entrepreneurship sector is also a key area of focus for a number of European Union frameworks and programs. Improving the environment for young entrepreneurs is crucial because a number of important constraints remain, most notably with regards to the policy environment, the lack of financing opportunities, the lack of entrepreneurial culture, and youths' need to obtain business skills and information. In small

business, Serbia should recognize the positive development towards solving the problem of high unemployment.

REFERENCES

1. D. Škunca, Education in the purpose of improving competitiveness of Republic of Serbia, Book of proceedings of 9th International May Conference on Starategic Management, 24th-26th May, Bor, Serbia, 2013, p. 829-834.
2. I. Bagarić, Technology Management (Tehnološki menadžment), Fakultet za preduzetni menadžment, Beograd. 2005.
3. J. Hutchinson, M. Guttentag, Y. Chen, K. Mo, Youth Entrepreneurship in Serbia: Constraints and Opportunities, USAID, Belgrade, 2012.
4. M. Pečujlić, Globalization – two faces of world (Globalizacija - dva lika sveta), Gutenbergova galaksija, Belgrade, 2002.
5. M. Porter, Competitive Advantage, The Free Press, New York, 1985.
6. M. Porter, Competitive Strategy, The Free Press, New York, 1980.
7. M. Porter, The Competitive Advantage of Nations, Macmillan, New York, 1990.
- 8.N. Savić, Comparative Analysis Based on New Competitiveness Index, Panoeconomicus, 1 (2012), p. 105-115.
- 9.National Strategy for Economic Development of Republic of Serbia: 2006-2012, Government of Serbia, Belgrade, 2006.
10. S. Garelli, Competitiveness of Nations: The Fundamentals, IMD, Laussane, 2006.
11. S. Garelli, The World Competitiveness Landscape in 2006, IMD, Laussane, 2006.
12. Strengthening Integrity and Fighting Corruption in Education: Serbia, OECD, Paris, 2012.
13. The Global Competitiveness Report 2013-2014, World Economic Forum, Geneve, 2013.
14. W. Lewis, The Power of Productivity, University of Chicago Press, Chicago, 2004.

CLUSTERS – AN EFFECTIVE FORM OF ENHANCING THE COMPETITIVENESS OF SMALL AND MEDIUM-SIZED ENTERPRISES

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Abstract: The cluster approach has been used in developed economies to create networks of stakeholders and technology-related companies with the aim of attaining greater efficiency and effectiveness in the concentration of resources for the improvement of competitiveness within the widest possible range of different areas of economic activity. Such an approach is of particular importance to small and medium-sized enterprises which cannot, in general, rely on the entire spectre of resources and well-developed components of manufacturing systems available to the large companies.

The purpose of the paper is to examine closely and provide an analysis of the application of cluster approach in improving the competitiveness of small and medium-sized enterprises. Systematized, on the basis of analysis of the key characteristic features of the clusters, are their good points and prospects of achieving effectiveness and competitive advantages for the economic entities.

Keywords: clusters, small and medium-sized enterprises, competitiveness, effectiveness

1. INTRODUCTION

What rivets the interest of diverse specialists, researchers, managers and various state and regional institutions is the opening up of new possibilities for enhancing the competitiveness of small and medium-sized enterprises (SMEs).

The economic literature provides a great number of definitions of competitiveness. Part of them, however, does not disclose fully the very nature of companies' competitiveness. Most specialists define competitiveness as a dynamic category that guarantees the sustainable and long-term development of the enterprises.

Competitiveness should not be reduced or relegated simply to costs, results and effectiveness of the economic activity in the short or long term. This is the way in which only the rate of the resources utilized by the company could be determined taking no account of its capacity for continuous development and renewal, its adaptation to the changing environment and gaining competitive advantages. The formation of durable or sustainable competitive advantages under the conditions of strong competitive pressure induced by the European and global markets is increasingly becoming a critical factor for success and an essential prerequisite for taking advantage of the new opportunities for the realization of products and services, made possible through the European Union membership.

The changing conditions of the competitive struggle call for enhanced competitiveness through the activation of the demand and application of managerial approaches. Implementing approaches that place particular emphasis on the use of highly qualified or

skilled and cheap workforce makes the constant cost-cutting, the specific tax incentives, and others no longer effective. They are not powerful enough to turn the small and medium-sized enterprises into stable and competitive entities, at both national and global levels, producing goods and providing services that meet the consumer demand for better quality and wider range of products.

On the other hand, sectoral and industrial competitiveness should not be automatically assumed as the sum of the competitiveness of the separate enterprises. It depends, to a very large extent, on their ability to co-operate with potential partners, on the way each enterprise is linked to the other enterprises within the process of interconnected aggregate production, on the business services package (consultancy, research and development, financial services, etc.), on the effectiveness of public and regional administration, and on those political decisions that foster the creation of such a business environment that is conducive to economic growth.

It follows from all we have mentioned so far that the cluster approach, due to its focus on enhancing competitiveness through the development of clusters, boosts growth and expansion of SMEs, regional development, the launching of innovative products; educates or trains entrepreneurs and favours the creation of new jobs.

2. CLUSTERS AND COMPETITIVENESS OF SMALL AND MEDIUM-SIZED ENTERPRISES

The necessity of creating clusters and the ever-increasing use of cluster approach is triggered by the changing conditions in the business environment and the new range of challenges the present-day business is currently facing, or, to be more precise: the fast-changing business environment requires a flexible and specialized response to consumers' expectations; a need for a more innovative environment, for the provision of brand-new and improved products and services; a need for geographical concentration of the financial, legal, consultancy and other services for SMEs; synergistic effect caused by the open access to common resources or markets.

Companies participating in clusters tend to achieve much greater competitiveness as compared to those conducting their business individually. The higher level of competitiveness is reflected in the following aspects [1]: increased productivity of the constituent companies through the access to timely and specialized deliveries, specialized and skilled workforce, through improved access to sources of information, to various institutions and strengthened competition amongst them; enhancing the innovation capacity of the enterprises through transfer of technology, knowledge and innovation; encouraging entrepreneurship and new business start-ups.

The local (regional) conditions are crucial to the effective application of the cluster approach and improvement of the national and regional competitiveness. It fosters the development of the regional economy and thus supports the state and regional efforts in assisting the industrial development.

A study exploring the experience of SMEs shows that the availability of conducive local business conditions, specialized suppliers within easy reach, service businesses, educational and other organisations, recognition of tradition and specialised and skilled workforce, not only leads to reduction in a number of production and trade costs but also brings about improvement in the coordination of efforts, co-operation and «healthy» competition. As a result, there grows the need for innovations and ongoing renewal,

speeded up is the exchange of knowledge and work experience. The end result, however, is critically dependent upon the adequate enhancement in the companies' competitiveness.

This is the reason why the cluster theory is increasingly becoming an area of interest to governments which focus their attention upon the improvement of companies', regional and national competitiveness.

3. EUROPEAN POLICIES AND INSTRUMENTS FOR CLUSTER DEVELOPMENT

Various measures have been taken recently in Europe to support cluster development. Cluster development policy has been found, in its broadest sense, to include, complement or concretise innovation policy at the national and regional levels. Political and institutional instruments that support cluster development are not, in principle, a novel occurrence, what is new, however, is the way they are combined.

Netherlands, Denmark, Ireland, Italy, Spain, etc. could be set as an example of good practices as regards cluster creation and development. [2,3,4]. Netherlands and Denmark, for instance, are countries with strong traditions in cluster encouragement and are well-known for their experience in industrial design, development of creative and tourism industries. Over the past years, Great Britain has also been proven to pursue an active cluster policy and substantial financial resources have been invested in cluster development. An interesting example is that of the „Textile industry” cluster in Lancashire starting from textile engineering, passing through electrical engineering in order to reach its contemporary niche in the field of digital software and educational technology.

Ireland has long been known for applying the cluster-based concept in its government policy for competitiveness enhancement and attracting foreign direct investments in particular. Finland and, more recently, Sweden are becoming increasingly more active in the use of clusters when setting economic priorities. Although countries such as France, Germany, Italy and Spain have no national strategies for cluster encouragement, they have one of the most developed and multitudinous clusters in Europe. [3,4,5]

Sponsored by the European Union and other foreign (international) organisations, clusters have also been set up in some of the newest member countries of the European Union. The most prominent example is Slovenia, which is the first country to develop and implement a national cluster programme with the aim of encouraging innovativeness and enhancing companies' competitiveness. In 1999 the government conducted a special study to identify the potential clusters. Thus, established were 10 potential clusters and launched, in the country in 2001, were three pilot projects of clusters in the automotive manufacturing industry, transport industry and mechanical engineering. In 2004 there were 314 Slovenian companies and institutions with approximately 60 thousand employees already involved in clusters, drawing up and working on more than 130 projects.

In Bulgaria clusters are a relatively new object of investigation. It was only in 2004 when the Innovation Strategy of the Republic of Bulgaria was approved and one of the strategic goals said «to encourage the formation of clusters in sectors traditional to our country» [2, 3, 4, 8].

In 2005 the Ministry of economy and energy, started the implementation of the project «Introduction of Cluster Approach and Establishment of a Pilot Cluster Model». The primary goal of the project was to improve the competitiveness of the Bulgarian economy, exploiting the advantages of the cluster model in order to achieve sustainable economic growth. As part of the pre-accession assistance for enhanced competitiveness of the

Bulgarian economy within the overall framework of the Phare programme, a cluster development strategy was developed in the country for the first time and several pilot cluster projects were carried out. The project was actually preceded by other similar ones conducted during the period 2000 until 2004, and financed by Phare, The United States agency for international development and the German organization for technical cooperation. They all analyzed the potential for cluster development in preferred industrial sectors and subsectors and served as a basis for a more comprehensive and ambitious initiative through the Phare programme. It was divided in two phases, known as “Introduction of Cluster Approach and Establishment of a Pilot Cluster Model” and “Cluster Development Initiatives – Phase II”, involving the activities started in July 2005 and reaching their final stage at the end of April 2009 [4]. The management unit of the Bulgarian side was the Phare Executive Agency at the Ministry of Economy, Energy and Tourism. The basis for the analysis of the potential for implementation of the cluster approach in preferred economic sectors and subsectors of the Bulgarian economy lay primarily in the detailed examination or inquiry into the objectively existing prerequisites—traditions, the overall state of the factors of production, real functioning partnerships and others – and their most probable future development in the context of parallel development of the global markets.

Some of the 15th most promising subsectors in Bulgaria were: fruit and vegetable processing; information and communication technologies; textile products; wine production; general engineering; energy; dairy products; tourism, etc.. [4,8].

The existing clusters in our country, upon completion of the second phase, were 10. There were over 250 companies participating in them with the number of employees varying between 18 and 20 000. Nevertheless, SMEs involved in clusters in 2013 comprised only 16% of all enterprises.

In 2013 there were 230 associations in the country registered as existing or actually operating clusters and one professional organization— Association of business clusters. The three sectors that formed about 20% of the registered cluster associations were— IT sector, energy and tourism sector.

4. CLUSTER PRACTICES FOR THE DEVELOPMENT OF SMES IN THE TURKISH ECONOMY

Being aware of the significance of clusters for the national and regional competitiveness, the Turkish government has undertaken a policy for encouraging the creation and development of clusters. As part of the pre-accession strategy for EU membership, Turkey has to concentrate its efforts on the establishment of clusters.

The foundations of the cluster policies in Turkey were laid in 1960 with the approval of the „Organisational Development Plan”. The overall goal of the strategy was to achieve „industrial growth”. The policy pursued led to the emergence of the first “organized industrial zones” and “small-scale industrial units or estates”, which boosted the development of the entrepreneurial activity [6].

During the period 1970 until 2000 observed was an intensive process of assisting the concentration of industrial sites (also known as industrial estates, through huge investments in infrastructure, advancement of research and development and implementing technology and innovation.

The organised industrial zones, the small-scale industrial estates and the technological development zones created an environment conducive to the formation of clusters.

With the development of the technological progress and innovation, under the aegis of Small and Medium Enterprises Development Organisation (KOSGEB) and the universities, established were zones for technological development.

The basis on which the Turkish government grounded the establishment and development of cluster structures was to be found in the already existing organized industrial zones. To that effect, the Ministry of science, industry and technology adopted a project for „Co-operation and clusterization of SMEs”. Considering the findings of the previous studies, the government concluded that throughout the country there were 264 organized industrial zones, extending over an area of 27 298 hectares. 148 of them were actually in operation in 2011. The remaining 116 were in the process of preparation and realization.

Using the data obtained from the study into information regarding the companies operating within the scope of the organized industrial zones, we can systematize the following characteristics as regards the companies acting individually: higher share of the exports of the goods produced and services provided; easier access to sources of funding; access to sources of information; availability of highly qualified employees and management team.

Identified subsectors with a potential for the creation of clusters were: fruit and vegetable production and processing, meat and dairy products, information and communication technologies, wine production, chemical industry, etc.

In 2008 for the purposes of the EC, conducted, within the territory of Turkey, was a study with the aim of identifying the potential regions conducive to the creation of clusters.

The research findings indicated that a considerable part of the possibilities for the creation of clusters had already been allocated and built up for the purposes of the organized industrial zones. Taking this into consideration adopted was a strategy for encouraging the involvement of the organized industrial zones into clusters [5]. The strategy was supported by institutions such as: The Scientific and Technological Research Council of Turkey (TÜBİTAK), Agency for supporting and encouraging the small and medium-sized enterprises, the Ministry of economy and the Regional Development Agencies.

The institutional support referred to the provision of grants for innovation activities, specialized training and various employment incentive programmes. Incentive programmes involved the gratuitous or free funding for technological innovations, exemption from local taxes and duties or fees for the period of 5 years, reduction of public utilities rate and others.

One of the biggest projects for the establishment and development of cluster structures based on the organized industrial zones was launched in 2009 in the province of Izmir. Conducted in advance, to that effect, were some research studies in order to identify the potential sectors favourable for the creation of clusters. Using the type of production traditional to the region: fruit and vegetable processing, the first steps towards encouragement of SMEs and their involvement in a cluster for “Fruit and Vegetables Processing” had been taken. The aim was to build intercompany organizational behaviour, to produce high quality products, to advance research and development, to improve the access to information and the possibilities for obtaining financial support, which had to result in achieving higher competitiveness of the sector.

Although the pilot programme was relatively new, observed already were some positive effects of its introduction. There were 1440 companies participating in the cluster, 329 of them being in Izmir and comprising 46% of the enterprises in the region. About 32% of the fruit and vegetables were produced and processed in them. Most thriving was

the sector for the production and marketing of dried fruit. The region provided 36% of the sultanas and raisins and 40% of the dried figs and was one of the highest ranking regions in the world for the production of dried fruit. Annually, more than 200 000 tonnes of sultanas and raisins are produced in the region. [5,6,7].

Another example was the establishment and development of the cluster for “Medical Equipment and Apparatus” in Izmir. The creation of this cluster results from the fact that the province provided added value at the national level from medical equipment and devices or apparatus, with the imports amounting to 2,5 million dollars and exports - 250 million dollars per year. There were 47 companies participating in the cluster, 39 of them being manufacturing companies. Upon entering the cluster, a substantial majority of the companies had kept a very low rate of innovation and had big branding problems. The period after their inclusion in the cluster was characterized by a significant growth in the level of applied innovation which led to improvement in the quality of the items produced, increase in export, strengthening the interactions between businesses, universities and institutions for research and development. Adequate training had been provided by all the seven universities in the region and 35 university lecturers. [5,6,7].

The analysis of the results of the implementation of the policy for encouragement and development of clusters shows some positive tendencies in the regional economic indicators. (fig. 1).

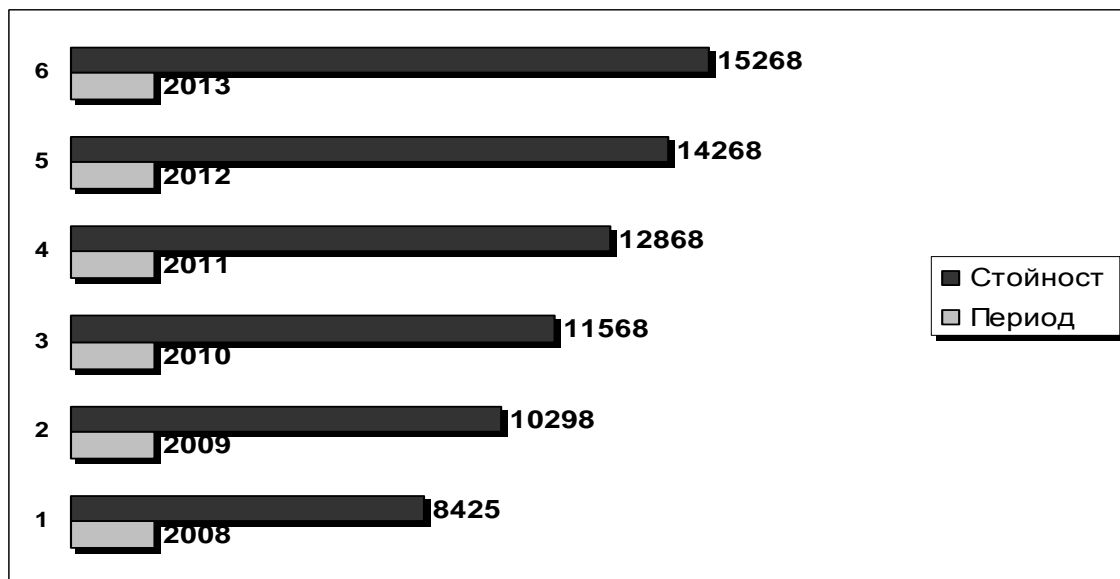


Figure.1. Gross value added per capita (\$). (Personal calculations on the basis of data from IZKA, 2013г.)

A significant increase in the gross value added per capita in the province of Izmir was perceived after the implementation of the model for encouraging involvement of small and medium-sized enterprises in cluster organisations. The data indicates that in the start-up period of the pilot programmes in 2008 and 2009 the value of the indicator was 8 425\$ and 10298\$ respectively, reaching 15 268\$ (the increase was almost double the original value) at the end of 2013.

Table 1. Export and import activities (%). (Personal calculations on the bases of the data from the Ministry of science, industry and technology, 2013)

Period	Export	Import
2009	6,1	6,3
2010	7,7	8,4
2011	8,1	9
2012	8,7	9,2
2013	10,3	9,5

In 2009 the import/export dynamics provided evidence for a considerable slowdown in the foreign trade in the province of Izmir. The export of goods and services for the region's overall economy was 6,1% and was determined by the lower demand from the main trading partners. That, in turn, restricted the dynamics of the import of goods and services, with the growth amounting to 6.3% and was mainly due to its dependence upon the export-oriented activities. In the following years, there was a gradual rise in the dynamics of the export activities to reach levels of 10,3% in 2013. Consequently, the province was ranked sixth, four positions ahead, as regards the relative market share in the national export activities.

There was also an increase in the import activities and what rivets the attention is the fact that in the last year of the period under consideration, the level was lower by 0,8% of the export activities, which was due to the policy aimed at imposing restrictions on import from third countries and encouraging the use of local raw materials.(fig.2)

The adopted incentive policy also led to some changes in the rate of unemployment (fig.2).

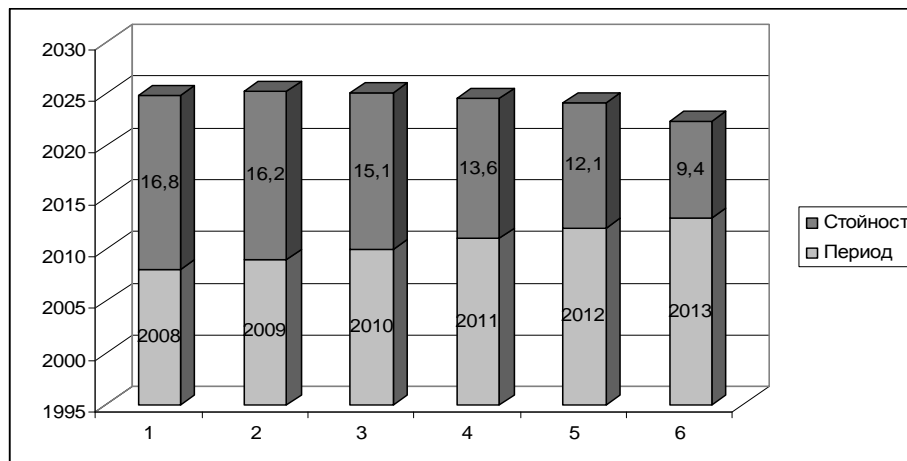


Figure 2. Unemployment rate (%). (Personal calculations on the bases of the data from the Regional Development Agency, Izmir, 2013)

As shown in the data analysis, the rate of unemployment in the region in 2008 was relatively high. The reasons for that were not only the global economic and financial crises but also the insufficient competitive advantages of the companies, which, in turn, accounted for the difficulties with the foreign trade in the province. Accordingly, that affected the gross value added per capita and was associated with a low standard of living. On the other hand, loss of employment and increase in unemployment do not necessarily presuppose preservation and survival of the enterprises.

5. POSSIBILITIES FOR BOOSTING COMPETITIVENESS OF SME THROUGH ENCOURAGING THE DEVELOPMENT OF CLUSTERS IN BULGARIA

On the basis of the study that has been carried out and the comparative analysis of the cluster practices in the Republic of Bulgaria and the Republic of Turkey as to the SME sector development and enhancing its competitiveness, drawn could be the following more important conclusions:

1. Under current dynamic economic and market conditions, the cluster approach should be viewed as a strategy of highest priority for boosting the competitiveness of the small and medium-sized enterprises in Bulgaria. That is likely to be attained through the creation of favourable conditions for facilitating the formation and development of clusters in Bulgaria, with the aim of transforming them into stable economic entities. Building up a favourable environment to help achieving the target is a complex, multifaceted (multi-factored) problem that requires continuous efforts not only from the businesses, but also from the local authorities and the state itself. The way cluster consolidations arise should not be simply an administrative process (a rather common mistake that occurs in Bulgarian practice). The administrative arrangements in which clusters are established creates artificial relationships between their participants, since they have not yet become fully aware of the need, advantages and disadvantages associated with the respective co-operation and consolidation of their efforts. In the working process, there are no established effective practices for co-operation, which makes it inherently more difficult for the clusters to function and even threatens their existence. Identified as a critical success factor are the ever deepening and reinforced inter-relationships between the participants, founded on mutual trust, which provides the guarantee for the very development and existence of clusters. That takes time and effort and builds up gradually in the process of effective interactions and co-operation. On the whole, the creation of a well-functioning and highly competitive cluster should be a natural process, triggered by the needs and practices of the small and medium-sized enterprises. The focus should be on creating conducive environment which could serve as an incubator for the occurrence, development and strengthening of natural relationships between the separate companies, rather than on building up artificial relationship between them.

Considering the reports of the study and analysis that have been conducted, we can systematize the following more important characteristic features of the environment: strengthening the co-operation between the companies and the clusters; encouraging the construction of channels for intra-cluster communication; ensuring specialized services for clusters; forming cluster centres; forming government representative agencies and offices for cluster services; encouraging affairs and relations external to the clusters; developing the human resources of the clusters; encouraging innovations and entrepreneurship within the clusters and conducting more comprehensive marketing research studies within them.

Strengthening the co-operation between the SMEs is a means of disseminating novel ideas, information, know-how, best practices. Created in this way are the necessary conditions for effective technology transfer, for the formation and development of competitive advantages within the frameworks of the clusters. This may be accomplished by giving the SMEs the opportunity to participate jointly in the relevant tendering procedures for large orders. In addition, various conferences and forums could be held in order to exchange valuable work experience and to identify the guidelines that should be followed in order to achieve high economic results and improved competitiveness. Intensive contacts have been established between the members of the clusters and yet they

have to be encouraged to construct formally organized channels for communication. It will therefore be necessary to build and continuously update data bases as regards the products, technology, contacts, new possibilities, business proposals, job vacancies, etc.

2. An essential condition for the successful development of cluster associations is the formation of cluster centres for complex services. Its implementation can be done through active participation in joint projects, offering financial support, provision of relevant areas, consultancy services and others. State, regional and general cluster bodies should encourage relationships external to the clusters through the study of international experience. It is essential to increase the involvement in national and international organisations and to ensure financial support to joint research and innovation projects, and funding of various research studies and analyses as well. The availability of highly qualified and experienced personnel (the potential of a cluster could, to a large extent, be measured by the quality and capabilities or expertise of the workforce employed by the respective company) is of paramount importance for achieving cluster competitiveness. One of the most serious problems in Bulgarian economy is largely connected with the lack of tight links or close relationships between the education and the actual needs of the businesses. The main reason for this is the broken link between education - business, with the business still taking a passive attitude to the process of education, as an observer sitting on the sidelines, setting requirements and expecting results, without making any effort on their part. Therefore, implemented should be instruments or incentives to encourage and strengthen the education- science- business relationship, through creation of an effective co-operation between all the parties concerned, establishing the necessary prerequisites for obtaining a high-quality, practice-based education and qualification of the workforce. Created at the same time should be opportunities for working jointly on projects, involving the collective participation of companies and educational institutions, bringing theory and practice together; seeking various sources for better funding, and thus encouraging the development of the small and medium-sized enterprises within the framework of the cluster.

6. CONCLUSION

Regardless of the wide range of concepts as regards the development of clusterization of the small and medium-sized enterprises, it is vitally important for the process to be consistent with the interests and expectations of all the participants and their roles in it. The industrial clusters that are effectively organized set the prerequisites necessary for the economic growth, technology update and innovation in small and medium-sized enterprises, and, on this account, might contribute to the achievement of higher economic growth in the national economy, attracting foreign investment and creating competitive advantages.

In conclusion it can be summarized that the success of the clusters in Bulgaria depends entirely on those enterprises that seek new means and ways for development through collaboration and co-operation in order to achieve higher competitiveness through joint efforts.

REFERENCES:

- [1] Velev M., „ Analysis and evaluation of company’s competitiveness”, (2004), Softrade, Sofia
- [2] Todorov K., „Business entrepreneurship” I and II part (2011), BAMDE, Sofia
- [3] Pavlova D., „ Cluster approach in economy”, (2007), TU-Varna
- [4] Journal of Science and business, (2013), Ministry of education, youth and science
- [5] Cansiz M., „Turkiyede kumelenme politikaları ve uygulamaları”, (2011), Ankara
- [6] KOBİ İşbirliği ve Kümelenme Projesi, T.C. Bilim, Sanayi ve Teknoloji Bakanlığı, (2011)
- [7] Izmir kumelenme analizi, (2010), Izmir kalkinma ajansi
- [8] www.capital.bg/politika_i_ikonomika/bulgaria/2004/10/23/228414_bliasukut_na_kluste_rite/

FINANCIAL STATEMENTS AS THE BASIS FOR MODERN ENTERPRISES MANAGEMENT

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Abstract: To avoid wrong business decisions, management must be based on realistic and objective accounting information contained in the financial statements, which present the financial position and performance of a business entity or other organizational units. Only on the basis of real financial statements is it possible to measure the safety and performance of what is the most important part of the financial statements analysis. By insisting on the intelligibility, reality and objectivity of the financial statements, the role of the audit that it provides is emphasized. The topic of this paper are the advantages and disadvantages of the accounting information contained in the balance sheet, income statement, cash flow reports, statement of changes in equity and notes, as a set of financial statements as defined by IAS / IFRS, which are determined by the needs for disclosure and transparency. In recent conditions, the disclosure requirements of the so called non-financial stakeholder groups such as employees, unions, government agencies and the general public increase in terms of highlighting the social responsibility of the corporations. Internationalization of the means of recognition, measurement and disclosure of the information contained in the financial statements, i.e. standardization of financial reporting at the international level has to solve problems of national diversity in the companies' financing structure, the differences in the level of development of national capital markets, diversity of national taxation systems, different levels of development of national accounting profession, and regulation and differences in national culture and traditions, as well as the problems of differences in the stability of the national currency and the differences in the approach to the international and political relations of certain national states, and hence the resulting advantages and disadvantages of the financial statements.

Keywords: financial statement, financial reporting.

1. INTRODUCTION

The purpose of financial statements is reflected in the provision of information useful for decision making of the internal and external users of financial statements, as well as in presenting the funds management results. Successful management of modern enterprises in the conditions of the expressed pace of technological change, sharpened competition, capital market development, various alternative sources of financing and separation of professional administration from the owners, along with the managers' knowledge and experiences, also involves the use of an information system which is a significant segment of the accounting system.

Internal users of financial statements are primarily represented by the management (at all levels of the organizational and management structure) and top management (board

of directors, a director and his assistants), and middle management (sector directors and managers of the major parts, strategic units and their assistants) and lower operational management (heads of departments, product lines and other narrow items). Management has an obligation to lead the company towards achieving the set goals within which emphasize: maximizing profitability, maintaining sufficient liquidity and sound financial structure.

External users of information in the financial statements (current and potential shareholders, customers, creditors, suppliers, etc.) need necessary information according to which they can assess the exposure of a business entity to long-term and short-term financial risks, the ability to pay dividends (shareholders' interests), serviceability interest and repayment of the principal (creditor's interest) and the possibility of payment of existing obligations (suppliers' interest). The most important information base in assessing existing and prospective earning capability of the company, its financial position and cash flows creating certainty, make the basic financial statements: balance sheet, income statement, cash flow statement and statement of changes in equity and notes to these statements.

2. FINANCIAL STATEMENT IN THE CONCEPT OF BUSINESS SYSTEM MANAGEMENT

Dynamic of changes in markets of goods, capital and labor, caused by the increased national and international competition, rapid technological and social changes, increased international knowledge, transformation of social structures, increased automation and mechanization of operations, stringent legal requirements etc., has intensified the need for increased information volume. In such circumstances, the business system is set as an independent business and financial and legal entity that its management leads and directs to the desired shape, determined by survival, growth and development. These determinants of the desired state include profitable commercial activities, in terms of the necessary maintenance of liquidity and a sound financial structure. Consequently, the profitability of the business system is placed in the center of events of overall activities of its management.

Management leads and directs the business system by continuously provides its profitability and profitability of its parts, objects and activity segments, and monitors their achievements. Measuring profitability is, as already pointed out above, the problem of accounting information systems, which consists of two of his works, financial and management accounting. Such a division of the accounting information system is based on the need for the creation of an information base for carrying out the activities of various interest groups outside the so-called external users or within the business system, so-called internal users. External users are interested in business and financial life of the company, and internal users, especially managers, have the duty and interest to take the company to the desired goal. External users receive information through financial statements - balance sheet, income statement, cash flow reports, statement of changes in equity, which are necessarily accompanied by the notes - which are the product of accounting information systems, and financial accounting. These users are the current and potential shareholders - investors, creditors, business partners, government, employees and other social public. **Information from the financial statements meet the specific needs of these users, who according to them, make business decisions and direct the future behavior of the company.** In other words, the financial statements are the basis for making decisions about

investment and disinvestment, the approval of the credit arrangements by amount and maturity, the conclusion of agreements on the mutual supply in varying time frame, delivery of goods, etc.

Information contained in a given set of financial statements is of interest to **the top management of the business system**, who is in the role of an agent appointed by the owner to rationally manage the entrusted capital. Analysis of success-profitability of such management, financial position and potential of the company and changes in financial position are based on the financial statements that together with the analysis represent two sides of the same coin. Without the analysis there is no viable business and financial statements, without the business and financial statements there is no need for analysis.

It is important to emphasize that the information interests of top management does not end only on the information contained in the above-mentioned set of financial statements produced by both financial accounting. The top management needs other information that are by the quantity, quality, frequency and method of preparation and presentation, different from those which are necessarily produced by financial accounting. This information is complemented by an information gap between information supply of financial accounting and information needs for directing and leading the company towards achieving its objectives.

3. CREATION QUALITY OF THE FINANCIAL STATEMENTS RELEVANT FOR DECISION-MAKING (MAKING MANAGEMENT DECISIONS)

Accounting model in the international framework is based on the assumption of disposal and the assumption of continuity - the continuity of business operations. Business events in the form of transactions and other events are, according to the assumption of the occurrence of a business event, recognized, i.e. included in its books at the time they occurred, not when payment or payment on that basis are made. The financial statements prepared and assembled on this assumption provide information on the effects of past business events, caused by income and issuing cash and cash equivalents, as well as information on potential income and expenditure. In other words, this is how prepared the financial statements provide information relevant to decision making.

The generally accepted model of international financial reporting means that the financial statements are prepared and compiled under the assumption that the company will be constantly at work, i.e. there will be no discontinuity in its operations. This means that the company at the time of preparation of the financial statements has no intention nor the need to significantly reduce the volume of its business, or to be liquidated. Namely, the preparation of financial statements of companies that significantly reduce business activity, or intends to liquidate must be based on other relevant assumptions, which must be separately disclosed. Compliance with these assumptions is very important because of the need for monitoring the development of the financial position and profitability of the company. The basis of the fulfillment of this assumption implies the existence of information on the future of the company for at least twelve months from the date of the financial statements. In this sense, information about available resources and achieved profitability are considered sufficient to base the financial statements on this assumption, and no other analysis. If, however, there is no such information, it is necessary to perform a detailed analysis of possible future profitability, ability to pay annuities, replacement funding sources etc.

4. INSTRUMENTS AND REGULATORS OF FINANCIAL REPORTING AS FACTORS AFFECTING THE QUALITY OF FINANCIAL STATEMENTS

Instruments and regulators of financial reporting are inseparable categories, each of which depends on financial reporting and are divided into **global and national**. Global financial reporting tools are a set of international accounting, technical, ethical and educational standards and quality standards, policies and guidelines for their implementation at the level of the national economy, as a function of standardization and unification of accounting information. Global regulators adopt and promote global professional instruments by which professional organizations and bodies at the global and national level build a unique, unified system of financial reporting required by the global market and the measurement results of that market. Activities of global and national professional organizations and bodies, that either create or implement instruments of financial statements, have a common goal to provide easier work and economy results measurement in the global market with the help of regulations accepted by the state in order to improve the quality of financial reporting, which is the aim of global processes.

The main **factors affecting the quality of financial reporting** are: standards (norms) of financial reporting and ethics (the degree of application of ethical norms), individuals who prepare financial statements. In addition, important factors that influence the quality of financial statements are regulatory bodies that make norms or accounting rules, as well as the people who implement the rules, i.e. professional accountants.

Norms that affect the financial statements are often referred to as "generally accepted accounting principles" or "standards" that include conventions, rules and procedures necessary to define accounting practices. The application of these standards should result in a true and objective, quality financial reports.

5. FINANCIAL REPORTING IN GLOBAL ENVIRONMENT – POSITIVE AND NEGATIVE IMPACT (RISK AND OPPORTUNITIES)

The company fits their behavior in specific socio-economic environment, because it does not exist in isolation from society, but is part of it, i.e. it is a creation of society. Carrying out its activities the company renews and strengthens the **social wealth**. Power of the companies is a measure of expression of the economic power of a society that provides the conditions for the creation of social wealth. In fact, doing its business activity the company meets the needs of the people, which is also its overall goal, and the reason of economy in general. In the process, it consumes the most varied resources. Scope of satisfied demands and resources spent is expressed with **money**. So, instead of needs and resources, there are **capital and its spending** on one hand, and **a result of that spending**, i.e. companies' results on the other.

The result is the basic criterion of judgment on the achieved efficiency and *a factor of the future behavior of the companies*. It is both a motive for the production of goods or performance of services. A significant factor in the allocation of accumulated work of a positive result in the most profitable areas and adaption to changes in demand. The result may also be a *constraint for the growth of enterprise activities*. Prominent role of the results of the enterprise performance, by its nature requires its quantitative determination, i.e. its exact measurement.

The results measurement has always been an accounting problem. The operating result of the company is the basic concept in which the accounting differs from other methods of

quantitative analysis of the company. Accounting is the measuring instrument, and hence its role in economic growth, which is particularly evident in the capital formation and allocation. Direct formation and allocation accounting does at the stage of calculating the results, the established results taxation phase and in the phase of its distribution. At the stage of the results calculation, the direct impact of accounting is done through the establishment of latent reserves as a kind of saving and capital. Latent reserves are, therefore, part of the capital of the company which is not directly visible in the company's financial statements and budgets and social funds. They are the result of consistent application of the precautionary principle, which is based on the fact that the lower value of periodic results **encourages rational decisions**. Lower recurrent result is the result of underestimation of the assets value, i.e. estimation of operating systems' duties. Latent reserves are the result of consistent respecting the principle of the business system continuity, and an operating system is organized to operate indefinitely, and the results of accounting and periodic reporting are associated with a shorter time period.

Periodic financial statements lifespan companies artificially divide into shorter intervals and thus interrupt the calculation of actual connections, flows and business relations. Such a procedure is naturally influence the amount of the periodic results, i.e. the formation of latent reserves. The necessity of the existence of latent reserves of the company requires the company management to be formed in accordance with the real possibilities, taking into account the real threat to their objectification, which occurs as the application of accounting nominalism principles, especially in an inflationary atmosphere, whether through business or through capital gains, which are equally subject to taxation. Only the resulting latent reserves exercise a positive influence on the formation of capital markets.

Historical cost as the generally accepted basis of valuation of assets in the international context favors the emergence of latent reserves because the daily value of certain types of property varies. Freedom of business systems to determine the length of written-off property life, plant and equipment, and intangible assets, also favors the development of latent reserves. Also, allowed accounting policies in relation to the method of calculation of the write-offs, as well as the ability to choose output inventories in the International Financial Reporting Standards contribute to the formation of latent reserves and the emergence of real savings. However, property tax liabilities and results may lead to a part of the so formed latent reserves or savings in the case of objectification be decanted out of the business system, which would necessarily lead to a decline in the savings created in the form of latent reserves. Prevention of such opportunities requires the implementation of daily values in the evaluation of certain types of assets, leading to an increase in expenditure on that basis, i.e. the reduction of income as the tax base. Conversely, the necessary objectification of latent reserves should be shown as a capital gain, because they are taxed at lower rates than business profit.

The main element of the fiscal policy of a country is direct taxation of income and assets. On the other hand, this method directly reduces the company's capital and simultaneously determines the manner of its allocation. The financial statements of companies directly or indirectly represent information basis for determining the tax base for the income tax, and property tax. Overestimated tax base, which is a consequence of the implementation of certain accounting policies, by increasing taxes or reducing the amount of accumulated or retained income, i.e. the possibility of additional investment. In other words, overestimated tax base adversely affects the capital formation and allocation.

On the other hand, certain accounting procedures applied in conditions of weak monetary fluctuations often lead to capital erosion in business systems. Hence the need for

specific regulation of financial reporting, which has received an international dimension. The distribution of company profits in dividends, participation in profits and retained profit directly influences the height of austerity - accumulated profit of an enterprise as a source of additional investment by the company, and on the amount of savings that is at the owner's equity, which can be re-invested in the company through the purchase of shares. The height of accumulated earnings and dividends indirectly affect the share value of the company, but also the financial security and the ability to animate foreign capital.

In other words, profit distribution affects the formation first, and then the accumulation of capital, and therefore the growth and development of the company. Accordingly, the amount of realized gain, the need for growth and development and the dividend owners expect as a motivational basis for the retention of capital in a particular company, as well as the effects on the market value of shares are the most important instruments of policy distribution.

The indirect impact of the financial reporting of companies, government agencies and funding comes from information effects. These effects arise from the activities of top management regarding the accountability of the equity holders and others interested in the financial position, business success and change in financial position, which are concentrated and mobilized around money markets, loans and capital.

6. CONCLUSION

In the process of globalization of the world market labor, services and capital arises the need for standardization of information that should follow global processes. In this regard, first of all the development of the tools to enable standardization of different but relevant information in these global processes are necessary. This task is taken and successfully completed by the accounting profession, organizing itself at the global level by establishing global bodies to create global standards, uniform rules and norms under which the professional accountant consist of information for the global market, i.e. creditors and investors in the global market. In this process, the most significant role is played by the International Accounting Standards Board, which creates and perfects the International Accounting Standards for Private and Real Sector, which accepts a huge number of national economies as instruments of standardization and unification of information, i.e. **obtaining comparable financial statements.** On the other hand, professional organizations and bodies are organized at the global level, that bring together national professional organizations ready to embrace and implement the unique rules that will be bring them closer - if not fully harmonize them, in order to prepare as unified financial statements as possible. This role of interest to the accounting profession has been successfully started and now realized by the International Federation of Accountants with their bodies and member states and their members - professional accountants, for whom it creates other professional technical and ethical standards.

Namely, in terms of the new economy, it comes to the **reengineering of financial reporting.** The traditional model of financial reporting with its design cannot fully respond to changed business conditions. Globalization itself leads to standardized, but not completely unified rules in accounting and financial reporting. Information provided in accordance with the rules are of the high quality, transparent, comparable and as such significantly reduce the risk of investment, but also lower the cost of raising capital. Yet,

awareness about the advantages and disadvantages of the financial statements based on unified rules and principles is not present enough.

Activities of the accounting profession in Serbia in international cooperation with the aim of developing the profession and standardization of financial reporting and its successful collaboration with the Faculties of Economics give hope that standardization and quality of financial reporting can be achieved in a relatively short period of time. Unfortunately, good normative basis is necessary, but is not a sufficient condition for achieving this goal. All efforts may be in vain if the company management, which is responsible for the preparation and accuracy of financial statements, does not implement the prescribed base properly. The separation of ownership and management of the company, on one hand, and the development of financial markets on the other, created motives that some managers using financial statements obtain significant benefits not only for the company but also for themselves. The consequences of this behavior are not only material losses suffered by investors, creditors and the state, which can be very high, but the decrease in confidence in the financial statements. **The loss of customer trust in the information presented in the financial statements would have a devastating effect on the financial markets, and thus the economy.** Hence the need of the state primarily, but also of professional organizations to do all they can to, if not completely stop, then largely *prevent the presentation of false financial statements.*

REFERENCES

1. Branković, S. (2007): Uvod u metodologiju - kvalitativni metodi istraživanja društvenih pojava, Megatrend univerzitet primenjenih nauka, Beograd
2. Vidaković, S. (2002): Računovodstvo, jezik poslovnog sporazumevanja, Fabus, Novi Sad
3. Dendić, D. (2000): Osnovi finansijskog računovodstva, I knjiga, drugo izdanje, DP „Pronalazaštvo“, Beograd
4. Knežević, G. (2007): Ekonomsko-finansijska analiza, Univerzitet Singidunum, Beograd
5. Kotler, P. (2006): Marketing Management – dvanaesto izdanje, Data Status, Beograd
6. Malešević, Đ., Vranković, M. (2007): Poslovna analiza, Univerzitet u Novom Sadu, Ekonomski fakultet Subotica
7. Majstorović, A. (2003): Računovodstvena načela i standardi kao ishodište računovodstvenih politika, Beograd
8. Milisavljević, M. (2003): Marketing, Savremena administracija, Beograd

DUE DILIGENCE AND FINANCIAL ANALYSE

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Abstract: The concept of due diligence is the usual caution and care spent in the trade business. In European countries, the term due diligence means in particular depth review of the company in connection with a potential business transaction in which it can be like buying shares in a company, purchase and subsequent transfer of the shares or a loan from the bank.

The main reason for the implementation of due diligence information is incomplete and uneven distribution of information among potential business parties (buyer and seller), as well as the uncertainty arising from future developments in the business. The primary purpose of the due diligence process is to overcome this information asymmetry. Good quality and accurate information is important for both sides, not only to be able to assess the economic situation of the audited company and the economic consequences of a proposed transaction, but also because of the development of the necessary contracts for the transaction, including the determination of the content of guarantees and insurance.

Types of due diligence - According to the expected type of investment plan we can meet with in-depth inspections, which according to its focus and content broken down into: Financial due diligence - Tax due diligence - Legal due diligence - Market Due Diligence Management and staff due - diligence Technical due diligence - Content due diligence. Conclusions due diligence is critical to the final decision of investor transactions and offer buyer

Keywords: due diligence, business transaction, the diversity of information, types of due diligence, due diligence content

1 INTRODUCTION

The concept of due diligence comes from the U.S. and rights of the local practice in contracting. The translation means ordinary prudence and care spent in trade business. In European countries, the term due diligence means in particular depth review of the company in connection with a potential business transaction in which it can be like buying shares in a company, purchase and subsequent transfer of the shares or a loan from the bank.

The main reason for the implementation of due diligence information is incomplete and uneven distribution of information among potential business parties (buyer and seller), as well as the uncertainty arising from future developments in the business. The primary purpose of the due diligence process is to overcome this information asymmetry. Good quality and accurate information is important for both sides, not only to be able to assess the economic situation of the audited company and the economic consequences of a proposed transaction, but also because of the development of the necessary contracts for the transaction, including the determination of the content of guarantees and insurance.

Types of due diligence - what investors care?

According to intended purpose and type of investment, we meet with in-depth inspections, which according to their focus and content broken down into:

Financial due diligence - Tax due diligence - Legal due diligence - Market Due Diligence Management and staff due - diligence technical due diligence

The content of due diligence - what investors are looking for specific information?

Investor for the purpose of examining and verifying the above-mentioned areas of the company formulates its information requirements in a so-called "Checklist". This is the sort of list the required information, documents and documents necessary for the examination. In general terms the basic information about the business, the ownership, financial position, legal relations, guarantees and the like. The seller, of course, gets some time to gather evidence and prepare the so-called. "Dataroot". In this regard, both parties must agree that people have access to what information. These issues certainly recommend treat contractual obligation of confidentiality. The content of due diligence has its output in the report of due diligence.

2. SECOND OBJECT AND NATURE MANAGEMENT

The subject of the message content due diligence is the order, which is determined by the nature and intention of carrying out due diligence. It is based on the accounting and financial due diligence in assessing the extent of 31.12. calendar year or financial year end date of acceptance of the inventories and accounts of the calendar or financial year. The basic inputs for due diligence / accounting, finance, personnel / financial due diligence and financial business website is the property value, the scope of financing, results of operations within the business and human resource management. When processing a supplier based on documents that had been given entity.

If the required documents are not provided, the zone will be incorporated into the report. The report is prepared on the basis of the collected data, in the form of a statement of fact. In case you are in the appendix to the report are some documents, they are only highlighting this is not an exhaustive inventory.

Work performed under the documents and information that is provided. Special advice, including legal, technical issues, the environment, the market valuation may be subject to work when it is the content of the order.

2.1 MAJOR FINDINGS AND WARNINGS

The following sets out the facts on which we want to draw attention, but it does not mean that the other, the information contained in the report is considered less important. This information is presented with identical markings as the relevant event referred to in the report. *And this information are:*

The staff and management, accounting methods, tangible assets, inventories, financial assets, equity, accruals, special areas. Profit for the period before tax.

Due diligence and financial analysis on the particular company.

3. ACCOUNTING POLICIES

3.1 CONSOLIDATED AND AUDITED

The Company has no obligation no reason to draw up consolidated accounts. Company by the end of 2011 was audited and subject to § 19, Act on Accounting obligation to give their financial statements to auditors. For 2012, the company has concluded a contract for the audit of the financial statements of a company-TAX AUDIT Slovakia, Ltd.

3.2 INTERNATIONAL ACCOUNTING STANDARDS

Society in its work is required to comply with the Act.431/2002Coll. Accounting and the Ministry of Finance of the Slovak Republic no.23054/2002-92, which provide guidance on accounting for entrepreneurs using double entry book keeping. On this basis, the company should have adjusted the area of accounting and internal legislation downstream areas. The Company accounts according to national accounting standards. Charged according to international accounting standards.

4. FINANCIAL ANALYSIS

The financial situation of the company systematically and comprehensively reflects the quality of corporate activities, its economic level and is therefore a good starting point and means of diagnostics of the strengths and weaknesses of corporate activities. Through its financial situation, the company presents its partners in the market, on what basis are assessed and the conditions for business relationships.

After all, the financial situation of the company providing the overall characteristics of the company, which allows sound financial activities of the company, the right to choose sources of funding needs and resources gained placed into individual asset.

The defining issues of supporting the financial analysis are necessary to emphasize that the market economy necessitates the application of the new corporate governance, market conditions and the needs of adequate methods. In market conditions, financial analysis forms the basis of knowledge at the results that are reflected in the financial situation of the company. This reflects the economic success and the level of production, innovation, commercial and other company activities that are critical to the continued economic development of the enterprise.

At the same time, the analysis focuses on the partial results that allow precision results from technical and economic point of view. This approach sees close links between technology and economy in the ongoing processes of their qualifications in terms of value. Financial analysis-includes:

- Analysis of the balance sheet- assets, liabilities
- analysis of profit and loss
- analysis of financial indicators

Analysis of financial indicators

Financial analysis gives an analysis of the financial situation for the year 2011. Liquidity ratios reflect the company's ability to pay its debts. Their values are

positive although not reach the recommended values of financial analysis. Confirming the liquidity of the company is reporting net working capital, which has a positive value, it means the company has no debt and has uncovered some stability.

Activity indicators /turn around/ speak volumes about how effectively the company manages its assets. Express committed capital in assets and liabilities, assets and turnaround time of their turnover in order to achieve sales. The turnover of assets are evaluated positively. Positive can also rate the stocks management, not a positive assessment of the claims, low turnover and high average collection period.

Debt ratios are used to monitor the structure of the financial resources of the company. Is debt since the company uses borrowed funds to finance their needs. Indicators of financial independence, the debt ratio indicates that the company maintains and are within the recommended values. The high value of the indicator is the interest coverage endorse/minimal, short-term borrowings.

Profitability indicators-profitability reflects the outcome of the corporate effort, which reflects the level of development activity and liquidity and indebtedness. Positive values of these indicators demonstrate the effectiveness and related to invested capital as well as sales. Profitability indicator should reach as high ceilings.

The financial health of the company can be characterized through the most comprehensive Altman Z-score model, the values are 3.33 and are in areas where the financial situation is assessed as good and there is no risk of bankruptcy.

5. CONCLUSION

Due Diligence thus serves to reveal the actual situation in the company and the actual price at which the company is offered. It can also uncover secret or hidden problems and threats, which must be calculated to a potential bidder. With this in-depth control is ensured adequate investor protection against failure. The quality of finish depends on the time available, vendor collaboration and timeliness of data. Conclusions due diligence is critical to the final decision of investor transactions and offer the buyer.

Based on the due diligence also prepares the transaction timetable, which serves as a blueprint for its implementation. Within the schedule are clearly specified tasks for each of the parties to the transaction took place for as smooth as possible.

Tabuľka: Finančné ukazovatele, AGSK

č.r.	Text položky	Rok11
001	Okamžitá likvidita	0,04
002	Bežná likvidita	1,14
003	Celková likvidita	1,37
004	Čistý pracovný kapitál	373 170,00
005	Obrat celkového majetku	2,35
006	Obrat neobežného majetku	11,71
007	Obrat obežného majetku	2,95
008	Viazanosť celkového majetku	0,43
009	Viazanosť neobežného majetku	0,09
010	Viazanosť obežného majetku	0,34
011	Podiel obežného a neobežného majetku	3,98
012	Podiel obežného majetku	0,80
013	Podiel neobežného majetku	0,20
014	Opotrebovanosť dlhodobého majetku	1,00
015	Opotrebovanosť dlhodobého hmotného majetku	1,00
016	Opotrebovanosť dlhodobého nehmotného majetku	1,00
017	Stupeň odpísania dlhodobého majetku	
018	Stupeň odpísania dlhodobého hmotného majetku	
019	Stupeň odpísania dlhodobého nehmotného majetku	
020	Obrat pohľadávok	3,66
021	Priemerná doba inkasa pohľadávok	99,64
022	Obrátka zásob	17,63
023	Doba obrátky celkových zásob	20,70
024	Doba obrátky výrobných zásob	16,23
025	Doba obrátky nedokončenej výroby	
026	Doba obrátky výrobkov	4,47
027	Rentabilita celkového kapitálu	0,10
028	Rentabilita vlastného kapitálu	0,28
029	Rentabilita tržieb	0,04
030	Rentabilita nákladov	0,04
031	Solventnosť	0,04
032	Výnosnosť celkového majetku	0,02
033	Výnosnosť vlastného kapitálu	0,06
034	Ukazovateľ finančnej samostatnosti	0,37
035	Ukazovateľ finančnej stability	0,39
036	Podiel cudzieho a vlastného kapitálu	1,68
037	Podiel vlastného a cudzieho kapitálu	0,59
038	Celková zadlženosť	0,62
039	Koeficient zadlženosti	1,62
040	Ukazovateľ úverovej zadlženosti	0,04
041	Úrokové krytie	39,16
042	Úrokové zaťaženie zisku	0,03
043	Krátkodobá intenzita zadlženia	0,94
044	Výkonnosť celkového kapitálu	0,10
045	Výkonnosť vlastného kapitálu	0,28
046	Výkonnosť cudzieho kapitálu	0,17
047	Nákladová náročnosť tržieb	0,98
048	Čistá zadlženosť	1 034 090,00
049	Vplyv úrokov na výsledok hospodárenia	1,00
050	Altmanov Z-score model	3,33
999	Kontrolný riadok	1 407 502,62

Figure 1

REFERENCE

Books / Monographer

- [1] Alexy, J. a kol.: Manažment [*Management*], TrU, Merkantil, spol. s. r. o., Zlatovce 1999
- [2] Herzka, P. a Kajanová, J. : Ekonomika a manažment podniku [Economy and management of the company], STU, Bratislava 2010
- [3] Giplin, A.: Dicionary of Economic Terms - London Butterwort 1966
- [4] Majerník, M.: Základy všeobecnej ekonomickej teorie [Financial management of the company], STU, Bratislava, 2006
- [5] Nývltová, R. a Marinič, P. : Finanční řízení podniku [*Financial management of the company*], Grada Publishing a.s., Praha 2010,
- [6] Samuelson, P. A.: Nordhaus, W. D.: Ekonómia [*Economics*] L, Bradlo, Bratislava 1992
- [7] Zalai, K. a kol.: Finančno-ekonomická analýza podniku [Financial and economic analysis of the company],. Sprint Bratislava 2003
- [8] Medzinárodné účtovné štandardy [International double-entry bookkeeping] 2003R1725— SK— 05.06.2007 — 009.001

THE ROLE OF CONSUMER PROTECTION IN RISK MANAGEMENT IN THE FOOD FIELD

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Abstract: This paper discusses some fundamental concepts such as the: risk and risk management, food safety and HACCP concept, consumer, rights and obligations, new laws governing consumer protection activities including European regulations in the field; concrete quality control activities especially those food products; role of Larex laboratory and Arad County Commissioner in this context.

Keywords: risk, risk management, food safety and HACCP, the consumer; consumer protection; National Authority for Consumer Protection; Commissariat County Consumer Protection.

1.DEFINITION OF RISK MANAGEMENT

Achieving organizational objectives requires knowledge and risk taking multiple : changes in the environment ; internal changes ; unrealistic design strategies; Errors and omissions in design and execution , etc.

The risk is the uncertainty associated with any outcome and occurs when:

- an event occurs for sure, but its outcome is uncertain ;
- the effect of an event is known , but the occurrence of the event is uncertain;
- both the event and its effect are uncertain.

Risk refers to the activity of a company is not likely to meet the targets set in terms of: performance - loss of quality standards; Program - non- lead time ; cost - budget overrun .

Risk classification is done according to several criteria :

- by size: small , medium and major.
- After production :
 - Accidental or predictable ;
 - Immitente , latent and manifest.
- After place : internal and external .
- After the environment: natural (catastrophe) , synthetic (manufactured).
- After landing : intimidation, fear mongering, and terrorize disruption, destruction .

Risks are everywhere, but are higher when there are substantive dysfunction, vulnerabilities, threats, dangers.

2. RISK MANAGEMENT PROCESS

Risk management is a cyclical process with several distinct phases:

- a) risk identification;
- b) risk analysis;
- c) reacting at risk.

a) risk identification phase evaluates potential hazards, effects and their likelihood to decide which risks should be prevented.

Risk identification should be performed regularly.

- This must take into account both internal risks and external ones.
- Internal risks are risks that the management team can control or influence.
- External risks are not under the control of the management team.

Risk identification methods :

- preparation of checklists that include potential sources of risk, such as :
 - environmental conditions; expected results;
 - staff ;
 - changes to the objectives ;
 - Errors and omissions in design and execution ;
 - cost estimates and lead times etc .
- analysis of documents available in the archive company to identify problems that arose in situations like the current ones ;
- experience using direct productive staff (heads of departments and teams) ;
- identifying risks imposed from outside (through legislation , changes in the economy , technology, relationships with unions) .

b) risk analysis phase considers the risks identified in the first stage and performed a thorough quantification thereof .

The easiest way to quantify risk is the expected value (VA) , which is calculated as the product of the probabilities of occurrence of certain events and their effects:

$$VA (a) = P (a) \times E (a) \quad (3)$$

- where: VA (a) = the expected value of the event (a) ;
P (a) = the probability of occurrence of the event (a) ;
E (a) = the effect of the event on the objectives (a) .

Simulations are an advanced risk measurement .

The simulation uses a model of a system to analyze system performance or behavior .

c) risk response action is the phase of the risk management cycle , which seeks : to eliminate risks ; to reduce risks ; to spread risks .

Eliminating risk is intended to remove the risks.

Management team or entrepreneur can : do not initiate a transaction or business ; set a very high price , to cover risks , conditional offer , etc. .

Most of the options that tend to eliminate the risk out of the business organization .

- An organization with excessive aversion to risk will survive time and such programming . Scientific programming activities using network graphs can mitigate risk within reasonable limits.

- training . Through training and security awareness work can reduce the likelihood of accidents and their effect.

- redesign . Risks can often be mitigated by judicious redesign teams work flows of material, use of equipment and labor .

Risk-sharing is a powerful tool for risk management . This refers to structures that will accept some or all responsibility for the consequences of risk .

- Risks related to human resources are covered, at least partially , by concluding collective agreements and individual employment ;

- Risks related to material and equipment suppliers may be transferred to them by the guarantees they offer ;

- risks related to other factors may be removed by the conclusion of insurance contracts

3. FOOD SAFETY - SYMBOL OF QUALITY AND HYGIENE OF FOOD

According to EU, Directive 178/2002 sets out the requirements regarding food, food law and its procedures, and which became mandatory for EU countries, particularly important due to the regulations regarding the following major issues:

- the general principles of food law;
- the creation of the European Food Safety Authority;
- the transparency principle based on the information and consultation of the public;
- general obligations of operators in the food trade field ;
- general requirements of food law in each country;
- the system of immediate warning, crisis management and special critical situations.

According to this directive two concepts that are particularly important were introduced, namely:

a) the concept of traceability which refers to the ability to trace an alimentary product or food for animals, an animal intended for food or a substance that is about to, or may be incorporated into food or for feeding animals at all stages : production, processing and distribution;

b) genetic modified products for which are adopted a series of regulations namely : EU Directive 18/2001, EU Directive 1829/2003 , EU Directives 1830/2003 , 64/2004 , which provide detailed rules concerning them.

In our country, the security management system and food safety lies in the standards of ISO 22.000 which specifies requirements for the food chain. Its transposition is found in the law 150/2004 which establishes the general principles that apply to food and animal feed in achieving food security. According to it food or alimentary product means any

substance or product, whether processed fully, partially or unprocessed destined for human consumption or intended to be used for human consumption.⁵⁷

This law stipulates the responsibility for food safety and liability of agents and operators in the food industry.

4. HACCP – SAFETY MANAGEMENT TOOL FOR FOOD PRODUCTS

Based on the verification of the conditions of production of food samples for cosmonauts the concept of HACCP Hazard Analysis and Critical Control Point expanded into all areas of food processing and identification of corrective actions. This system has seven principles which are the following:

1. Making a risk analysis, making a list of the stages of the process and the possibility of preventing the risk;
2. Identification of critical control points in the process;
3. Establishing critical limits that must be followed in every control point;
4. Compliance of monitoring procedures of critical control points;
5. Establishing corrective actions to be implemented if there are deviations from critical limits;
6. Establishing an efficient system of record keeping which constitutes the documentation of the HACCP plan;
7. Establishing procedures designed to verify that the HACCP system is working correctly.

What is the role of application of HACCP?

- It highlights health risks along the food chain from primary production to final consumption.
- It promotes food trade.
- It facilitates inspections done by authorities

What do we need?

Types of technical data required for a HACCP study:

1. *Epidemiological data on pathogenic bacteria, toxins and chemicals*: The incidence of food transmitted diseases; The results of the monitoring programs and of sentinel studies; Legal criteria regarding microbiological food safety and maximum residue limits.
2. *Data on food safety*: The probable presence of microorganisms and chemical hazards from raw material (see point 1); The mortality of pathogenic microorganisms under the influence of processing conditions; The fate of chemicals and toxins during processing, storage, distribution and consumption.
3. *Data on raw material, intermediate products and final product*: Conditioning; Acidity (pH); The water activity (Aw); Packaging materials; Product Structure; Processing

⁵⁷ I.Diaconescu, D.Ardelean, M.Diaconescu - Merceologie alimentară. Calitate și siguranță, Ed.Universitară, Buc, 2007./ I.Diaconescu, D.Ardelean, M.Diaconescu – Food Commodities. Quality and safety, Universitară Publishing House, Buc, 2007

conditions; Conditions of storage and distribution; The duration of shelf storage; Instructions for the consumer and labels.

4. *Data about processing*: The number and sequence of all stages of processing, including storage; The limits of the conditions of time / temperature for products; Handling of recyclable materials resulted from the technological process; The designation of areas of low/increased risk; Flowing conditions (for liquids); The presence of empty spaces in the equipment for processing; The efficiency of cleaning and disinfection.

Application of HACCP principles consists of the following steps:

1. *Establishment of the HACCP team*
2. *Product Description*
3. *Identification of intended use*
4. *Building the process flow diagram*
5. *Confirmation on spot of the process flow diagram*
6. *Identification of critical points*

Risks are classified into three main categories

- a. Physical hazards include any physical body that is not normally found in the food and can cause injury or illness to a person (pieces of glass, metal, wood chips);
- b. Chemical Risks consisting of natural chemicals (mycotoxins, pyrrolizidine alkaloids, fenolypolycLOUROURS) added chemicals (additives, residues of agricultural pesticides, substances from packaging);
- c. Biological hazards referring to risks of viral, bacterial, parasitological causes.

HACCP in meat processing follows:

- recognition of danger;
- the determination of critical control points;
- the establishment of surveillance measures;
- the limits of contamination risks.

5. DEFINITION OF CONSUMER AND CONSUMER PROTECTION IDEA

Consumer definitions are different.

- Can be called consumer an individual or group of individuals constituted associations buy acquires goods or services used or consumed.
- In another interpretation the final consumer is any economic subject whose behavior is directed towards the satisfaction of needs and individual needs or micro group to which it belongs.
- From the point of view of the consumer economist means the last stage of the economic process.

Consumer protection is a set of legal provisions for public or private that ensures the rights and interests of consumers.

5.1. LEGISLATION ON CONSUMER PROTECTION

Romanian legislation by Ordinance no. 21/1992 approved and amended by Law 11/1994 sets out the basic rights of consumers.

Order no. 8/2014 Ordinul no. 8/2014 amending Order of the National Authority for Consumers Protection . 392/2013 laying down the conditions to be fulfilled by economic operators selling bakery products in Romania

Order no. 392/2013 Order no. 392/2013 laying down the conditions to be fulfilled by economic operators selling bakery products in Romania

Law no. 193/2000 Legea on unfair terms in contracts concluded between professionals and consumers

Law no. 202/2013 which amends Law . 158/2008 concerning misleading and comparative advertising , which powers and duties of the National Authority for Consumer Protection

Order no. 473 of 03/12/2012 amending Order no. 72/2010 on measures to inform consumers . Act came into force on January 6, 2013

Order no. 72 of 11/03/2010 on measures to inform consumers

Ordinance no. 21/1992 of 08.21.1992 on the protection of consumers. Updated on 27/12/2008

Law no. 449/2003 of 12/11/2003 on the sale of goods and associated guarantees Order no. 30/08/2011 164 Order of the President of NAPC on measures of consumer information by banks and non-financial companies.

5.2. REGULATIONS EU CONSUMER PROTECTION

1. Regulation (EC) no. 2006/2004 of the European Parliament and of the Council of 27 October 2004 on cooperation between national authorities responsible for the enforcement of consumer protection (" Regulation on cooperation in consumer protection ") .

* Government Decision no. 244/2007 of 07/03/2007 on the competent authorities responsible for the enforcement of consumer protection legislation and cooperation between national authorities in this field , published in Official Gazette no. 187 of 19/03/2007 .

2. Regulation (EC) no. 261/2004 of the European Parliament and of the Council of 11 February 2004 establishing common rules on compensation and assistance to passengers in case of denied boarding and of cancellation or long delay of flights , and repealing Regulation (EEC) no. 295/91 .

* Government Decision no. 1912/2006 of 22/12/2006 establishing measures to ensure the application of Regulation (EC) no. 261/2004 of the European Parliament and of the Council of 11 February 2004 establishing common rules on compensation and assistance to passengers in case of denied boarding and of cancellation or long delay of flights , and repealing Regulation (EEC) no. 295/91 , published in Official Gazette no. 1050 of 29/12/2006 .

3. European Parliament and Council Regulation (EC) no. 924/2009 on cross-border payments in the Community.

* Government Decision no. 1259/2010 of 08/12/2010 establishing measures for the implementation of Regulation (EC) no. 924/2009 of the European Parliament and of the Council of 16 September 2009 on cross-border payments in the Community and repealing Regulation (EC) no. 2560/2001 , published in Official Gazette no. 847 of 17/12/2010 , the act will come into force on January 16, 2011

4. Council Regulation (EC) 2368/2002 of 20 December 2002 implementing the Kimberley Process certification scheme for the international trade in rough diamonds

* GD . 1856/2006 GD no. 1856/2006 for the implementation of the Kimberley Process certification scheme for the international trade in rough diamonds.

5. Regulation (EC) no. 1008/2008 of the European Parliament and of the Council of 24 September 2008 on common rules for the operation of air services in the Community.

* Decision no . 560/2009 regarding some measures to ensure the application of Regulation (EC) no. 1.008/2008 of the European Parliament and of the Council of 24 September 2008 on common rules for the operation of air services in the Community.

6. Regulation (EC) no. 1371/2007 of the European Parliament and of the Council concerning the rights and obligations of rail passengers - enter into force on 3 December 2009.

GD . 1476/2009 laying down measures for the enforcement of Regulation (EC) no. 1371/2007 of the European Parliament and of the Council of 23 October 2007 on the rights and obligations of rail passengers .

7. Regulation (EC) no. 764/2008 of the European Parliament and of the Council of 9 July 2008 laying down the procedures for the application of certain national technical rules to products lawfully marketed in another Member State and repealing Decision No . 3052/95/EC .

GD . 681/2009 for the application of Regulation (EC) no. 764/2008 of the European Parliament and of the Council of 9 July 2008 laying down the procedures for the application of certain national technical rules to products lawfully marketed in another Member State and repealing Decision No . 3.052/95/CE .

8. Regulation (EC) no. 765/2008 of the European Parliament and of the Council of 9 July 2008 setting out the requirements for accreditation and market surveillance relating to the marketing of products and repealing Regulation (EEC) no. 339/93 - enters into force on 1 January 2010.

Ordinance 20/2010 regarding some measures for the uniform application of EU legislation harmonizing the conditions for the marketing of products .

9. Regulation (EU) no. 181/2011 concerning the rights of passengers in bus and coach . Regulation will apply from 1 March 2013.

In Romania, consumer protection is achieved by the following government bodies, according to their respective duties and powers according to law:

- Office of Consumer Protection;
- Public Health Inspectorate;
- Pharmaceutical Department of State Drug Control and Pharmaceutical Research of the Ministry of Health;
- National Sanitary Veterinary Agency of the Ministry of Agriculture and Food;
- Environmental Protection Agency under the Ministry of Waters, Forests and Environmental Protection;
- Financial Guard, a body under the Ministry of Finance;
- Police General Inspectorate of the Ministry of Administration and Interior;
- Autonomous Romanian Auto Registry;
- Romanian Bureau of Legal Metrology;
- Romanian Institute for Standardization;
- Control Body of the City Hall.

5.3. CONSUMER RIGHTS

Romanian legislation by Government Order no. 21/1992 , approved and amended by Law nr.11/1994 , Article 3 sets out the basic rights of consumers :

- To be protected against the risk of purchasing a product or receiving a service , which could jeopardize the life, health or affect their legitimate rights and interests ;
- To be fully informed , specific and accurate on the essential characteristics of products / services , so the decision about them to closely match their needs; to be educated as consumers ;
- To have access to their market provides a wide range of products / services quality ;
- To compensate for damages caused by the poor quality of products and services, using for this purpose means provided by law;
- To organize associations for consumer protection in order to protect their interests.

The most common violations of consumer rights caused by : marketing products or qualitative deviations that may endanger the life / health / safety of consumers , marketing of forged or counterfeit , preservation and storage for sale in maintaining their quality , presentation by advertising in brochures, catalogs, media etc. . , other values of the characteristics of the goods / services than real .

5.4. LABORATORY LAREX

Founded in 1954 as a laboratory of the Office of Control of Goods LAREX constantly developed , becoming in 1990 the National Centre for Testing and Appraisalment .

Brand LAREX 1975 registered with the State Office for Inventions and Trademarks and the World Intellectual Property Organization in Geneva.

Status neutral body is notified by Government Decision , and functioning as a public institution entirely financed from extrabudgetary make our decisions on certification products can be taken solely on the basis of objective and professional .

C.N.I.E.P. - LAREX is a founding member of the Association of Accredited Laboratories in Romania and cooperate with government and official bodies as : Directorate General of Customs , the Financial Guard , economic policy, etc. Romanian Auto Register .

The fact that its client list also covers state bodies and private companies , is further proof of status neutral body that CNIEP - LAREX and it has strengthened over time.

C.N.I.E.P. - LAREX granted under a regulation approved test score " LAREX " that can be applied to the products we tested and evaluated.

LAREX based in Bucharest and is represented in eight major cities in the country , providing expertise and certification to international standards for all product categories .

Given the current requirements of the Romanian economy , experience and certification laboratories available , CNIEP LAREX meets these requirements expanding the range of services offered by the establishment within its organizational structure , with accredited laboratories , a product certification body , the third party cert LAREX constituted according to SR EN 45011:2001 .

Product certification is an attestation by a third party certification body , as a product, ie identified, according to the characteristics defined in a normative document (reference) , legal regulations on product safety.

To provide trust services, LAREX CERT certification body is based on its activity following principles :

- impartiality and accountability of all evaluation and certification activities conducted and decisions taken ;
- professional competence of staff;
- open to any interested party ;
- complete confidentiality of all information and data provided .

Status neutral certification body makes decisions on certification products are adopted only on the basis of objective and professional . Certification decision is taken by vote of a product by a certification committee , committee consisting of representatives of different spheres of interest : public authorities, manufacturers and consumers.

The product certification implies that the product conformity assessment , if it is confirmed that they are in accordance with the characteristics stated in the reference documents and legal regulations , the certification body to certify the use of the certification mark , certificate Accordingly, for each certified product . These certificates entitle the holder of the certificate to use the certification mark " LAREX CERT " exclusive property of CNIEP Larex registered at OSIM under Law no. 84/1998 , republished.

5.5. ARAD COUNTY OFFICE OF CONSUMER PROTECTION

is concerned with how the law is applied to storage, transportation and marketing of products such as:

A. Quality food - which refers to the condition of packaging , framing the declared net weight , compliance durability , compliance and quality parameters provided by the manufacturer and compliance GD . 106/2002 .

B. storage and marketing conditions on spatial units and equipment with display cabinets and warehouses ; check their operation and how to track the temperature .

C. Mode indication of prices ie the correlation between the price displayed on the shelves and in the stock administration is marked on receipts ; concomitant indication for prepackaged food sales price and price per unit ; indication of the unit price of products sold in bulk by weighing ; indication of the selling price and the unit clearly and in unequivocal form , easy to read ; indication DE4 sale price and the price per unit of measurement for any type of advertising that refers to the price.

D. the observance of the Law no. 363/2007 on combating unfair practices of traders with customers and regulatory harmonization with European legislation on consumer protection.

E. Legality refers to the existence of the single control register , the existence of documents of origin , trade in authorized places visibly displaying platelet TELCONS phone number , according to the Order of the President of NAPC no. 72/2010 as amended by Order no. 473/2012 .

For the violations noted measures taken refers to the final shutdown of marketing according to GO No . 21/92 art . 55 point 1 . to temporarily stop trading or to remedy deficiencies as GO No . 21/92 art . 55 point 2 . b or serious misconduct may be ordered the

temporary closure of the unit for a period of 6 months according to GO No . 21/92 art . 56 point 2 . g or proposal to suspend the work until the end of unfair trade practice .

If failure point . A product that is showing signs of deterioration , changes in appearance , color, consistency , taste, smell final stop marketing apply under GO No . 21/92 art . 55 point 1 . e , f , g , h , i , j - where appropriate - and sent Rapid Alert System .

Il these penalties are accompanied by fines:

- From point A between 1,000 and £ 30,000;
- To point B between 2,000 and £ 20,000;
- At point C between 500 and 10,000 lei;
- At point D between 5,000 and £ 50,000;
- The point is between 1,000 and 20,000 lei.

If misdemeanors committed more penalties apply for each offense under Article 10. 1 of O.G. no.2/2001 on the legal regime of contraventions with subsequent amendments.

6. CONCLUSIONS

The most common violations of consumer rights in Romania have the following causes:

- ▶ marketing of showing deviations from qualitative or may endanger the life, health or safety of consumers ;
- ▶ selling imported products without identifiers and their characterization in Romanian;
- ▶ marketing of forged or counterfeit ;
- ▶ marketing products and services , without displaying visibly and in an unambiguous formulation of prices and tariffs ;
- ▶ refusal replacement of defective products or refund their value in cases prescribed by law;
- ▶ preservation and storage for sale in conditions which ensure the maintenance of their qualitative characteristics ;
- ▶ marketing products identifiers and their characterization is incomplete, incorrect , inaccurate , regarding: product name, manufacturer's brand , quantity, price , shelf life , composition , etc. . ;
- ▶ imposed in contracts for the purchase of products or services , some clauses may favor the use of business practices ;
- ▶ presentation by advertising in brochures, catalogs, media , etc. . , Other values of the parameters that characterize the products or services than those actually realized ;
- ▶ unclear and imprecise wording of contractual clauses .

REFERENCES

1. Jim Blythe Consumer Behaviour, Ed Theory, Bucharest, 1999
2. Cornescu, V; Marinescu, P; Curteanu, D, Thomas, and management - from theory to practice, University, Bucharest, 2004

3. I. Dima, I. Diaconescu, R. Pamfilie Commodity Science Foundation, Academic Publishing, Bucharest, 2009
4. I. Dima, I. Diaconescu, R. Pamfilie, Food Safety and Consumer Goods, Economic Publishing House, Bucharest, 2006
5. I. Diaconescu, D. Ardelean, M. Diaconescu, Mercologie food. Quality and Safety, University Publishing House, 2007
6. I. Stanciu, Calitologie Ed Oscar Print, Bucharest, 2002
7. D. Ardelean, Commodity food, Ed Bion, 2000
8. I. Diaconescu Commodity Fundamentals, Ed, Efficient, Bucharest, 2002
9. Conference report on the country O.P.C. 2005
10. Calita Magazine 2010-2011
11. Magazine Consumer Protection 2005
12. Journal Quality and Management, 2013

SHOULD I BECOME AN ENTREPRENEUR OR AN EMPLOYEE: DILEMMAS OF STUDENTS IN MACEDONIA AND SLOVENIA?

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Abstract: Although extensive research evidence has been available on different scopes of entrepreneurship and within this field also about choosing entrepreneurship as a career option, not much has been revealed about intentions and motives of possible successors of family businesses. For the future aspects the children of entrepreneurs – business founders may have three options: to found their own companies, to find jobs elsewhere and become employees or to inherit and success their parents' family businesses. By using the theory of planned behavior it will be investigated how three potential prototypes differ from the viewpoint of locus of control, self-efficacy, independence and innovativeness. The propositions will be explored in a quantitative matter through survey among senior students of different schools on college and university level in the two respected countries Macedonia and Slovenia. Students with family business experience tend to show higher level of ambitions and motivation that their colleagues with no family business background. However, it is very likely, that family business successor would not choose the path of their family business continuation bur would prefer to pursue own ventures. Certain differences are expected to be revealed between the attitudes of students in the two countries. We believe that the suggested topic will provide recommendations for improving higher education policies and making multicultural practices.

Keywords: Entrepreneurship, career, students, family business, Macedonia, Slovenia

1. INTRODUCTION

Entrepreneurship literature intensively investigates career choice intentions related to various motives to start a business (1,2). On the other hand, not much has been researched on career options of those who were born to family business parents because most of the literature compares the two options: establishing own business or search for employment and so far there have been no instruments developed to investigate this issue (3). One of the recent contributions in the field investigated the relationship between the possible family background and entrepreneurial intentions of university students in several countries (4). One of the ambitions of this particular study is to replicate it in the two countries which share several cultural similarities i.e. Slovenia and Macedonia. We try to decrease the particular research gap by contributing with findings about determinants of career choice intentions of business students with family business background. As a theoretical framework, the theory of planned behavior is applied in its entrepreneurial context (5). We examine how perceived behavioral control (defined by general locus of

control and entrepreneurial self-efficacy) and attitudes (influenced by the independence and innovation motives) impact the likelihood of three career choice intentions: founding own firm, taking over a family business from parents or being an employee outside the family firm.

2. THEORETICAL BACKGROUND

To examine the backgrounds of career choice intentions, we draw on theory of planned behavior (5). Intention is a state of mind directing an individual's attention and experience toward a specific object or method of behaving. Intentions are formed as a result of three factors: attitude toward performing the behavior, subjective norms, and perceived behavioral control. Attitude toward the behavior is determined by underlying beliefs about the likely outcomes of that behavior and reflects the positive or negative evaluation of these outcomes (6).

Perceived behavioral control refers to 'people's perception of the ease or difficulty of performing the behavior of interest' (5). It combines Bandura's (7) concept of self-efficacy and the concept of locus of control (8, 9), the perceived ability to execute a target behavior. Based on assertions that intentions are the single best predictors of actual behavior (10), theory of planned behavior is used to predict entrepreneurial behavior (11, 12). Krueger et al. (1) argue that much of what we consider entrepreneurial activity is intentionally planned behavior.

Growing up in a family where parents are managers and owners of a family business is a specific context in which career intentions are formed. Children raised in the family firm (13), are often closely exposed to the challenges and opportunities related to an entrepreneurial career. It has been put forth that if parents serve as positive role models, children from business families should be more motivated to start their own firm than children without this background (14). This may be related to family support in terms of resources needed to start a business, learning effects or increased perceptions about the challenges related to an entrepreneurial career (15).

In line with Bandura (16), the family may then influence perceptions of controllability and self-efficacy. Besides a familial context, by opting for succession, children also face a particular organizational context in comparison to the founding or employment contexts. Children, then, may face strong inertial forces inhibiting timely and creative adaptations of the business (17).

Entrepreneurship research suggests that perceived behavioral control is among the most important causes to entrepreneurial career intent (1, 18). An important question, for both theory of planned behavior in a broader sense and its application to the entrepreneurship and family business context, is the potentially differing impact of locus of control and self-efficacy as different aspects of perceived behavioral control (19, 9). The case has been made that measures of perceived behavioral control need to incorporate both locus of control, which is assumed to deal with external factors that may facilitate or impede performance of a behavior, and self-efficacy, which reflects internal factors (9).

Bandura (20) claims that individuals may show strong internal locus of control in general, but believe they have low skill levels in certain areas, which would lead to low efficacy perceptions on relevant tasks. A second difference is that locus of control as measured by Rotter's I-E scale (21) includes outcome expectancies in addition to behavior expectancies, while self-efficacy concerns only behavioral control. An individual perceives the outcome of an event as being either within or beyond his or her personal

control and understanding. An 'internal' believes that one has influence over outcomes through ability, effort, or skills. 'Externals' believe that forces outside the control of the individual determine outcomes (18). A lot of entrepreneurship research suggests that individuals with high levels of general internal locus of control are more inclined to choose an entrepreneurial career path than those individuals with general external locus of control (8, 22, 23).

Concerning these conclusions, we expect that students with a family business background who display high levels of general internal locus of control will be inclined to prefer the founding to the succession intention. A member of the younger generation joining the family business might experience a lack of acceptance and legitimacy among long-time employees but also among family members (24). Successors in family firms often need to adapt to existing decision-making and control structures, making it difficult to implement ideas and control the organization's further development (25). The successor's personal control over outcomes is limited by several external factors that may even be beyond the domain of the firm. Consequently, students with high general internal locus of control are expected to prefer the starting of own business to the succession of a family business option. When becoming an employee, the opportunity to control outcomes is restricted due to the lack of influence through ownership because the employee's career is influenced by many external factors beyond his or her control.

Slovenia and Macedonia were two out of six member republics in the state federation, the Socialist Federative Republic of Yugoslavia, which was politically created in 1945 after the World War II and after long-lasting political crisis, fell apart after 1991. Yugoslavia has been a communist party led confederation of autonomous republics which had never assembled for economic reasons but merely to fulfill the ancient political dream that many nations in the territory of Yugoslavia had had: all the people of one nation living in one country (this was mostly the case for Serbians and Slovenes, but also for Macedonians and Croats). The differences in economic development measured by purchasing power were tremendous. In 1985, Slovenia was on the level of Spain while Macedonia could have been compared to Pakistan. In order to aim for sustainable development of the country a lot of capital flows and know-how transfer took place from richer to poorer republics. Thus, relationships between Slovenia and Macedonia were very close although one being geographically on western end and the other on eastern end of the federation (26).

The differences between the two countries are nowadays quite substantial: Republic of Slovenia is a full time member of EU while the Republic of Macedonia is among candidate countries, having per capita GDP less than half of the Slovenian one. According to Global Entrepreneurship Monitor, the Republic of Macedonia has been an efficient economy while Slovenia has already positioned itself among innovative economies. Total entrepreneurial activity is higher in the Republic of Macedonia (7.96 % comparing to only 4.56 % in Slovenia), however, majority of start-ups in Macedonia are from necessity reasons (58.66 % comparing to only 16.24 % in Slovenia). Entrepreneurial intentions among population are quite higher in Macedonia, however, the perceived respect for entrepreneurs and positive media coverage are more evident in Slovenia (27).

3. METHODOLOGY AND SAMPLING

A questionnaire was reconstructed from the Zelweger et al. (4) work and was based on given variables exposed in the paper. The questionnaire was developed in English and later translated in the languages of two countries: Slovenian and Macedonian. It was kept

short (two pages) to maximize response rate and give opportunistic ability to be delivered in the classroom just before lectures devoting 15 minutes of the time to be filled in. Students were of comparable age study and program: graduate students of business with different backgrounds. In both countries, students were surveyed only in one business school which may be a delimiter for the study. Both schools which hosted the study are private with comparable tradition in the industry (6 to 15 years). In Slovenia 72 students returned the filled in questionnaires while in Macedonia the sample was slightly bigger, we collected 79 responses. Thus, the complete sample consisted of 151 usable questionnaires. The data was collected in late 2011 and early 2012.

The data was analyzed with SPSS version 18 software. Few standard tools were used among which descriptive, t-test for analyzing means, Crombach alpha for testing consistency of several blocks of questions and computation of summated scales. In order not to lose valuable cases of responds, a decision was made to replace missing value with the most frequent value provided by other respondents. Some demographics regarding the two samples are collected in Table 1.

Table 1. Demographics of the two samples: Slovenia and Macedonia

	Gender		Total	Average age	Sig.
	Male	Female			
Slovenia	35	37	72	28,94	0,006**
Macedonia	34	45	79	26,18	
Total	69	82	151		

As one can see from the Table 1, the two subsamples are quite balanced. The participants from Macedonia are significantly younger (2,76 years difference) but yet represent comparable generations. While in Slovenia the sample is quite balanced. Regarding the gender, there are significantly more women who participated in the study from Macedonia. This may be due to the higher number of women enrolled.

4. RESULTS

First, feelings regarding the family business were examined.

Table 2. Feelings regarding family business

	My feelings regarding family business are mainly			Total
	Positive	Negative	Don't have experience	
Slovenia	36	7	29	72
Macedonia	57	2	20	79
Total	93	9	49	151

Surprisingly, more than 40% of respondents from Slovenia (29 out of 72) did not have any experience in family business thus making the research irrelevant to investigate in this direction. On the contrary, in Macedonia, the share of those without the experience in the family business is much lower (25, 3%). Also, the feelings respondents share regarding the family business are much positive comparing to Slovenian pattern. Namely, only 3, 4% (2 out of 59) of Macedonians report negative feelings towards family business, comparing to

16, 3% (7 out of 43) in Slovenia. Perhaps, this can be explained with a bit longer tradition of family business in Slovenia leaving those who experienced the trans-generational dimension of a family business to develop a far more critical view comparing to maybe a more idealistic view in Macedonia. The two frequency distributions (positive, negative and no experience) are also statistically different at significant level ($\alpha=8,867$, $df=2$, $X^2=0,012$).

Entrepreneurial motives were checked through a set of classical statements which are evident from the Table 3.

Table 3. Entrepreneurial motives

	SLO	MK	t-test	Sig.
Fulfill a personal vision	4,83	4,97	-0,975	0,331
Grow and learn as a person	5,13	4,96	1,076	0,284
Get greater flexibility for personal life	4,94	4,73	1,211	0,228
Free to adapt my approach to work	4,65	4,65	0,039	0,969
Build great wealth, high income	4,32	4,54	-1,408	0,161
Financial security	4,93	4,87	0,385	0,701
Lead and motivate others	4,76	4,77	-0,055	0,957
Earn a large personal income	4,33	4,70	-2,186	0,030**
To challenge myself	5,15	4,78	2,231	0,027**
Achieve something, gain recognition	4,68	4,97	-1,723	0,087
Develop an idea for a product	4,46	4,51	-0,250	0,803
Power to influence an organization	4,26	4,63	-2,094	0,038*
Gain a higher position for myself	4,26	4,72	-2,501	0,013*
Innovative, be at the forefront of technology	4,01	4,33	-1,523	0,130
Build a business my children can inherit	3,69	4,66	-4,218	0,000**

The importance of statements was evaluated on a 6-point Likert scale with following meanings: 1-absolutely not important, 2-not important, 3-less important, 4-important, 5-very important and 6-extremely important. In Table 3, the mean values are disposed together with the values of t-test for means and level of significance of possible mean differences. For several types of motives, one can find out that the differences between responses of Slovenians and Macedonians are not of significant difference. However, there are a couple of statements where differences in means are significant.

The motive to earn a large personal income is much more exposed in Macedonia ($p=0,030$) thus, Macedonians are more likely to establish a business more often for the money reward reasons comparing to Slovenians. This may be explained with lower standard in Macedonia, measured in per capita GDP, purchasing power, average salary etc. Second, for Slovenians, entrepreneurship is a far more of a challenge ($p=0,027$) which is in a way consistent with the previous findings regarding the money motives. Third, the motive to have power and be influent in an organization is much more underlined in Macedonia ($p=0,038$) which is consistent with the statements which Macedonians also see as significantly more important: gaining a higher position ($p=0,038$). Macedonians, due to the transitional economy and lack of self-confidence, for long period of time looked at public administration posts as a possibility to live secured life. In this context, higher position meant influence and power over others, so the finding does not come as surprise. Last, the wish of Macedonians to establish a business also to provide security for the children is significantly higher to the Slovenian one ($p=0,000$). This can be again explained with the much more uncertain current economic situation in Macedonia comparing to Slovenia.

As one can see in the Table 4, both in Slovenia and Macedonia, the majority of those, who had positive experience in family business plan to establish business in the next five years or already run his/her own.

Table 4. Career intentions depending of feelings regarding family business

In five years, I will be:	My feelings regarding family business are mainly			Total
	Positive	Negative	Don't have feelings	
Employee	4	3	6	13
<u>Running own company</u>	17	2	12	31
Career in my family business	8	0	3	11
Don't know yet	7	2	8	17
Total	36	7	29	72
Employee	7	0	1	8
<u>Running own company</u>	22	2	7	31
Career in my family business	19	0	6	25
Don't know yet	9	0	6	15
Total	57	2	20	79

In Slovenia 54, 8% of those who plan to establish their own business (17 out of 31) derives from good experience in the family business. This relation is similar in Macedonia, where 70, 9% (22 out of 31) plans to run his/her own business which will be based on positive family business experience. On the other hand, consistency of responding can be argued with the interesting finding: no one, neither in Slovenia nor in Macedonia plans to continue his/her career in the family business where he/she gained mainly negative experience.

5. DISCUSSIONS

Summing up the results from the survey, the issues that stands out is how to overcome the barrier of human properties and values (28) in succession of family business, moreover the negative experience of the succession generation. The challenge is to improve the set of tools to decrease the possible tensions within the family members given the family relations and the business environment, and build a better basis for succession management. In Macedonia, in addition, there should be a significant improvement of the educational system to reflect the needs of entrepreneurs and solutions to family business management issues.

The fact that more than 60% of all European companies are family owned, representing between 40% — 50% of all jobs will be crucial in adopting family business friendly policies on wider European level in future. The EU in this respect offers quite few programs to support this type of business both on the policy and implementations side. The focus now is on educational entrepreneurial programs to further engage young people in start ups or offer support of already established family business.

In former socialist countries, among which Slovenia and Macedonia, succession is more problematic than in Europe in general as it has not always been recognized as the problem and family businesses' founders/owner-managers lack previous succession experiences (29). They have almost no possibility to share succession experiences with others given that the majority of their owner-manager colleagues are founders (not successors). The succession experiences seem to play an important role as some evidence suggests that the survival of an enterprise beyond the first generation increases the probability of the success of subsequent successions (30).

As for Macedonian case the family business are in their first generation of succession and are quite vulnerable (researchers individual research in the field). This stage may be improved by a transnational platform for targeted education of family business founders as well as their potential successors. Slovenian experience is crucial given the close cultural dimensions and once shared country values. The young generations entrepreneurs, students and potential owners of family business have to have role models. These may help them overcome the negative experiences in most cases due to the generation gap and further commit to family business take over.

In order to support the vitality of family business in broader economic sense we have to tackle challenges such as family business enabling environment, educational and firm level issues. Challenges related to educational aspects, which have an impact on both the business environment and on family firms' internal matters focus on the lack of entrepreneurship education and family-business-specific management training and research into family-business-specific topics, plus effective coordination with education systems to ensure proper follow-up (28).

6. CONCLUSIONS

As entrepreneurship is hugely relevant to family businesses, most start-ups in both Macedonia and Slovenia begin as a family business and are faced with the question as to whether they want to continue the business beyond the founders. Therefore, promoting entrepreneurship is directly linked to promoting family businesses. Higher education should also include specific family business issues such as ownership, succession and family governance to better prepare future entrepreneurs to successfully run their businesses. Management training should not be confined to business schools. It should be somehow included in the curricula of all professions to promote the entrepreneurial spirit in all fields. The concept of 'ownership education' should be further developed as indicated in the current state of research. Entrepreneurship education should aim to foster new family entrepreneurs, but also to promote entrepreneurial behavior (including innovation) in existing family firms. This knowledge should enable heirs to re-invent the business, which is proved to be what keeps the company going from each generation (28). National governments could plan to make changes to their education systems and work closely or in partnership with private-sector organizations and educational institutions (e.g. business schools and universities) to develop family-business-specific courses as part of existing curricula or as new curricula. Lifelong Learning Programme is an option of European businessman as well.

There is a need to continue with targeted researches in the field to better cope with the future challenges of succession in family business.

REFERENCES:

1. Krueger Jr., N.F., Reilly, M.D., Carsrud, A.L. Competing models of entrepreneurial intentions. *Journal of Business Venturing* (2000). 15 (5, 6), 411.
2. Carter, N.M., Gartner, W.B., Shaver, K.G., Gatewood, E.J. The career reasons of nascent entrepreneurs. *Journal of Business Venturing* (2003). 18 (1), 13–39.
3. Birley, S. Attitudes of owner-managers' children towards family and business issues. *Entrepreneurship Theory and Practice* (2002). 26 (3), 5–19.
4. Zellweger, T., Sieger, P., Halter, F. Should I stay or should I go? Career choice intentions of students with family business background. *Journal of Business Venturing* (2011). 26 (5), 521-536.
5. Ajzen, I. The theory of planned behavior. *Organizational Behavior and Human Decision Processes*. (1991). 50 (2), 179.
6. Armitage, C.J., Conner, M. Efficacy of the theory of planned behavior: a meta-analytic review. *British Journal of Social Psychology* (2001). 40, 471–499.
7. Bandura, A. Self-efficacy. In: Ramachaudran, V.S. (Ed.), *Encyclopedia of human behavior*, (1994). 4. (pp. 71–81). Academic Press, New York.
8. Brockhaus, R.H. Risk taking propensity of entrepreneurs. *Academy of Management Journal* (1980). 23 (3), 509–520.
9. Ajzen, I. Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior. *Journal of Applied Social Psychology*. (2002). 32, 1–20.
10. Bagozzi, R.P., Baumgartner, J., Yi, Y. An investigation into the role of intentions as mediators of the attitude–behavior relationship. *Journal of Economic Psychology* (1989). 10 (1), 35–62.
11. Bird, B.J. Implementing entrepreneurial ideas: the case for intention. *Academy of Management Review* (1988). 13 (3), 442.
12. Krueger, N.F., Carsrud, A.L. Entrepreneurial intentions: applying the theory of planned behaviour. *Entrepreneurship and Regional Development* (1993). 5, 315–330.
13. Chua, J.H., Chrisman, J.J., Sharma, P. Defining the family business by behavior. *Entrepreneurship Theory & Practice* (1999). 23 (4), 19–39.
14. Kolvereid, L. Prediction of employment status choice intentions. *Entrepreneurship Theory and Practice* (1996). 21 (1), 47.
15. Carsrud, A., Brännback, M., Kickul, J., Krueger, N. The family business pipeline: where norms and modeling make a difference. *Family Enterprise Research Conference*. Monterrey (Mexico). (2007).
16. Bandura, A. *Self-efficacy: the exercise of control*. W.H. Freeman & Co, New York, NY. (1997).

17. Sharma, P., Manikutty, S. Strategic divestments in family firms: role of family structure and community culture. *Entrepreneurship Theory & Practice* (2005). 29 (3), 293–311.
18. Shook, C.L., Priem, R.L., McGee, J.E. Venture creation and the enterprising individual: a review and synthesis. *Journal of Management* (2003). 29, 379–399.
19. Armitage, C.J., Conner, M. (1999). The theory of planned behavior: assessment of predictive validity and 'perceived control'. *British Journal of Social Psychology*, 38, 35–54.
20. Bandura, A. *Social Learning Theory*. General Learning Press, New York. (1977).
21. Rotter, J.B. Generalized expectancies for internal versus external control of reinforcement. *Psychological Monographs* (1966). 80 (1) Whole No. 609.
22. Shapero, A. Social dimensions of entrepreneurship. In: Kent, D., Sexton, D., Vesper, K. (Eds.). *The encyclopedia of entrepreneurship*. (1982). 72–90. Prentice-Hall, Englewood Cliffs.
23. Mueller, S.L., Thomas, A.S. Culture and entrepreneurial potential: a nine country study of locus of control and innovativeness. *Journal of Business Venturing* (2001). 16 (1), 51.
24. Sharma, P., Chrisman, J.J., Pablo, A.L., Chua, J.H. Determinants of initial satisfaction with the succession process in family firms: a conceptual model. *Entrepreneurship Theory & Practice* (2001). 25 (3), 1–19.
25. Swagger Jr., G. Assessing the successor generation in family business. *Family Business Review* (1991). 4, 397–411.
26. Borak, N. (2002). *Ekonomski vidiki delovanja in razpada Jugoslavije*, 11-12. Ljubljana: Znanstveno in publicistično središče.
27. Rebernik, M., Tominc, P., Crnogaj, K. *Podjetniška aktivnost, aspiracije in odnos do podjetništva – GEM Slovenija 2010*. Maribor: Univerza v Mariboru, Ekonomsko poslovna fakulteta. (2011).
28. Overview of Family Business. Overview of Family-Business-Relevant Issues: Research, Networks, Policy Measures and Existing Studies. (2009). Final Report of the Expert Group. European Commission, 9. 6. 2010. Available from: <http://ec.europa.eu/enterprise/policies/sme/promotingentrepreneurship/family-business/#h2-conclusions>
29. Duh, M., Tominc, P. & Rebernik, M. Succession issues within family enterprises in Slovenia. *Društvena istraživanja*, (2007). Vol. 16, No. 4-5, 751-779.
30. Duh, M. Family Businesses: The Extensiveness of Succession Problems and Possible Solutions. *Entrepreneurship - Gender, Geographies and Social Context*, (2010). 13, 209 -234.

FOOD QUALITY MANAGEMENT SYSTEM

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Abstract: Quality of a product is a complex system, which includes quality control during production and use of products. In terms of increased competition, the goal is quality management, which provides, not only controlling and maintaining permanent level of quality, but and continuous improvement. From the perspective of marketing, production quality management represents a continuous review of parameters and analysis of their efficiency. Therefore, quality of product is increasingly becoming quality system, which means permanent research of expectations, requirements and consumer preferences. Marketing research is a significant part of complex process of defining product and its quality. Series of international standards ISO 9000, just confirms connections between marketing and quality of products. Also, one of the ways for moving closer to buyers is aspiration to be the best. By maintenance of high quality of the bid, confidence is building, tradition is nurturing and resisting the competition. By establishing quality standards, risks will be reduced and security of products will be achieved. Researches show that the high-quality products are and the most profitable. Because, improvement of product quality offers possibility for achieving greater benefit, then organizations that want to improve its image in the market, should use quality system as advantages, in relation to prices and high cost of marketing.

Keywords: food, quality, management, standard, marketing, ecology

1. INTRODUCTION

Food provides for us all needed nutritive ingredients and energy, and due to it, alimentary products became subject of numerous manipulations. Appearance of numerous dilemmas regarding security and quality, not only from consumers, but also from professional persons, results. In addition, industries that are engaged in the food production, is part of one of the most important economic sectors. According to the official indicators, alimentary industry participates with nearly 20% in gross domestic product (GSP) of Serbia [1].

We are facing with the food crisis currently, as one of the global problems. Crisis refers to the lack of food availability, as well as to its safety and quality. Data suggest that safety and quality of food are very serious instances, both in the world and in Serbia [2]. Only in the United States, during 2011, were registered more then 48 million cases of food poisoning. More than 75% of all problems related to the safety and quality of food, originate from products of animal origin, mainly from meat and meat products.

Inspection of the Serbian Ministry of Agriculture found irregularities in each seventh controlled food samples in the first three months in 2014. The most frequent reasons for

withdrawing products from the market are lack of safety evidence and improper declaration, while the lower part of irregularities are related to quality [4].

Also, current trends in the raw materials and products production technology, globalization of food production and consumption, have resulted in permanent increase problems regarding security and quality. For these reasons it is very important to improve safety and quality of food. It is necessary to promote food safety management systems, based on the principles of concept of hazard analysis and critical control points (HACCP) and quality management system (QMS-standards requirements ISO 9000:2008).

It is necessary that laws in these areas agree with the relevant EU regulations, primarily in the area of safety and quality of food and hierarchy, where responsibility of producers, sellers and inspection authorities are defined.

2. CHARACTERISTICS OF PRODUCT QUALITY

Quality is main competitive weapon in the struggle for acquisition and maintenance advantages in market. Essence of these processes is product. By preventive approach to complex process of product concept development, quality of product is determined. From the perspective of marketing, it is identifying all scalable attributes of quality, as starting values in management of product. Quality of product, becomes quality system, which is achieved and by marketing research [15].

Therefore, process of defining, installing and managing of product quality, is aimed at one of the primary benchmarks of marketing concept: identification of consumer needs and expectations, as well as identification of trends. Processes key elements are:

- responsibility,
- control,
- orientation toward consumer and
- improvement of quality.

Quality is determining and estimating in relation to specific reference values.

With development of society, quality management is channeling more toward functioning of enterprises as assembly of interrelated parts, i.e. toward quality as the driving force of management and mean for business improvement.

Total quality management is based on continuous improvement of process, and is necessary for achieving competitive advantage. In conditions of permanent pollution of the environment, major challenge is production of quality and healthy food [6]. Because of that, standards for food safety management are upgraded, which are based on quality.

Introduction and development of HACCP concept in chain of production and consumption of agricultural-alimentary products are binding. Essence is in preventive approach:

- identification and risk assessment,
- prevent measures and control,
- realization.

Application of HACCP system has multiple benefits for participants in the process of supply, as well as state authorities [7].

Essence of concept is:

- The HACCP system is a program of systemic approach to all aspects of food safety, including biological, chemical and physical hazards and
- stresses importance of preventive approach in the production and consumption of alimentary products.

Effects of concept are greater competitiveness of companies in the domestic and foreign market, due to:

- minimization of losses during production and consumption of products,
- introduction of modern process technologies and
- increase of customer confidence in product safety.

3. QUALITY MANAGEMENT SYSTEM

Quality is an important element of value of what consumers receive in exchange in market. Organization which wants to reach or maintain competitive advantage, it must continuously control what delivered value, through quality, get consumers.

Quality Management System, as well as the latest version of standards ISO 9000, provides improvement of quality with a certain precondition:

- in system management quality introduction must be included all members of the organization (that they are professional and motivated) and
- introduction of the system quality management have to be planned professionally and in essential way (that there are technical and organizational conditions).

Quality system is the driver system, which leads to the realization of these objectives in terms of quality of business and service delivery. This system consists of an organizational structure, responsibility of subject in organization, processes and resources needed for the management system. ISO 9001 series standards is composed of:

- ISO 9000:2005-management system concept with terminology,
- ISO 9001:2008-criteria that must be met and
- ISO 9004:2009-guidelines for improving performance.

In addition, ISO 9001 is compatible with other standards of management system:

- OHSAS 18001-standard for occupational health and safety management systems.
- ISO 14001-management system of environmental protection.

Advantage of such system is links between individual process, sectors and their interactions. By defining elements of all processes and necessary resources, basis for planning it created, as well as information on buyers' content. Such model increases trust of clients in product and leads to better positioning on the market.

4. CONTENT USER POLICY

Development of technologies, arise of new distribution channels, only are some of the factors that contributed to competition strengthening. Organizations are forced to be more than ever aggressive in order for survival in the market. In developed countries, some activities that are not socially acceptable, more and more are restricting with laws. As result, there is increase of importance of respect of ethical code in business.

Due to above mentioned changes in business operations, world economic crisis, then due to the process of transition, social responsibility and business ethics receive on its importance. Success of organization depends on fulfilling consumer`s needs. From it follows that, the highest leadership has to make that meeting needs of customers have to be primary part of their own activities, and to ensure the highest priority of it.

Almost all organizations have several fundamental goals, like to:

- satisfy customers,
- achieve higher level of satisfaction then its competitors,
- retain customers and
- win greater part of market.

User satisfaction is achieved when goods and services are appropriate or overcome requirements and needs of users. Focus on the customer is not just a question of which at first sight may look like quality-issues is much more complex, and refers to the entire business practices [8].

User satisfaction is directly reflects to increase in profits. Loyal customers spend more, bring new customers and with them is much cheaper to deal. Numerous studies show that costs of obtaining new user are several times higher than costs required for retaining existing customer.

Inadequate quality causes users dissatisfaction, which is manifested through reklamations, appeals and spreading counter propaganda. Unsatisfied customers turn to competitive companies.

5. IMPORTANCE OF MARKETING ETHICS

When it speaks about ethics in business, all forms of ethics business code, both toward buyers and suppliers are comprehended. Above all, they are moral principles and values that define behavior of individuals and groups, within the organizations. Business based on ethical principles requires that all activities are carried out in accordance with the spiritual, sociological, biological and natural laws of human and environment .

Today, main ethical problem may be specified as objectivity, with an excuse for lack of general applicable norms. In business practice, numerous undesired situations violate reputation of organization and marketing experts. In order to overcome this, it must be defined the ethical strategy.

Ethics problems, when it comes to products, most often are related to:

- products safety,
- planned expiration date and
- the deceitful packaging.

When we talk about security products, the most frequently mentioned and the biggest concern maker is genetic modified food. Many products in itself contain genetically modified foods, but it has not been pointed out. Frequent situation is false expiration date that is placed by producers on product package. This problem is getting more in importance, due to unsteady environment, frequent changes in the labor market and a growing development of techniques and technologies.

The deceitful packaging is often connected with the appearance that the product is placed in a large pack, and that in package is significantly smaller number of products. This refers to non-compliance with consumer rights, to be informed. It's about missing relevant informations on the product package, such as nutritive composition of product, sign that the product contains genetically modified foods, country of origin.

Also, eco-marketing is a new movement that appeared in early 20th century. Producers and consumers, more and more are becoming aware of need to maintain natural resources and protect environment. Up until now there were only guidelines and unclear defined regulations. However, appearance of sets ISO 14020 as guidelines for eco-marketing, this area subjected to control. These guidelines are part of standards series ISO 14000, which refers to environment protection.

Eco products make series of comparative advantages, effective spending resources, reduction of harmful emissions, reduction in quantities of waste and reduce costs of society for pollution control and environmental protection.

6. SUMMARY

The quality of product is the most important factor of creating organization competitive advantages and must be constantly harmonized with changed requirements, needs, and desires of all interested entities. Study of development of quality and its implementation has allowed to determine role and importance of quality management.

Along with that, paths and ways for implementation of the basic principles of quality management are determined, in order to ensure product excellence. Quality Management System provides a framework for a permanent improvement, which increases likelihood of achieving increase in satisfaction of users and other interested parties. In order to be really effective and efficient, organization has to manage their business, in systemic and systematic approach.

REFERENCES

1. CDC 2010 Estimates of Foodborne illness in the US findings, Centres for Diseases Control and Prevention, Atlanta, USA, 2011.
2. Filipović M, Đurić M, Quality management system (Serbian), FON, Beograd, 2010.
3. Jurjan J. M, Gryna F, Planning and analysis of quality, Mate, Zagreb, 1999.
4. Milovanbović R, Impact of Quality management system on safety of alimentary products, Tematski zbornik radova, Ekonomski fakultet Kragujevac, 2013.
5. Petrović M, Babić M, Antić K, Importance of implementing HACCP system in sustainable food production (Serbian), Ecologica 64, 2011.

6. Radovanović R, Đekić I, Tomić N, Šmigić N, Rajković A, Zarić V, Achieved effects of system for managing safety and quality of food products in meat industry in Republic of Serbia (Serbian), Kvalitet, 9-10, 2013.
 7. Statistical yearbook of Republic of Serbia, Statistical office of Republic Serbia, Beograd, 2011.
 8. Ušćumlić D, Urošević S, Jovanović L, Milovanović R, Commercial knowledge of goods (Serbian), Ekonomski fakultet u Kragujevcu, 2011.
 9. Vuković Lj, Marketing in quality - process of developing and management of production (Serbian), Zadužbina Andrejević, Beograd, 2007.
 10. ISO 9001 – Quality management systems requirements, <http://www.iso.org/iso>
 11. ISO 14001 – Environmental management systems requirements with guidance for use, <http://www.iso.org/iso>
- Serbian Journal of Management - <http://www.sjm06.com>
13. Ministarstvo poljoprivrede i zaštite životne sredine Republike Srbije - <http://www.mpzss.gov.rs>

BUILDING AN AIR QUALITY MANAGEMENT SYSTEM – APPROACHES AND CHALLENGES

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Abstract: This paper outlines structural development and functional application of a system designed to give support in forecasting and managing air quality - Air Quality Management System (AQMS). Assessment of air pollution is required to predict air quality, but also to evolve certain management strategies to maintain air quality levels within the tolerable limits.

Apart of this, some important challenges referring air quality management are discussed, including the issue of plans and policy development arising from the management of hemispheric air pollution transport and integrated environmental assessment; and the linkages between air quality and climate change. Inclusion of these air pollution issues is expected to provide functional advancement in air quality management system.

Keywords: air pollution, air quality management.

1. INTRODUCTION

Air quality management system (AQMS) is an integrative system designed to give support in forecasting and managing urban air quality. The issue of air quality management is beginning to take an important dimension, providing advanced modeling information for environmentalists, planners and decision makers.

Opportunities for adopting one proven approach for creation of AQMS include integration of several stand-alone components: emission inventory, air quality models and monitoring systems, all under the frame of GIS. Further development and strengthening of AQMS structure contributes for a more effective way to enable and motivate air quality management efforts.

Still, for the scientific community and policy makers there are some significant challenges in the system tasks.

Control of air pollution sources and their interaction shouldn't be considered apart of climate change, cross-border and intercontinental transport of pollution and integrated environmental assessment. These issues are posing serious challenges for policy makers. Also, development of air quality plans and programs is emerging as additional challenge, because their development should be irreplaceable part of AQMS. Control measures and policy strategies should lead to an improvement in environmental protection, maintaining the air quality levels within the tolerable limits.

Described building architecture of AQMS and extension in its functional possibilities will provide an integrated system with required effectiveness in the process of air quality management.

2. ARCHITECTURE TOOLS IN AQMS: STANDARDIZED-SETTING APPROACH

Air quality management system (AQMS) is an indispensable system for management and control of air pollution, mostly on urban level. AQMS describes the current state of air quality in an area, how it has been changing over recent years, and what action plans should be taken to ensure clean air quality in the future [1].

Air pollution is considered as a sum of pollution coming from point, line and area pollution sources. This means that a lot of input data should be considered in the AQMS, in order to assess air pollution and to develop measures or intervention strategies for pollution control. Hence, obtain information can then be applied to manage air quality through developing optimal actions needed to improve air quality.

The basic structure of AQMS consists of several components (figure 1).

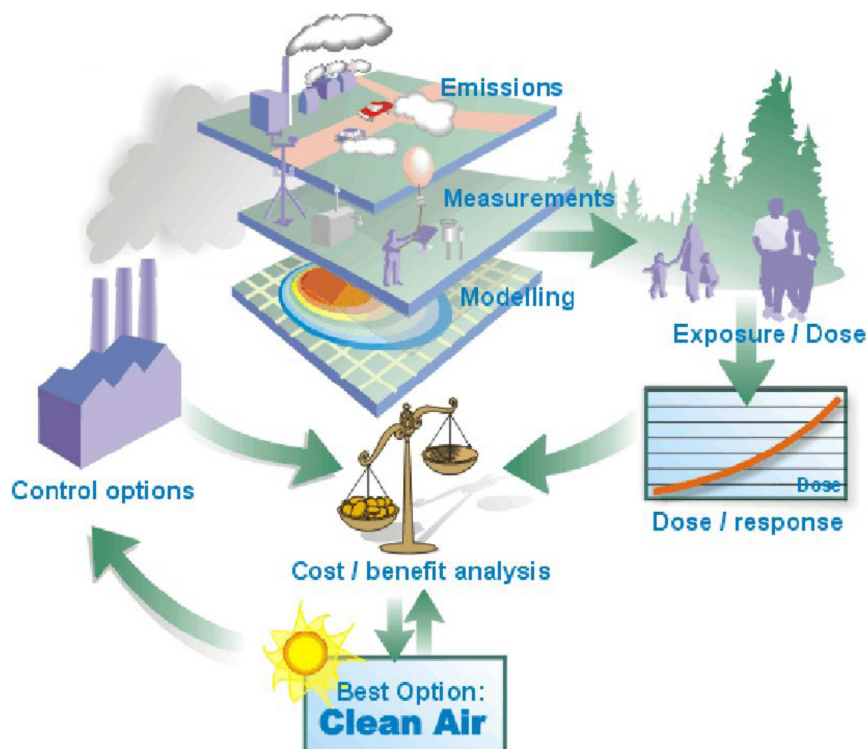


Figure 1. AQMS structure

Source: [2]

As can be seen from fig. 1, the main three components of an AQMS are:

1. *emission inventories*
2. *monitoring system*
3. *atmospheric dispersion modelling.*

The essentiality of each stand-alone component relative to all the others, its clear functionalities and targets, as well as their integration, result in the key feature of AQMS system.

Integration of these components contributes for increased effectiveness of AQMS, so the purpose of AQMS can be achieved and implemented in an efficacious manner.

2.1. EMISSION INVENTORIES

An emission inventory is a database that lists all sources of pollution within the area, providing detail on the location and volume of pollutants emitted [1].

An emission inventory includes estimates of the emissions from various pollution sources in a specific geographical area. A complete inventory typically contains all regulated pollutants [URL 1].

The development of a complete emission inventory is an important step in an air quality management process. Emission inventories are used to help determine significant sources of air pollutants, establish emission trends over time, target regulatory actions, and estimate air quality through computer dispersion modeling [URL 1].

An emission inventory, like the monitoring process, can be used in atmospheric dispersion models providing spatially referenced current emission rates of pollution sources in the area. For this purpose, a number of different methodologies exist for compiling an emission inventory using emission rates and emission factors [1].

2.2. MONITORING SYSTEM

One way to protect and assess air quality is through the development of an ambient air monitoring system. In order to develop or implement an effective AQMS, it is necessary to obtain reliable information on ambient air pollution levels. This can only be done through ambient air monitoring, the ultimate purpose of which is not merely to collect data, but to provide necessary information to make informed decisions on improving air quality [1].

The air quality monitoring network must comply with some basic requirements:

- the monitoring is performed in accordance with accepted standard methods
- the monitored data is subjected to data quality control procedures.

Through monitoring system, air quality samples are generally collected for one or more of the following purposes [URL 2]:

- to judge compliance with and/or progress made towards meeting ambient air quality standards
- to activate emergency control procedures that prevent or alleviate air pollution episodes
- to observe pollution trends throughout the region, including non-urban areas
- to provide a database for research evaluation of effects: urban, land-use, and transportation planning; development and evaluation of abatement strategies; and development and validation of diffusion models.

The location of monitoring stations is based considering the locations of main sources, topographical features and meteorological conditions, as well as urban featured and population distribution [1].

2.3. ATMOSPHERIC DISPERSION MODELLING

Air quality models are used to establish a relationship between emissions and air quality. Air quality modelling combines knowledge of pollutant source strengths (i.e.

emitted quantities per unit time) with meteorological data to estimate concentrations at the receptor points [1].

The dispersion models are used to estimate or to predict the downwind concentration of air pollutants or toxins emitted from sources such as industrial plants, vehicular traffic or accidental chemical releases. Many of the modern, advanced dispersion modeling programs include a pre-processor module for the input of meteorological and other data, and many also include a post-processor module for graphing the output data and/or plotting the area impacted by the air pollutants on maps.

Models have varying degrees of sophistication and accuracy and are rarely better than plus or minus 20-30 percent of the "actual value", unless the model is "tuned" by use of pollution monitoring data (stochastic modelling). Despite their limitations, air pollution models remain important tools for assessing emission reduction strategies, estimating ambient concentration and for gaining a better understanding the aspects of air pollution [1].

3. SIGNIFICANCE OF THE AQMS

The AQMS is a comprehensive approach for improving air quality and should be a result of collaboration between authorities, stakeholders and public. It provides a framework for air management that enables action tailored to specific sources of air emissions in a given area (figure 2).

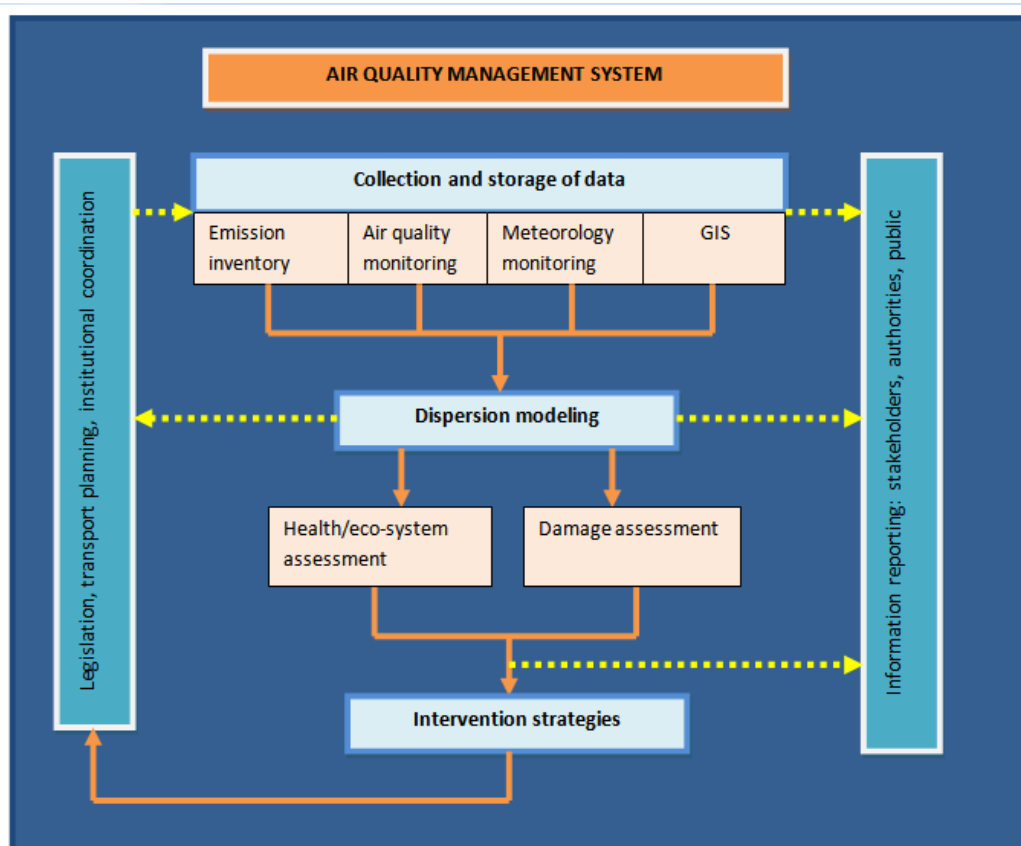


Figure 2. Functional linkages in AQMS

Source: Made by the authors, based at [3]

The benefits of developing an AQMS include the following [1]:

- development of long term strategies for dealing with air quality issues
- provides a mechanism for presenting the public with a comprehensive picture of what is happening with the air quality in their area
- facilitate the potential affected sources to plan installation of controls and/or process changes
- co-ordination of local government, initiation of partnerships between stakeholders and public to work together on improving ambient air quality.

4. ADVANCEMENT OF AQMS FUNCTIONALITY

Management of air quality is often the most challenging task of all environmental pollution problems today.

There are a number of challenges and opportunities facing decision makers in the process of air quality management, particularly when developing clean air policy strategies. Following, few most characteristic challenges at various spatial scales are addressed. These issues tend to operate at the local and regional, and in some cases they may cross international borders, thereby requiring a bi-national or multinational response. In recent years however, the issue of air quality management is beginning to take on global dimensions [4].

4.1. AIR QUALITY AND CLIMATE CHANGE

Poor air quality and climate change are very different phenomena, but their causes are similar: the release of air pollutants from a variety of sources and activities. Fossil fuel burning is the major source common to both. Reducing pollution from fossil fuel burning will help to improve air quality and mitigate climate change.

Climate change refers to changes in the climate of the earth as a whole. It is expected that climate change would accelerate over the coming century. Therefore, the linkage between clean air strategies and climate change should be considered very carefully.

Climate change and air quality are connected in a more specific science and policy context. There are at least four additional aspects of the linkages between climate change and air quality that decision makers engaged in air quality management should consider [4]:

1. the chemical/atmospheric interactions between climate change and air quality (how climate change will impact local air quality, and how air quality and emissions of particulates/aerosols affects climate change at a regional level);
2. actions that directly reduce emissions of greenhouse gases and other air pollutants (e.g. fuel switching, best available technologies, renewables);
3. actions that indirectly reduce energy use and emissions (e.g. efficiency, conservation, pollution prevention, land use and transportation planning); and
4. actions that are both mitigation and adaptation; that is measures that reduce emissions and reduce vulnerability by enhancing adaptive capacity. One example is the adoption of community-based energy systems such as combined heat and power, and wind power projects that both reduce

emissions and reduce vulnerability to a catastrophic systemwide failure of the energy grid.

Much of the integrated focus to date has been in the area of atmospheric chemistry, exploring the integration of air quality and climate change, with less emphasis on the specific emission reduction technologies and measures that will reduce emissions of both air pollutants (including air toxics) and greenhouse gases. There are also important linkages to explore between mitigation and adaptation measures, although in the latter context this is probably more for climate change than for air quality [4].

4.2 AIR QUALITY AND HEMISPHERIC AIR POLLUTION TRANSPORT

In the last years there has been a growing recognition that transport of air pollutants can occur between continents, particularly in the northern hemisphere. This presents a challenge to the scientific community but also to the policy makers. One step forward in understanding this problem, initially from a scientific point of view was the establishment in December 2004 of the Task Force on Hemispheric Air Pollution within the Convention on Long Range Transboundary Air Pollution (CLRTAP) of the United Nations Economic Commission for Europe [4].

The main questions of interest to this issue relate to the benefits of international cooperation to decrease air pollution emissions are [URL 3]:

- How do air pollution concentrations (or deposition) in the regions of the world change as emissions change in other regions of the world?
- How do changes in emissions outside a region affect the health, ecosystem, and climate impacts of air pollution within a given region?
- How does the feasibility of further emissions control differ in different regions of the world?

Although intercontinental transport can be demonstrated using observations and measurements, it is important, not least for future policy assessment reasons, to understand how changes in emissions in one continent influence air quality in another.

This requires a predictive model that can account for the complexities of the atmospheric system. Ideally this simulation should be performed with an integrated system of models capable of linking the local, regional, hemispheric and global scales. Models exist which are capable of simulating these phenomena but more evaluation and development are required before they are applicable with confidence to policy questions [4].

4.3. AIR QUALITY MANAGEMENT PLANS AND PROGRAMS

Stringent ambient air quality standards by themselves do not provide protection. The main tools to achieve the limit values are plans and programs (if the sum of the limit value and a so called margin of tolerance is exceeded) and, after the attainment date, action plans, which have to be implemented if there is a danger of exceeding limit values [5].

AQMS manages plans and programs to improve air quality in areas where the current quality is unacceptable and to prevent deterioration in areas where the air is relatively free of contamination.

The aim of the air quality plans and programs is to preserve and enhance air quality and to support healthy, clean air for all inhabitants in particular region. The air quality plans

and programs protects air through program planning development and guidance, industrial source control, transport planning, major new source review, coordination of permit and plan review programs, data analysis and reporting, and regulation [4].

4.4. AQMS AND INTEGRATED ENVIRONMENTAL IMPACT ASSESSMENT

Integrated environmental assessment is defined as the process of research and evaluation of environmental impacts at multi disciplinary level. Air quality, among water and soil pollution, is just one aspect that should be considered in the process of integrated environmental research.

There are plenty criteria for improving the effectiveness of integrated environmental assessment, including air quality management. Next, some of them are mentioned [6]:

- **Improve coordination.** Identify, monitor and, where possible, improve coordination and cooperation.
- **Utilise existing capacity.** Identify and improve the utilisation of capacity that exists in current network.
- **Introduce innovative tools and methods.** Increase the effectiveness of capacity building by introducing novel tools and innovative, experiential and participatory training methods successfully used by partner organisations.
- **Promote multi-level engagement.** Increase sustainability of impact by engaging capacity-building audiences on both an individual as well as an organisational level.
- **Strengthen capacity to effectively communicate assessments.** Ensure capacity building strengthens the ability to design and implement communication strategies.
- **Improve monitoring, evaluation and learning.** Ensure methods and mechanisms are in place to monitor, measure and, as required, report on the short- and longterm environmental impacts.

5. CONCLUSION

Air Quality Management System (AQMS) is an essential step in the air quality assessment process as it is the only way to evaluate the impact of future changes in pollution sources. The integrated use of air monitoring, inventorying and modeling has become one standard approach to build AQMS structure. In that way, AQMS becomes an indispensable mean to assess potential air quality impacts.

Apart of describing structural architecture in AQMS, the main core of this paper is dedicated to the presentation of important challenges in functional possibilities of managing air quality. Air quality and climate change, hemispheric pollution transport, air quality plans and programs, as well as integrated environmental assessment, are just some of the challenges that should be considered when building and advancing the AQMS structure. This will contribute for an improvement of AQMS in the process of forecast and assessment of air quality with higher certainty. In such a way AQMS would be able to foresee pollutant concentrations and analyze the concentration field with good accuracy, and to develop and evaluate protection programs.

The final result is an integrated system, which would play a very important role in formulating air pollution control and management strategies by providing information of better and efficacious air quality planning.

REFERENCES

1. Manual for air quality management planning, Sections 15-17 of the National Environmental Management: Air Quality Act, 2004 (Act No. 39 of 2004), Department of Environmental Affairs and Tourism, Republic of South Africa, September 2008.
2. Endregard, G., AirQUIS: A modern air quality management tool, Norwegian Institute for air research.
3. Best practice guide to consider air-related human health in your area, CSIR 2012.
4. M., Williams, Q., Chiotti, Emerging challenges and opportunities in the development of clean air policy strategies, chapter 5.
5. B. Croes, J., Schneider, A., Hedley, Air quality management approaches and evidence of effectiveness, chapter 4.
6. Integrated environmental assessment, training manual, International institute for sustainable development IISD, United nations environmental program, 2009.

URL 1: http://www.epa.gov/air/aqmportal/management/emissions_inventory/

URL 2: <http://www.epa.gov/oar/oaqps/qa/monprog.html>

URL 3: <http://www.htap.org/>

CHARACTERISTIC FEATURES IN MANAGEMENT OF THE BUSINESS PROCESSES OF THE ORGANIZATION

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Abstract: Systematic aspects of the organization are the basis of modern understanding of business process management occurring in this various sectors. Therefore, the process of business organization is a chain of sequential actions occurring on the input to the output of the system. For business process management commitment of sources and technology to work, underpinning the competitiveness of organizations. Most of the sectors of the economy undergo revolutionary changes affecting business organizations. Customers have more choices of goods and services and companies adapt to their requirements (customization of products). A speed of execution, by reducing costs and improving the quality of goods and services. Business processes are key areas of activity of each organization and must be set according to specific standards. Without such categorization companies will operate chaotically and would not add value to users, stakeholders and the parties interested. The article aims to highlight the features in the management of the business processes of the organization.

Keywords: business processes, process orientation, management

1. INTRODUCTION

In the literature and the written works, there are different views characterizing the idea of managing business processes of the organization. Taking into account some key points it is clear that the authors focus on the holistic aspect and process orientation in management, which is dominant in modern organization [1]. It is reflection of how companies do business, so to satisfy customer's requirements. This way of working is based on the process approach to management of organizations. In the process orientation the activities should be understood as a synonym for making a certain kind of tasks and the work that is done. Work is determined by the nature of the tasks and that they purposes. Top-down management assumes that tasks are well planned. All work must be properly structured, so that there is no duplication of its implementation. In the globalization, business processes is a complex activity that requires unusual ideas to solve situational arisen or chronic organizational problems.

2. THESIS

In order to be effective, the management of business processes is necessary to take into account their characteristics, the most important of which are the following:

1. Characteristics in business management

These features are related to the work of the senior management, since the objectives and strategy for business process management are defined. Certain guidelines are planned, that are needed to implement the process model (forming a team and working meetings, training, evaluation of the competitive level of the organization, etc.). It is necessary to determine the scope of the project, the level of change and maturity model process.

All the plans must comply not only with the technical aspects of process management, but also with the organizational culture. The idea of business process management is not just software engineering, since it reflects the overall business of the organization. It covers all aspects of management and related approaches, methods and techniques.

2. Features of the structure of the business processes

In order to control the value chain of the organization, the management must establish and set what is the structure of business processes. Diagnosing key processes and those that are not essential to the company's operations is also very important. Processes are linked with the strategy and objective; it is important to match the chain of value (mainly used eTOM / NGOSS, Supply Chain Council SCOR (Design Chain Council, Customer Chain Council), VCOR, CMMI, etc.).

Problem areas in the structure of business processes indicate which ones are subject to change. [6]. In order to diagnose the business processes according to the objectives it is necessary to build adequate information base to provide the managers and the team the information needed. In its structure, a great part of them is bound much of the core business processes of the organization, documentation for their specific rules, procedures and business models. These are the intellectual assets of the company covering its know-how and business development [4].

Information about the structure of business processes is important because it is used to identify future initiatives for its control or change. Every process must have certain characteristics and actual data that will be used for its description, modeling and simulation.

3. Characteristics in modeling and simulation of business processes

The important and essential thing here is that, the activities and tasks are subject to specification by diagnosing the processes subject to change (not adding value). That is why we use the process tool (here we apply different methodologies for analysis , modeling, simulation and management of business processes - ABC, Activity Diagrams, IDEF0, UML, EXTEND, BPMI's, BPMN,, PRG, PDL, xBML, BPR, BPI, Six Sigma DMAIC, ARIS, GRAI-GIM, CIM-OSA, GERAM, PERA, etc.) that explores the structure of business processes, change them and contribute to their effective management.

The main purpose of the concept of business process management is to create appropriate conditions for their transformation (change) as a priority management is the organization to be flexible external environment. In other words, it is adaptive (innovative) to market changes and business processes that form its internal architecture. The mere change is hard work because it affects different aspects of business organization and processes that must comply with the requirements of the clients.

Description of the business process is an activity that relates to the current state of the organization. Sketches of the available business processes are made in order to identify

where the critical (problem) areas for the company are. This process should be done in terms of customers, which are important criteria for their implementation. Identify the process provides information on the status and future amendment. Working drawings schemes of all the processes that are the subject of analysis are made. For this purpose, two basic instruments are used [6]:

- *Process Profile Worksheet* - document for a description of the business processes that generate information about their operation. The form contains data about the name of the process and the owner who is responsible for its implementation. The beginning and end of the process are fixed (incoming - outgoing parameters) operations contained, management, risks and the expected benefits.

- *Workflow Survey* - document for a description of the business processes that are filled by people who manage or perform/execute the tasks. They are required (in a free text form) to indicate what the specifics of the process are, where the problem areas are, how to function optimally, etc. This gives people who know the business processes the freedom to act and at the same time they are useful for improving their effectiveness.

It is of particular importance for the effective management of business processes to be presented in a way that will facilitate analysts to make the optimal decision for the particular situation. Large-scale processes are difficult to analyze and evaluate, so they are decomposed into separate parts (blocks/chunks). This approach to the study of business process has some advantages that allow us to quickly diagnose, they save time and resources and reduce the number of mistakes done by management and staff.

After the description of business processes, it becomes clear which ones are critical and why are they subject to change, and whether it will be effective- it depends on the reliability of the data and capabilities of the team. Possible ways to eliminate the business processes that do not add value depends on various activities such as:

- Simplification of the work;
- Limitation of the document action;
- Ranking process that customers will not pay;
- Prioritizing of the critical processes, etc.

Modeling of business processes covers their optimization by simply using graphical tools and software. They complement the description of business processes by compiling models for the transition of the system from one state to another (which is desirable). The Meta models are used as an abstract representation of the structure of the available models or making new ones. They are also used to regulate the syntax and semantics of modeling languages.

Simulation of business processes is used to determine how valid (effective) models for their amendment can be. Software applications are used through which we can predict the effect of business processes in different situations. The main objective of the simulation is to show how the process works and what adjustments will be made if necessary. For this purpose we adapt the advantages of simulation by emphasizing a combination of simulation languages and graphic simulators (Extend, VenSim, and PowerSim).

4. Characteristics in putting into work of the human factor

In order to achieve optimum results in the management of business processes, people need to be trained to be proactive and have competencies. Their work is determined by the approaches and programs (e.g. International Society of Performance Improvement) to increase productivity, knowledge and behavior in the workplace. In order to achieve results that correspond to the objectives and strategy of the organization's business process management, it is important to provide educated employees, who are professionals in their field. Today this is a prerequisite for effective business.

In the knowledge economy it is the qualities of the people and their intelligence that are the most important things. Increasing productivity and shortening of business cycles is a priority of the modern companies. In the recent years, this is due to two trends - high technology and intellectualization of the business processes. These circumstances began to ignore the cheap labor work force and low-skilled labor [5].

To achieve greater impact of business process management and limit the loss of time, managers need to rely on collaborators who are additionally involved in the project. Their task is to provide reliable information on the state of the process. These may be planners, controllers, dispatchers and other professionals supporting the management team. They follow the procedures in the work and immediately inform managers if they are not respected or violated.

The team involved in the project management of business processes is external and internal. The first is composed of experts (consultants) who have practical experience, and the second- by specialists of the organization. In business process management work is different from the common understanding of the chain of command, the total control, the strict rules and guidelines. Some features of work in the process management are the following:

- Common initiative in business process management

The work is designed on a team basis, and people perform certain roles and tasks. There is a personal responsibility for each fragment of the business processes, but overall and common to the quality of products and services. Contractors are maximally engaged in the management process by cooperating and helping.

- It is the highly creative ideas and innovation that are valued

Process management requires creativity and improvisation in the work at the expense of rules and giving strict directions. People can offer interesting ideas and make management decisions if they enrich the nature of work and lead to higher efficiency (productivity).

- It is the quality that is stimulated, not work norm

People have to work according to the requirements of the customers who are willing to pay the cost of goods or services. An output does not matter if it does not satisfy consumers and the price the customers pay for it.

- It is the calculated risk that is encouraged, not inaction

To empathize with people execution of business processes, it is important to promote and to encourage their activity. They must be convinced that the calculated risk is the key

factor for the occurrence of unusual and useful solutions. This process requires good social climate and support from senior management.

5. Characteristics in the software business process management

Advanced software products (software packages and applications such as ERP, CRM, Workflow, BPEL, TOGAF, MDA, etc.) allow processes to be managed in real time, and their optimization is through models that reflect the latest trends in information technologies. This approach is particularly relevant when you need to ensure the competitiveness of the organization and its flexibility to the business environment.

Today, process control requires the use of "cloud" software solutions for changing business operations. Process software should be adaptable to the organization, to meet the personal requirements of customers and to reduce the time and cost [2] for the execution of business processes. For specialists of the Gartner Group [3] in the management of business processes, organizations are moving towards intelligent business operations (Intelligent Business Operations - IBO).

In the future this work will be of particular importance for the competitiveness of firms/companies, because they apply predictive analysis in real time with new forms of collective/joint work. The importance of the IBO is to establish best practices that are relevant to the improvement of business processes of organizations. Using modern information technology, managers can make rational management decisions because IBO suggest the best options for changing business processes.

The principle is that the quick response of a specific (problem) situation creates conditions for effective access to reliable information. Its application in practice leads to quality customer service, increasing revenue and reducing the business risk. In light of the above-stated, the Gartner experts advise that the managers should realize the importance of the IBO and benefit from their advantages.

3. CONCLUSION

Business processes of the organization is a chain of successively occurring activities (operations) from the entrance to the exit of the system that add value for customers stakeholders and the parties interested. For the management of the business processes we make use of different resources and technology, which are the basic foundations for the competitiveness of organizations. By this publication following results were achieved:

- emphasis is placed on some key points from the process orientation in management;
- focus on characteristics in the management of business processes of the organization.

REFERENCES

1. **Anguelov, K., Stoyanov, I.** Process Orientation in Management. Institute of Knowledge Society, Bulgaria, Issue 3, 2012, p. 8 and next (in Bulgarian).
2. **Halachev, P.** Problems in assessing the costs of development software products. // JMISC – 50 years "Economic and Management" Department 03 June, Sofia, Bulgaria, 2013, pp. 289-295 (in Bulgarian).

3. **CFO – Gartner:** Company moves to intelligent business operations: <http://cfo.cio.bg>
4. **Franz, P., Kirchmer, M.** Value-Driven Business Process Management. McGraw-Hill Publishing, 2012, pp. 3-56, 101-120
5. **Harmon, P.** Business Process Trends. // BP change today, Vol.1, October 28, 2003, pp. 1-4.
6. **Okes, D.** Performance Metrics: The Levers for Process Management. ASQ Press, 2013, pp. 1-18, 29-44.

HARMONIZATION OF MANAGEMENT SYSTEMS ACCORDING TO THE REQUIREMENTS OF ANNEX SL

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Abstract: Based on AnexSL, some standards were adopted (ISO 22301 and ISO 27001:2013), and the preparation of the fifth edition of ISO 9001:2015 started. Reasons for path towards uniformity standards are the drop in interests for the certification and application management standards related to the expectations and plans, problems in previous transitions to new versions of the standards and primally approved concept of the necessity for harmonization management standards. This paper gives the analysis of requirements that brings Annex SL, changes which are applied to the new version of BS/ISO/ DIS9001:2015, and an analysis of the possibilities of harmonization of ISO standards.

Keywords: Anex SL, ISO, management system, ISO 9001, harmonization of standards

1. INTRODUCTION

In December 1987, ISO Organisation published. a ISO 9001 Quality systems- Model for quality assurance in design/development, production, installation and servicing. This was the start of a global phenomenon which saw the big possibility in expanding range of ISO management system standards (MSS) .A significant impact on organisations, trainers, consultants, certification bodies, accreditation bodies, auditors and MSS writers is the publication of Annex SL (previously ISO Guide 83) which defines the framework for a generic management system. All new ISO MSS will adhere to this framework and all current MSS will migrate at their next revision. In future all ISO MSS should be consistent and compatible - they will all have the same look and feel. This could be the beginning of the end of the conflicts, duplication, confusion and misunderstanding from different MSS. It is a challenge to auditors to focus their own and their clients' thinking on viewing organisations' management systems holistically.

2. ISO ORGANISATION –STRUCTURE AND COMPETENCE

ISO = International Organisation for Standardization , based in Switzerland. Its made up of over 100 National Standards Bodies (NSB).All standards are based on International Consensus are usually developed by its Technical Committees (TC s) and Subcommittees (SC's). ISO /TC176/SC2(Quality Systems) is responsible for ISO 9001 and ISO 9001:2015 is being developed by specific SC“ Working Group (WG24). WG24 is composed of international experts nominated by their NSB or from formalisation member to ISO (typically industry associations).

Overall Scenario of ISO/TC176 is development of generic quality management system standards that have broad application in all market sectors, both private and public organizations and over 1200 000 worldwide certifications to ISO 9001.

It's about more than just "certification" but certification to ISO 9001 should be a result of a well-implemented quality management system! Other ISO/TC 176 products are aimed to assist organizations in improving their quality management system.

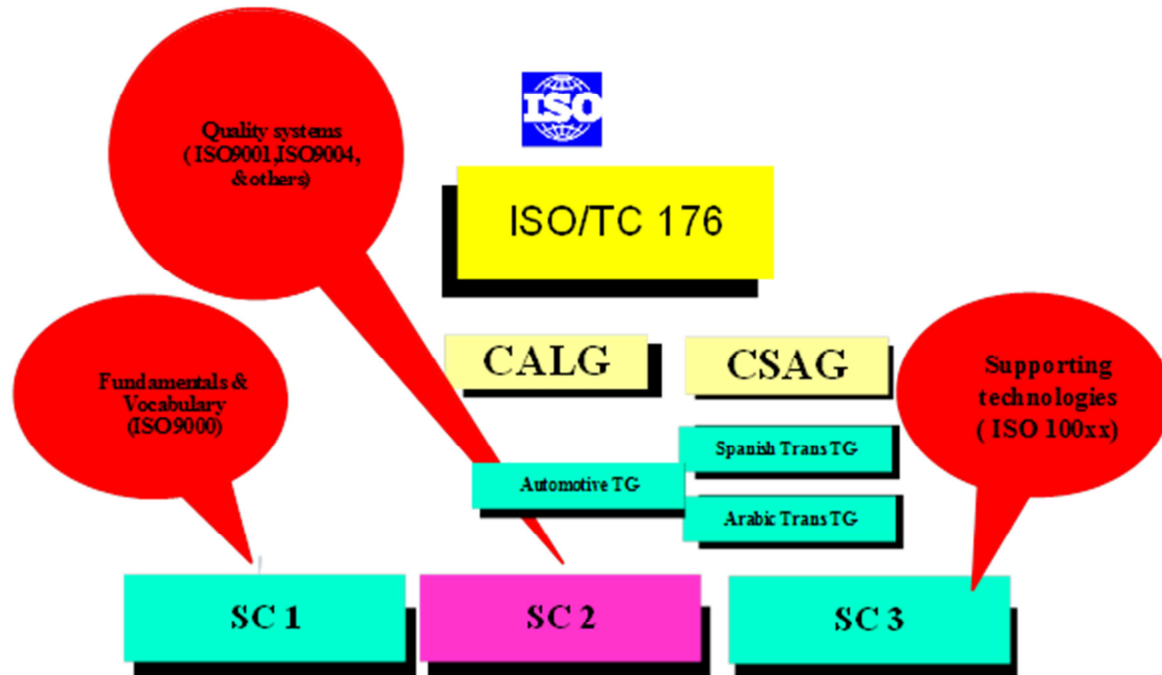


Figure.1. Competence of ISO/TC 176 and Subcommittees^[1]

ISO's Joint Technical Coordination Group has key competence for:

- Joint vision for management system standards
- High level structure for all ISO management systems standards
- Identical sub-clause titles under the high level structure
- Generic core vocabulary for management system standards
- The results of work on maintaining this aims , it was published ANEX SL-former Guide 83

Annex SL is a new management system format that helps streamline creation of new standards, and make implementing multiple standards within one organization easier. It replaces ISO's Guide 83, which provided a base structure and standardized text for management system standards (MSS). Guide 83 started to address complaints that many have when integrating current MSS like ISO 9001, ISO 14001 and ISO 27001. While these standards have common elements, they are described and organized differently, making it difficult for organizations to implement multiple standards.

"Annex SL" further addresses these issues by creating a "template" upon which ISO MSS are to be built in the future. Written primarily as a guide to those who draft the standards, the core of Annex SL consists of 8 clauses and 4 appendices that encompass a "high level structure" (essentially shared high level concepts among standards), shared terms/definitions and actual shared clause titles and text. Examples of "high level

structure” covered by Annex SL include areas ranging from support to operations, and leadership to planning. (This [article from the ISO/IEC JTCG chair and secretary lists each structural area touched by Annex SL.](#))^[2]

Annex SL is a product of the ISO Technical Management Board’s (TMB) Joint Technical Coordination Group (JTCG). The TMB is charged with managing the technical processes associated with implementing new technical standards. This includes the rules which govern standards creation, checking how the process is working, and managing the technical committees which construct the standards. The JTCG reports to the TMB and specifically manages the activities associated with creating and implementing an MSS. One of its main tasks is to ensure that the input from the various technical committees associated with each standard are represented in the resulting MSS of a given area (i.e. environmental, aerospace, etc.)

3. BENEFITS WHICH BRINGS ANEX SL

Annex SL will save any organization seeking to adopt MSS time and cost. Because standards such as ISO 9001 and ISO 14001 have similar intents but different structures, text and terminology, they are more difficult to implement together. There has been a need to streamline the certification process for multiple standards adoption. In addition, there is an opportunity for ISO to infuse new concepts across multiple MSS. These concepts include enfranchising customers, suppliers and impacted communities into the quality process; the shift toward service-oriented businesses; and the extension of digital aids to serve what are often geographically and organizationally dispersed workgroups. An IMS can streamline a businesses operations by merging different areas of compliance. For example, combining quality, environmental and safety into a single IMS requires less resources and is more likely to succeed than maintaining separate management systems for each. Standards can either be combined or integrated. An Integrated Management System integrates two or more standards from different disciplines into one. (example: ISO 9001, ISO 14001, OHSAS 18001). A Combined Management System combines two more standards from the same discipline into one. (example: ISO 9001, AS9100) Companies often request combinations of standards such as:

- Quality Management
- ISO 9001 (General Quality Management Systems)
- ISO 13485 (Medical Devices)
- TS 16949 (Automotive)
- AS9100 (Aircraft, Space & Defense))Environmental Management
- ISO 14001 (Environmental Management Systems)
- Safety Management
- OHSAS 18001 (Occupational Health & Safety)

Rather than just creating parallel systems, true integration means that similar processes are implemented without duplication or confusion. IMS elements that exist in each system are treated as common resources. They are defined, deployed and managed in the same manner and do not have to deal with multiple, often slightly different interpretations of their roles in executing each standard. Annex SL should make creation of an IMS much easier. There are many reasons for management system standards (MSS) writers to adopt the foundational Annex SL, including:

- Eliminating conflicts in MSS platforms
- Faster development of standards
- Less duplication of concepts, terms and potentially shared text
- Less low value revisions to common or shared areas
- Integrating high level, common business management goals, issues, needs.

4. NEW STRUCTURE ACCORDING ANEX SL

The structure of the new standard will be significantly changed in accordance with Annex SL which was issued by ISO in 2012 to define the framework for generic Management System Standard. all new ISO management system standards will adhere to this framework and all current ISO management system standards (MSSs) will migrate at their next revision. In future, all iso MSSs should be consistent with this format and will all have the same look and feel.

The following clause structure ” High level structure ” is given by the ANEX SL and will be base for all future MMS:

1. Scope
2. Normative References
3. Terms and Definitions
4. Context of the Organization
5. Leadership
6. Planning
7. Support
8. Operation
9. Performance Evaluation
10. Improvement ^[3]

New structure of ANEX SL will provide:

- A stable core set of requirements for all future standards in period for the next 10 years or more
- Remain generic, relevant to all sizes and types of organization operating in any sector
- Maintain the current focus on effective process management to produce desired outcomes
- Take account of changes in quality management systems practices and technology since the last major revisions of all standards
- Reflect changes in the increasingly complex, demanding and dynamic environments in which organizations operate
- Apply Anex SL of ISO Directives to enhance compatatibility and alignment with other ISO management system standards
- Facilitate effective organizational implementation and effective conformity assesment by first,second and third parties

Use simplified language and writing styles to aid understanding and consistent interpretation of this requirements^[4].

5. APPLICATION OF " HIGH LEVEL STRUCTURE " GIVEN BY THE ANEX SL ON BSI ISO/DIS 9001:2015

On the 14.May 2014 BSI Group published Draft version of ISO 9001:2015. This version is made with all requirements of Anex SL. Fig.2 show the contents of this standards.

Contents	Page
Foreword	5
Introduction	6
0.1 General	6
0.2 The ISO standards for quality management	6
0.4 Plan-Do-Check-Act cycle	8
0.5 "Risk-based thinking"	9
0.6 Compatibility with other management system standards	9
1 Scope	11
2 Normative references	12
3 Terms and definitions	12
4 Context of the organization	25
4.1 Understanding the organization and its context	25
4.2 Understanding the needs and expectations of interested parties	25
4.3 Determining the scope of the quality management system	25
4.4 Quality management system and its processes	26
5 Leadership	26
5.1 Leadership and commitment	26
5.2 Quality policy	27
5.3 Organizational roles, responsibilities and authorities	28
6 Planning for the quality management system	28
6.1 Actions to address risks and opportunities	28
6.2 Quality objectives and planning to achieve them	29
6.3 Planning of changes	29
7 Support	30
7.1 Resources	30
7.1.1 General	30
7.1.2 People	30
7.1.3 Infrastructure	30
7.1.4 Environment for the operation of processes	30
7.1.5 Monitoring and measuring resources	30
7.1.6 Organizational knowledge	31
7.2 Competence	31
7.3 Awareness	31
7.4 Communication	32
7.5 Documented information	32
7.5.1 General	32
7.5.2 Creating and updating	32
8 Operation	33
8.1 Operational planning and control	33
8.2 Determination of requirements for products and services	33
8.2.1 Customer communication	33
8.2.2 Determination of requirements related to products and services	34
8.2.3 Review of requirements related to products and services	34
8.3 Design and development of products and services	34
8.3.1 General	34
8.3.2 Design and development planning	35
8.3.3 Design and development inputs	35
8.3.4 Design and development controls	35
8.3.5 Design and development outputs	36
8.3.6 Design and development changes	36
8.4 Control of externally provided products and services	36
8.4.1 General	36
8.4.2 Type and extent of control of external provision	36
8.4.3 Information for external providers	37
8.5 Production and service provision	37
8.5.1 Control of production and service provision	37
8.5.2 Identification and traceability	38
8.5.3 Property belonging to customers or external providers	38
8.5.4 Preservation	38
8.5.5 Post-delivery activities	38
8.5.6 Control of changes	39
8.6 Release of products and services	39
8.7 Control of nonconforming process outputs, products and services	39
9 Performance evaluation	40
9.1 Monitoring, measurement, analysis and evaluation	40
9.1.1 General	40
9.1.2 Customer satisfaction	40
9.1.3 Analysis and evaluation	40
9.2 Internal audit	41
9.3 Management review	41
10 Improvement	42
10.1 General	42
10.2 Nonconformity and corrective action	42
10.3 Continual improvement	43
Annex A (informative) Clarification of new structure, terminology and concepts	44
Annex B (informative) Quality management principles	47
Annex C (informative) The ISO 10000 portfolio of quality management standards	49
Bibliography	52

Figure 2. Contents of Draft version of BS/ISO/DIS9001:2015^[5]

In accordance with the Annex to a SL term "documented procedure" and "records" has been replaced by the term "documented information". The table no. 1 shows the number of

documents that the requirements of ISO 9001:2008 and ISO 9001:2015 CD.

Table 1. Number of documents to the requirements of ISO 9001:2008 and ISO/DIS 9001:2015^[6]

Type of documents	ISO9001:2008	ISO/DIS9001:2015
Quality manual	1	0
Documented procedure	6	0
Records (documented records)	23	18

On the figure 2 it is shown differences between ISO 9001:2008 and BS ISO 9001:2015. The main changes are that standard ISO 9001 are:

- Adopts high-level structure and terminology of Annex SL, a unified guideline used for the development of all new ISO standards
- Has been redrafted to increase clarity and accessibility, reducing room for interpretation
- Introduces two new clauses relating to the context of the organization, which require the organization to determine the issues and requirements that can impact on the planning of the quality management system and can be used as an input into the development of the quality management system. These clauses can be found in sections 4.1 and 4.2.
- Makes the adoption of a process approach in the implementation of a quality management system more explicit, by including clause 4.4.2, which specifies the requirements for the adoption of a process approach
- Replaces the term 'products' by 'goods and services', in order to remove the existing bias towards organizations dealing with physical products. As a result, the new standard will be applicable for organizations of any kind.
- Does not contain a clause with specific requirements for preventive action. ISO motivates this decision by arguing that prevention is the task of the quality management system in its entirety, as opposed to a specific subsection of it.^[7]

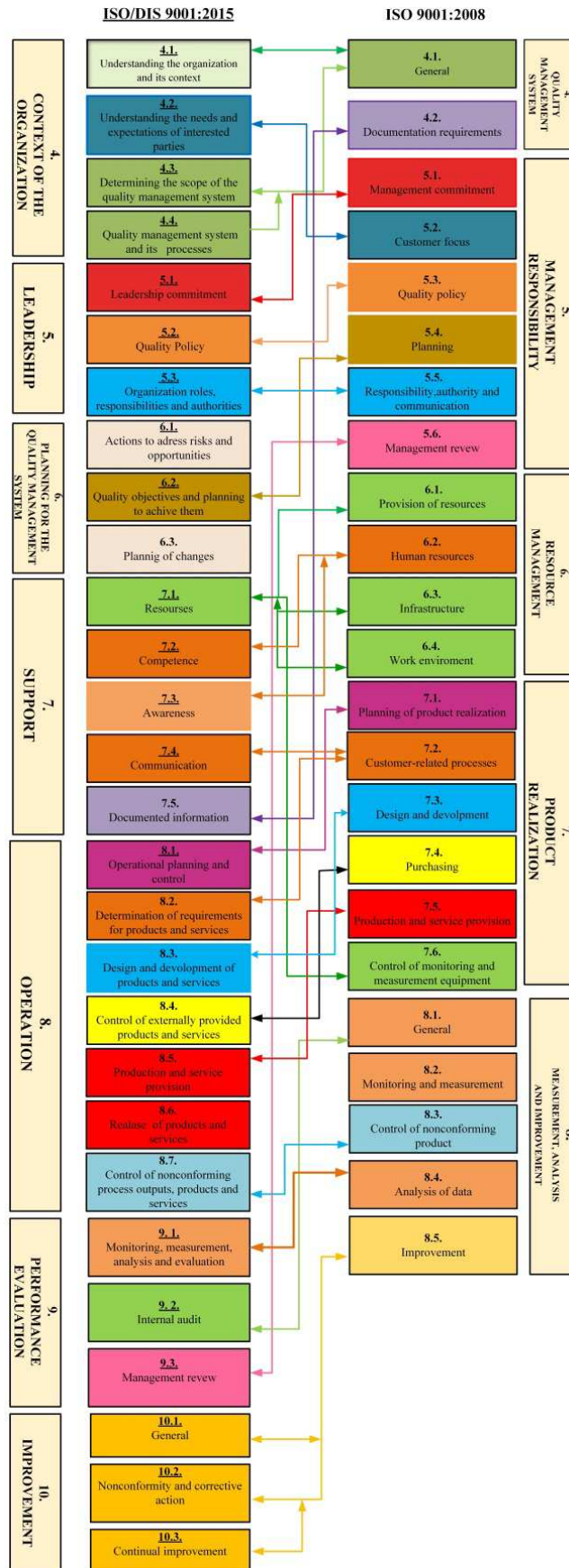


Figure 3. Comparison between ISO 9001:2008 and BS/ISO ISO 9001:2015

6. CONCLUSION

Application of the ANEX SL on new versions of the standards especially on ISO 9001 brings a lot of innovation. It will be necessary for all stakeholders to adjust and prepare for the transition. The transition period will last for three years, so there will be plenty of time to adjust.

REFERENCES

- [8] Nigel H Croft , Chairman, ISO/TC176/SC2-Quality system-The next version of ISO 9001-What to expect; pg.6
- [9] <http://the9000store.com>; ISO 9001 in Detail: What is the New Annex SL Platform ? 2014
- [10] ANEX SL ISO/IEC 2012, Appendix 3 (normative) - High level structure, identical core text, common terms and core definitions; page.143- 152.
- [11] <http://www.iso.org> ; Nigel H Croft , Chairman, ISO/TC176/SC2 ISO 9001:2015 and beyond - Preparing for the next 25 years of quality management standards, 28.August 2012.
- [12] BS/ISO/DIS 9001:2015 ;14.May 2014.page3-4
- [13] Branislava Milovanov , 20 Ključnih izmena u standardu ISO CD 9001:2015; XV Naučno stručni skup''Sistem kvaliteta uslov za uspešno poslovanje I konkurentnost'', Kruševac, November 2013. Table 1. Page 5
- [14] www.kvalitet.net DQS-UL CFS ISO: 9001:2008 vs. ISO 9001:2015; 24.6.2013.page 1.

THE TYPICAL PRODUCTS AND SERVICES FOR ISLAMIC BANKS IN LIBYA

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Libya

Abstract: According to the latest statistics issued by the General Council for Islamic banks at the end of 2004, the spread of this phenomenon in the Islamic world reached the number of 267 Islamic banks, so to speak - over 48 countries in 5 continents. There are three countries that have turned the entire apparatus banking mechanisms to work. These are: Pakistan, Sudan and Iran. During last years exist expansion of conventional banks which offer Islamic banking products and the desire of customers to have access to these products. Due to the lack of Islamic banks in Libya until recently, studies in this area are rare. Some Libyan conventional banks have begun to switch to Islamic banking. Some of traditional Libyan banks will start Islamic banking services very soon and we will discuss the experience of these banks. The measures in the process of transformation as well as the products that are developed and applied in the banks will be discussed.

Keywords: banking, Islamic banks, bank services, Libya

1. INTRODUCTION

The advisory opinion of the Islamic Research Academy in 1965 (which confirmed that the bank interest of usury is forbidden) was the catalyst for the establishment of several Islamic banks and financial institutions that do not benefit from that banking deal. Some people claim that the first bank to provide its foundation in the law was Nasser Social Bank in Egypt, in 1971. Similar thing happened with the Islamic Bank of Dubai (United Arab Emirates), which was established in 1975. It coincided with the efforts of the Islamic Conference Organization in Jeddah (Saudi Arabia). According to the latest statistics issued by the General Council for Islamic banks at the end of 2004, the spread of this phenomenon in the Islamic world reached the number of 267 Islamic banks, so to speak - over 48 countries in 5 continents. There are three countries that have turned the entire apparatus banking mechanisms to work. These are: Pakistan, Sudan and Iran. The phenomenon of turning conventional banks to Islamic banking has been accompanied by the phenomenon of the spread of Islamic banks in the second half of this century. It started in Egypt in 1980, when the Bank of Egypt's first Islamic branch was established in the area of Al-Azhar in Cairo. We have acquired the phenomenon of traditional banks offering Islamic banking on interest in a wide range of professional economists, bankers, legal and broken up about it between supporters and opponents. The owner of the phenomenon of the spread of Islamic banks convening many conferences and seminars, the publication of many of the references and the scientific literature on the phenomenon of Islamic banking, but it is no longer a integrated scientific study - as scientific - dealing with evaluation of the phenomenon of turning conventional banks to Islamic banking and challenges facing this phenomenon. Hence, the choice of the researcher of this phenomenon is to be the subject of his research. Due to the lack of Islamic banks in Libya until recently, studies in this area are rare. Some Libyan conventional banks have begun recently to switch to Islamic banking. From here the view of the researcher doing the study to help these banks

to identify the measures are necessary to turn to Islamic banks and thus enter the Islamic banks to the Libyan arena to contribute to raising the level of dealing with banks, many of the Libyans do not prefer to deal with conventional banks, considering that Libyan society is an Islamic society Islamic.

2. THE ORIGIN OF ISLAMIC BANKS AND THEIR CHARACTERISTICS

The concept of conventional banks is the bank as dealer of money; and reward for using money is interest according to capitalist system; so the prime source of revenue and cost of funds to conventional banks is charging interest through lending and accepting deposits for interest respectively. Interest is the major driver of operations of conventional banks although other valuable services including guarantees, funds transfers, safety of wealth, facilitation in international trade etc. are also provided for reward and form substantial part of income of banks. Conventional banking system is a system in which loans are given to people at fixed interest rates and more the time period taken to pay, more becomes the amount to repay. As the conventional banks are established under the principles of capitalism and transect business by charging interest, which is unacceptable (forbidden) in Islamic law, so Muslims left with no choice except to establish their own financial institutions under Islamic principles. The mile stone, in growth and popularity of Islamic Financial Institutions (IFIs), was the Conference of Foreign Ministers of Muslim countries (1973), where decision of establishment of Islamic Development Bank (IDB) was taken place. Islamic finance has shown tremendous growth in last two decades. Islamic banking is banking based on Islamic law Shariah.⁵⁸ It follows the Shariah, called *fiqh muamalat* (Islamic rules on transactions). The rules and practices of *fiqh muamalat* came from the Quran and the Sunnah, and other secondary sources of Islamic law such as opinions collectively agreed among Shariah scholars (*ijma'*), analogy (*qiyas*) and personal reasoning (*ijtihad*). Islamic banking (or participant banking) is banking or banking activity that is consistent with the principles of Shariah law and its practical application through the development of Islamic economics. Shariah prohibits the fixed or floating payment or acceptance of specific interest or fees (known as *riba*⁵⁹, or usury) for loans of money. Islamic finance is based on four core principles:

- Prohibiting usury,
- Avoiding speculation,
- Avoiding gambling,
- Investing ethically.

Conventional banks are profit-making organizations that generally aren't based on religious principles. That said, earning money is also a primary function of an Islamic commercial bank. Although the bank has a specific religious purpose, it can't serve that purpose unless it also meets the objective of earning money. A bank serves no purpose at all if it can't stay in business. Islamic banks operate based on Islamic business law (called *fiqh-u-muamalat*) for their basic transactions, and they also follow the financial laws and regulations of the countries in which they operate. When you deposit your paycheck in a

⁵⁸ The Islamic law which came from various sources – the *Quran*, the *Hadith*, the *Sunnah*, *ijma'* (views collectively agreed by Muslim scholars), *qiyas* (analogy) and *ijtihad* (personal reasoning) of the Muslim jurists.

⁵⁹ The amount paid or received over and above the principal in a loan contract.

conventional bank, your relationship with that bank is one of creditor to debtor; the bank has a responsibility to pay back your money with or without interest according to your account contract. Similarly, the roles reverse when the bank provides you with a loan. The relationship between a customer and an Islamic bank is completely different; the debtor and creditor relationship does exist at times in Islamic banking. To understand the relationship between the customer and Islamic bank, you must know what contract that relationship is based on.

3. THE DEVELOPMENT OF ISLAMIC BANKS

It seems that the history of interest-free banking could be divided into two parts. First, when it still remained an idea; second, when it became a reality -- by private initiative in some countries and by law in others. We will discuss the two periods separately. The last decade has seen a marked decline in the establishment of new Islamic banks and the established banks seem to have failed to live up to the expectations. Interest-free banking seems to be of very recent origin. The earliest references to the reorganization of banking on the basis of profit sharing rather than interest are found in Anwar Qureshi (1946), Naiem Siddiqi (1948) and Mahmud Ahmad (1952) in the late forties, followed by a more elaborate exposition by Mawdudi in 1950 (1961). Muhammad Hamidullah's 1944, 1955, 1957 and 1962 writings too should be included in this category. They have all recognized the need for commercial banks and the evil of interest in that enterprise, and have proposed a banking system based on the concept of Mudarabha - profit and loss sharing. In the next two decades interest-free banking attracted more attention, partly because of the political interest it created in Pakistan and partly because of the emergence of young Muslim economists. Works specifically devoted to this subject began to appear in this period. The first such work is that of Muhammad Uzair (1955). Another set of works emerged in the late sixties and early seventies. Abdullah al-Araby (1967), Nejatullah Siddiqi (1961, 1969), al-Najjar (1971) and Baqir al-Sadr (1961, 1974) were the main contributors. The first private interest-free bank, the Dubai Islamic Bank, was also set up in 1975 by a group of Muslim businessmen from several countries. Two more private banks were founded in 1977 under the name of Faisal Islamic Bank in Egypt and the Sudan. In the same year the Kuwaiti government set up the Kuwait Finance House. However, small scale limited scope interest-free banks have been tried before. One in Malaysia in the mid-forties and another in Pakistan in the late-fifties. Neither survived. In 1962 the Malaysian government set up the "Pilgrim's Management Fund" to help prospective pilgrims to save and profit. The savings bank established in 1963 at Mit-Ghamr in Egypt was very popular and prospered initially and then closed down for various reasons. However this experiment led to the creation of the Nasser Social Bank in 1972. Though the bank is still active, its objectives are more social than commercial. In the ten years since the establishment of the first private commercial bank in Dubai, more than 50 interest-free banks have come into being. Though nearly all of them are in Muslim countries, there are some in Western Europe as well: in Denmark, Luxembourg, Switzerland and the UK. Many banks were established in 1983 (11) and 1984 (13). The numbers have declined considerably in the following years. By the end of December 2008, in more than 50 countries approximately 300 institutions are operating and they manage funds of US\$ 951 billion. Persian Gulf Area is the centre of Islamic finance with a share of 82% followed by South Asia and Fareast region 13% and balance from all over the world including Europe, North America and Africa (IFSL 2010). Interest-free banking seems to be of very recent origin. The earliest references to the reorganization of banking on the basis of profit sharing rather than interest are found in

works of Anwar Qureshi,⁶⁰ and Mahmud Ahmad⁶¹, followed by others. They all have recognized the need for commercial banks, but they proposed a banking system based on the concept of Mudarabha - profit and loss sharing. In the next decades interest-free banking attracted more attention, partly because of the political interest it created in Pakistan and partly because of the emergence of young Muslim economists. Works specifically devoted to this subject began to appear in this period. Early seventies saw the institutional involvement. Conference of the Finance Ministers of the Islamic Countries held in Karachi in 1970, the Egyptian study in 1972, First International Conference on Islamic Economics in Mecca in 1976, International Economic Conference in London in 1977 were the result of such involvement. The involvement of institutions and governments led to the application of theory to practice and resulted in the establishment of the first interest-free banks. The Islamic Development Bank, an inter-governmental bank established in 1975, was the result of this process.⁶² A group of Muslim executives also set up the first private interest-free bank, the Dubai Islamic Bank, in 1975 from several countries. Two private banks were founded in 1977 under the name of Faisal Islamic Bank in Egypt and the Sudan. In the same year, the Kuwaiti government set up the Kuwait Finance House. However, small scale limited scope interest-free banks have been tried before; one in Malaysia in the mid-forties⁴ and another in Pakistan in the late-fifties but neither survived. In 1962 the Malaysian government set up the "Pilgrim's Management Fund" to help prospective pilgrims to save and profit. The savings bank established in 1963 at Mit-Ghamr in Egypt was very popular and prospered initially and then closed down for various reasons. However, this experiment led to the creation of the Nasser Social Bank in 1972. However, the bank is still active; its objectives are more social than commercial. In the ten years since the establishment of the first private commercial bank in Dubai, more than 50 interest-free banks have come into being. Though nearly all of them are in Muslim countries, there are some in Western Europe as well: in Denmark, Luxembourg, Switzerland and the UK. Many banks established in 1983 and 1984. The numbers have declined considerably in the following years.

4. TYPICAL PRODUCTS AND SERVICES FOR ISLAMIC BANKS

Islamic banking and financing has gained a foothold both nationally in Muslim countries and internationally in the financial world. Regular degree programs are also being offered at the university level in both the East and the West. Islamic banking is for all individuals regardless of their religious beliefs. The most important difference between Islamic and conventional banking is that Islamic banking must follow the Shariah. Islamic banking must also avoid activities such as *riba'* or *gharar* (excessive uncertainty). For example, instead of charging interest on financing given out, Islamic banks give financing based on *musyarakah* and will share any profit and loss. The common Shariah concepts are as follows:

⁶⁰ Anwar Iqbal Qureshi, 1946, *Islam and the theory of interest*, Shaikh M. Ashraf

⁶¹ Mahmud Ahmad, Shaikh. 1952, *Economics of Islam, a comparative study*, Lahore, M. Ashraf

⁶² The Islamic Development Bank is an international financial institution established in pursuance of the Declaration of Intent issued by the Conference of Finance Ministers of Muslim Countries held in Jeddah in Dhul Q'adah 1393H, corresponding to December 1973. The Inaugural Meeting of the Board of Governors took place in Rajab 1395H, corresponding to July 1975, and the Bank was formally opened on 15 Shawwal 1395H corresponding to 20 October 1975

1. Wadiah (Safekeeping) Wadiah means custody or safekeeping. In a Wadiah arrangement, you will deposit cash or other assets in a bank for safekeeping. The bank guarantees the safety of the items kept by it. This concept is normally used in deposit-taking activities, custodial services and safe deposit boxes.

2. Mudharabah (Profit sharing) - Mudharabah is a profit sharing arrangement between two parties, that is, an investor and the entrepreneur. Profit is shared between customer and customer bank based on a preagreed ratio.

3. Bai' Bithaman Ajil – BBA (Deferred payment sale) - This refers to the sale of goods where the buyer pays the seller after the sale together with an agreed profit margin, either in one lump sum or by instalment. Ownership of the goods passes to the bank.

4. Murabahah (Cost plus) - As in BBA, a Murabahah transaction involves the sale of goods at a price which includes a profit margin agreed by both parties.

5. Musyarakah (Joint venture) - In the context of business and trade, Musyarakah refers to a partnership or a joint business venture to make profit. Profits made will be shared by the partners based on an agreed ratio which may not be in the same proportion as the amount of investment made by the partners.

Ijarah Thumma Bai' (Hire purchase) - Ijarah Thumma Bai' is normally used in financing consumer goods especially motor vehicles. There are two separate contracts involved: Ijarah contract (leasing/renting) and Bai' contract (purchase). Seller passes ownership of the car to the bank.

5. Wakalah (Agency) - This is a contract whereby a person (principal) asks another party to act on his behalf (as his agent) for a specific task. The person who takes on the task is an agent who will be paid a fee for his services. A customer asks a bank to pay someone under certain terms. The bank is therefore the agent for carrying out the financial transaction and the bank will be paid a fee for its services.

6. Qard (Interest-free loan) - Under this arrangement, a loan is given for a fixed period on a goodwill basis and the borrower is only required to repay the amount borrowed. However, the borrower may, if he so wishes, pay an extra amount (without promising it) as a way to thank the lender.

7. Hibah (Gift) - This refers to a payment made willingly in return for a benefit received. In savings operated under Wadiah, banks will normally pay their Wadiah depositors hibah although the accountholders only intend to put their savings in the banks for safekeeping.

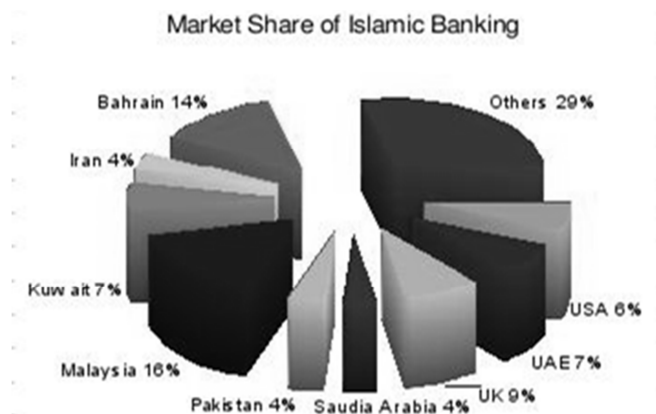


Figure 6. Market share of Islamic banking in 2009⁶³

⁶³ <http://somalilandpress.com>

According to estimates Islamic Banking is one of the world's fastest growing financial sectors, rising 15-20 % p.a. Asian Banker Research Group found out that growth rate is as high as 26.7 % among the 100 largest Islamic banks. Islamic banks are located in 50 countries worldwide and can be found in countries like Algeria, Azerbaijan, and Yemen. Major Islamic Banking hubs are Malaysia, Bahrain, UK and UAE. In any economy, private investment occurs in two different ways: active investment, where one or more persons put their own capital into a project, manage it themselves and enjoy the fruits of their labor and capital themselves; and passive investment, where the investor provides the capital and receives a return but takes no further part in the project.

Table 4. Investment options for capital-holders

Type of investment	Mode of investment	Type of return on capital	Islamic position
Active investment	In own enterprise	Profit or loss from the enterprise	Allowed
Passive investment	Shares in a company	Dividend (profit or loss) from the company	Allowed
	Bonds/securities	Fixed positive return (riba)	Prohibited
	Bank deposit	Fixed positive return (riba)	Prohibited

In an Islamic economy, active investment and the first option are permissible while the last two options would be regarded as riba (interest) income and therefore prohibited. On the entrepreneur side, he may finance his project using his own capital, by selling shares in his enterprise, or by borrowing on interest (from a bank or by issuing bonds/securities). In an Islamic setting, the first two methods are permissible while the last is not. For clarity the scenarios are depicted in Tables 1 and 2. Both conventional and Islamic systems permit and encourage active investment, which rewards labour and capital from realised profits. Both also permit and encourage passive investment in shareholder companies, which too reward capital from realised profits in the form of dividends. In both cases any realised loss is borne by the capital-providers. But any investment that brings in riba income or financing that involves the payment of riba is prohibited in an Islamic system.

Table 2. Financing options for entrepreneurs

Type of financing	Mode of financing	Type of return on capital	Islamic position
Active finance	Own funds	Profit or loss from the enterprise	Allowed
Passive finance	Share capital	Dividend (profit or loss) from the company	Allowed
	Bonds/securities	Fixed positive return (riba)	Prohibited
	Bank loans	Fixed positive return (riba)	Prohibited

5. LIBYAN BANKING SECTOR

The period since the end of the nineties of the last century, large shifts in the various economic sectors, in particular monetary and banking sectors, due to economic and monetary policies that have adopted new methods for treating many of the obstacles and distortions suffered by the national economy resulting from unfavorable conditions at the local and international. This policy aimed at restructuring the national economy, led by the banking sector, through laws and legislation that addressed many issues and the provisions intended to expand the ownership base and to create a production base, in addition to maintaining the stability of the general price level, and activation of economic activity, and was among the most important laws issued during this phase of law for the year 2005 on the banks, which aims to promote exploitative exchange Libya Central Bank. Figure 2. shows the structure of the general banking in Libya.

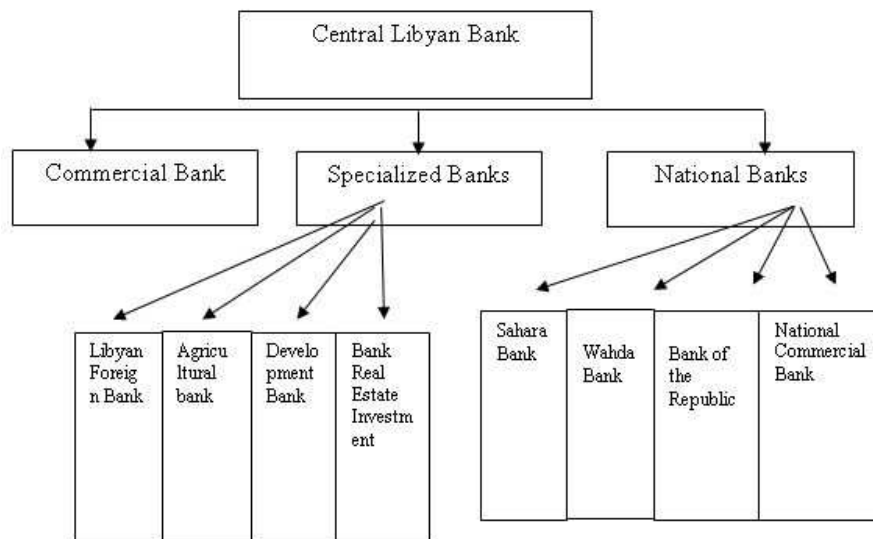


Figure 2. The structure of the general banking in Libya

Some Libyan conventional banks have begun recently to switch to Islamic banking. From here the view of the researcher doing the study to help these banks to identify the measures are necessary to turn to Islamic banks and thus enter the Islamic banks to the Libyan arena to contribute to raising the level of dealing with banks, many of the Libyans do not prefer to deal with conventional banks, considering that Libyan society is an Islamic society. There are several options for Islamic banking services: One would be to allow conventional banks to open branches or so call windows for Islamic finance; another would be permitting conventional banks to become Islamic. Libya is also looking at introducing a special license for Islamic banking. On January 6, 2013, the General National Congress went a step further than most lenders expected: passing a law that not only introduced Islamic banking but banned interest on financial transactions. The move is popular with Libya's Muslim majority but for the nation's lenders the law is problematic, giving them just two years to become fully Shariah compliant. By our opinion Libya should be able to benefit from both conventional banking and Islamic banking.

Table 3. Islamic Banks in Libya

Jamhouria bank
Sahara bank
Wahda bank
National commercial bank
Umma bank

Those are some of state banks (Table 3), and they gives customers special services for different categories, i.e. agricultural banking, loaning, development banking, trading banking, etc. In last years also appeared and private banks. In this paper we will mantion only Jomhouria (The Republic) Bank that was grew on the ruins of the branches of Barclays bank of England, which opened its first branch in the city of Benghazi on 15/07/1943 then Tripoli branch which opened in the same year in succession to open branches in the Libyan cities until he reached the the number of branches 17 branches remained the bank has a monopoly on banking services. Today, Jumhouria Bank is the largest bank in Libya and in the upcoming period will be witness of major developments by the Central Bank of Libya. These developments are related to new products and services, and, most importantly, to housing loans, which will be given out to those clients who want to buy houses that are built and ready to be sold. Furthermore there are new banking services and in`itiatives, such as student credit-debit cards. To date, Jumhouria Bank has already disbursed 150,000 cards to students all over Libya. The scope of this bank is to opens a wide scope to the provision of loans to various services that can be summarized as:

- The opening of current accounts and savings accounts, fixed accounts.
- Opening of documentary credits and the acceptance of foreign documents collection.
The issuance of letters of domestic security and foreign policy.
- Transfers to foreign nationals and non-residents.
- Providing mortgage loans and loans and the granting of social credit facilities.
- Contribute to the financing of development projects and strategy.
- Provide advice and technical and financial studies for clients wishing to obtain.
- Financing for investment projects and small and medium enterprises, and for example, participation in the preparation of field studies to establish a factory north of African carpets, as well as the Africa Company for the beverage industry.
- Sale and purchase of foreign currency of all kinds.
- Card-issuing bank.
- Contributed to the economic development bank to finance some public projects.

6. CONCLUSION

With an estimated 2 billion Muslims world wide it is easy to see that there is a huge potential for growth in this industry. A single set of regulations guiding this industry is a surefire way to ensure the continued growth of the industry as well as stability in the

regions they serve. Introduced in the Middle East over 40 years ago, the Islamic banking market today is worth in excess of US\$1.1 trillion worldwide. As a measure of its success and the demand for it, the Top 20 Islamic banks in the Gulf region have grown by 20% in the last years - compared to an average of 9% for conventional banks. Today, many of the world's top Sharia'a-compliant banks rely on Islamic banking solutions to offer a full and competitive range of Islamic financial products to its customers. At the heart of this growing sector sits the Islamic banking technology architecture. That's why it makes sense to partner with a proven, world-class Islamic banking software provider able to offer solutions with rich functionality. Islamic banks all over the world have been facing a number of challenges, and Libya is no exception. Islamic banks here have not yet been successful in devising an interest - free mechanism to place their funds on a short - term basis, and face a similar problem in financing consumer loans and government deficits. The risk in profit sharing appears to be so high that almost all Islamic banks in Libya have resorted to techniques of financing which bring a fixed, assured return. As a result, there is genuine criticism that these banks have not abolished interest but have only changed the nomenclature of their transactions. Next, Islamic banks do not have the legal support of the central bank, and lack the expertise and trained manpower to appraise, monitor, evaluate and audit the projects that they are required to finance. As a result, they cannot expand, despite having huge excess financial liquidity. Islamic banks all over the world have been facing a number of challenges, and Libya is no exception. Islamic banks here have not yet been successful in devising an interest - free mechanism to place their funds on a short - term basis, and face a similar problem in financing consumer loans and government deficits. The risk in profit sharing appears to be so high that almost all Islamic banks in Libya have resorted to techniques of financing which bring a fixed, assured return. As a result, there is genuine criticism that these banks have not abolished interest but have only changed the nomenclature of their transactions.

REFERENCES

- Ah Balee, Abid Hamid Mahmud. Strategic pillars of the Islamic financial transactions. Saudi Arabia, Dammam, Dar Al-Rawi, 2000
- Al-Ghazali, Abdul-Hamid al-Ghazali. Rights-based approach in the Islamic economic development. Versions of Islamic Economics Centre, Cairo, 1988
- Amin, Ahmed Amin. Islam appeared. Cairo, Al Nahda Library science, 1962
- Anwar Iqbal Qureshi, 1946, Islam and the theory of interest, Shaikh M. Ashraf
- Gestinah, Darwish's Sedek and others. Application of laws derived from Islamic law on the banking business: Application to the banking system of Pakistan. Jedah, Center for Arab publishing, King Abdul Aziz University, 1998
- Hawre, Saed. Mahmoud. What does an Islamic bank?. International Federation of Islamic Banks, Cairo, 1982

Hamoud, Sami. The development of banking in accordance with Islamic law. Cairo, Dar Al etehad Al-Arab , 1976

Joseph Divanna, understanding Islamic banking, Leonardo and Francis Press Ltd; 1st Edition edition, 2006

Lltwafek Dallah Al-Baraka, Research in transactions and methods of Islamic banking, part III, Dar Okaz Printing and Publishing, Jeddah, 2002

Mahmud Ahmad, Shaikh. 1952, Economics of Islam, a comparative study, Lahore, M. Ashraf

Nasser, Mahmoud Gareeb. Islamic banking assets, Cairo. Publisher Apollo, 2000

Shubra, Mohammad Omar. Towards a just monetary system. Cairo, Publications International Institute of Islamic Thought, 1990

Sharif, Fahd al-Sharif. The Islamic subsidiaries of banks interest. Third International Conference on Islamic Economics, University of Umm Al-Qura, Mecca, 30/5 - 2/6/2005

<http://somalilandpress.com>

CONTEMPORARY INFORMATION SYSTEMS IN ACCOUNTING

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Abstract: Information and Computer technology (ICT) has become integral part to any modern accounting information systems. ICT, however, is a high risk discipline due to high level of vulnerabilities and threats. A key emphasis of auditing procedures is identifying risks, fraud and errors by making inquiries of and testing Internal controls within the entity in order to place some reliance on internal reports and associated management assertions. Auditors' responsibility in identifying fraud has now been acknowledged by regulatory standards and the law. It has become critical that auditors are fully aware of the impact of ICT issues on the audit of a client's financial statements in how ICT is used by a client to gather process and report financial information. The accountancy profession now faces a challenge to recover trust and respect.

The reputation of the profession has been damaged by high-profile scandals such as Enron, WorldCom and Parmalat. Those scandals have created some suspicion of accountants among the public on the competence of auditors and the accountancy profession as a whole. Internal controls have been a very important topic in recent years. Many people have postulated that one major critical success factor of any competitive business is its effective internal controls.

The world is now a global village as predicted due to the Information and Computer technology (ICT). Sophisticated ICT has become integral part in modern accounting information systems and management information systems.

Keywords: Information and Computer technology, Enterprise resource planning systems, Change management, Management accountant, accountancy profession

1. INTRODUCTION

In a world of unprecedented tax, accounting science offers solutions for any business development and business coverage: capital structure does not matter, no matter the field, no matter the country. Accounting is, in some way, a science without barriers, and virtually borderless, without accounting, economic activity can not conceive.

In the context of economic globalization, increased competition, the imposition of new high quality requirements, or adapting to new accounting standards require a new approach to economic information system of each entity. The need for pure information, correct and complete, becomes a necessity for each compartment of an organization, especially when proposed to be profitable and efficient solutions for their business.

If we take into account these factors and issues more difficult to predict, as is the economic crisis, we find that opportunities to develop and improve specific activities of economic entities is done with a growing difficulty, which necessarily requires their orientation towards new information technologies and especially the most intelligent actor

able to assist in substantiating the most appropriate decision-making decisions. In addition, the volume and dynamics of information surrounding the financial and accounting activities of an organization leads to rethink the strategy of integrating rapidly modern information, which enable to design and implement intelligent systems in accordance with the requirements and needs of the current economic context.

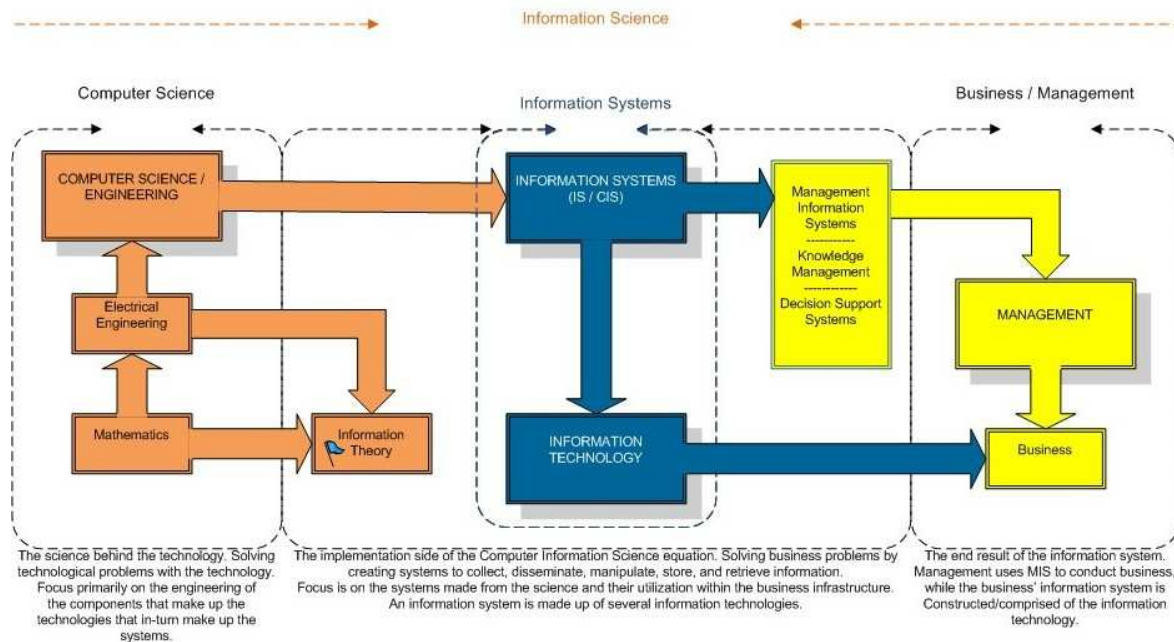


Figure 1. Computer Science and Information systems Relationships in the business world

Furthermore, there is a need for intelligent systems to assist the accounting worker, to offer timely and useful information, why not, to prepare the decision for him.

Thus, it is possible to achieve this by developing or actual use of intelligent systems and technologies (reporting or analysis) that explicitly addressed financial accounting.^[64]

Information technology (IT) should be viewed as more than just a vehicle that facilitates the automation of business processes: IT can fundamentally change the way business is done. Many organisations seek to improve their competitiveness through adoption of advanced information technology, such as Enterprise Resource Planning (ERP) systems. The level of success associated with these implementations has varied widely.

Traditional analysis and design projects had minimal reengineering and the software was written to match current processes, whereas ERP systems are implemented with minimal change to the software while significant reengineering of business processes to match the ERP software occurs. ^[65] ERP systems are different from traditional systems in scale, complexity, organisational impact, cost and subsequent business impact. ERP systems typically impact the entire organisation and are almost always associated with the business process reengineering.

An ERP implementation must be carefully managed and the changes in business practice required to maximise the benefits of the implementation need to be identified and enacted from the start. Failure to do so can result in many difficulties, in some cases, the difficulties that arise can destroy the organisation. Even when the future of the organisation is not threatened, the costs associated with ERP systems are significantly higher than those of traditional systems and mistakes such as these can be extremely costly – for example, Dell Computers spent millions of dollars on an ERP system that had to be scrapped because it was too rigid for the expanding nature of the company.^[66]

Even when ERP implementations are successful, organisations generally do not obtain any long-lived competitive advantage through them. What they do gain is that they avoid losing ground to other organisations that have successfully implemented ERP systems.

It can be argued, therefore, that once the time has come for an organisation to adopt ERP (possibly because competitors are doing so), it must do so or risk long-term competitive disadvantage.

Consequently, many ERP systems have been re-implemented, sometimes as upgrades of successful systems. Others were, effectively, new ERP implementations often due to a failure to recognise the nature of an ERP implementation compared to that of a traditional IT implementation.

1.1 MOTIVES FOR ADOPTING ERP SYSTEMS AND BENEFITS ON ACCOUNTING PROCESSES

Managers of companies adopting ERP systems have quoted using a number of modules. However, all of them are operating financial and management accounting modules. In addition, the majority of them are operating a fixed asset register, costing and stock/purchases modules.

Therefore, it is evident that ERP adopters have a primary concern to integrate their accounting processes, which should be demonstrated in changes in their accounting practices. It is rather surprising though that payroll is not at the top of the managers' agenda, despite being an integral part of the accounting system. Individuals were also directly asked as to why they chose to adopt ERP systems.

Respondents have indicated “increased demand for real-time information,” “information for decision making” and “integration of applications” as the most popular reasons for adopting ERP systems. Therefore, the pronounced advantages of ERP systems were the driving force for ERP adopters. Further, BPR, (Business process re-engineering) which is also a prerequisite for a successful ERP implementation, is quoted from an important proportion of respondents (54 per cent). It is also noteworthy that half of them consider the adoption of ERP systems as the means for cost reduction and 31 per cent as the means for increasing sales.

Clearly, the majority of the respondents are motivated to adopt ERP systems for legitimate reasons considering what the latter purport to achieve. ERP systems are correctly perceived as facilitators of business processes and operations and also supporting management decision making at all levels. Results are also in line with a similar survey conducted by Stefanou (2002). Changes in the processes and particularly accounting practices are expected to exist considering the adoption of accounting-related modules by all companies, and also the underlying rationale for implementing ERP systems.

A small, but an important proportion of ERP adopters have introduced a number of more “sophisticated” accounting techniques in their accounting processes including activity based costing (ABC) and “target costing”.

1.2 ERP FAILURE FACTORS

Elsewhere, ERP user groups, such as ERP-SELECT in 2004^[67] have offered lists of the factors that may lead to failure of ERP implementations:

- Education (not understanding what the new ‘system’ is designed to achieve)
- Lack of top management commitment (management being involved but not dedicated)
- Inadequate requirements definition (current processes are not adequately addressed)
- Poor ERP package selection (the package does not address the basic business functions of the client)
- Inadequate resources employed by the client
- Internal resistance to changing the ‘old’ processes
- A poor fit between the software and users procedures
- Unrealistic expectations of the Benefits and the ROI
- Inadequate training (users do not properly how to use the new tool)
- Unrealistic time frame expectations
- A bottom up approach is employed (the process is not viewed as a top management priority)
- The client does not properly address and plan for the expenses involved

2. IMPACTS OF ERPS ON MANAGEMENT ACCOUNTING

Research on the effects of ERP systems on management accounting suggests that ERP systems have little impact on management accounting, but that the management accountant is evolving into a business consultant.^[68]

Granlund and Malmi (2002) conducted a field study of 10 companies in Finland in which they examined the effect of integrated enterprise wide information systems on management accounting and the work of management accountants. They concluded that:

“... ERPS projects have led to relatively small changes in management accounting and control techniques”...

“Strategic Enterprise Management (SEM) systems had a positive impact on management accounting practices whereas ERP systems only had a positive impact on transactional management accounting”

Fahy (2000) also explored the implications of SEM software for management accounting and control activities. He concluded that “SAP, Peoplesoft and ERP vendors appear to view SEM essentially as a technological issue rather than a management/decision support issue”; and “While SEM technologies will remain largely the domain of established enterprise systems vendors the successful implementation of SEM will require

a much richer understanding of the nature of strategic management and an understanding of the decision support process.”^[17]

Brignall and Ballantine (2004) looked at linking SEM, Performance Measurement and Management (PMM) and Organisational Change Programmes (which could include ERP implementations). SEM implementations were generally treated as technology projects, they found that successful adoption requires a broad perspective including recognition of the needs of the organisation. This is consistent with the requirement of a strategic perspective for the implementation of an ERP system, a necessary but not sufficient condition for a successful implementation.^[17]

An ERP system is seen as the basis for a successful balanced scorecard approach.

The balanced scorecard, with data obtained from the ERP system provides management with visibility into the business units and the ability to monitor progress against the overall organisation plan. ^[17]

A management accountant in an ERP environment needs a strong understanding of the business (business processes), significant interpersonal skills, leadership skills, decision-making skills, analytical skills, planning skills, and technical skills (including computer and accounting). Management accountants need to be business partners and confidantes of the other managers in the organisation. Those management accountants who do not possess these skills will join the ranks of those found in the case studies that were made redundant or left voluntarily. Organisations which implement an ERP system incur significant costs and are demanding value and a return on everything, including their employees.

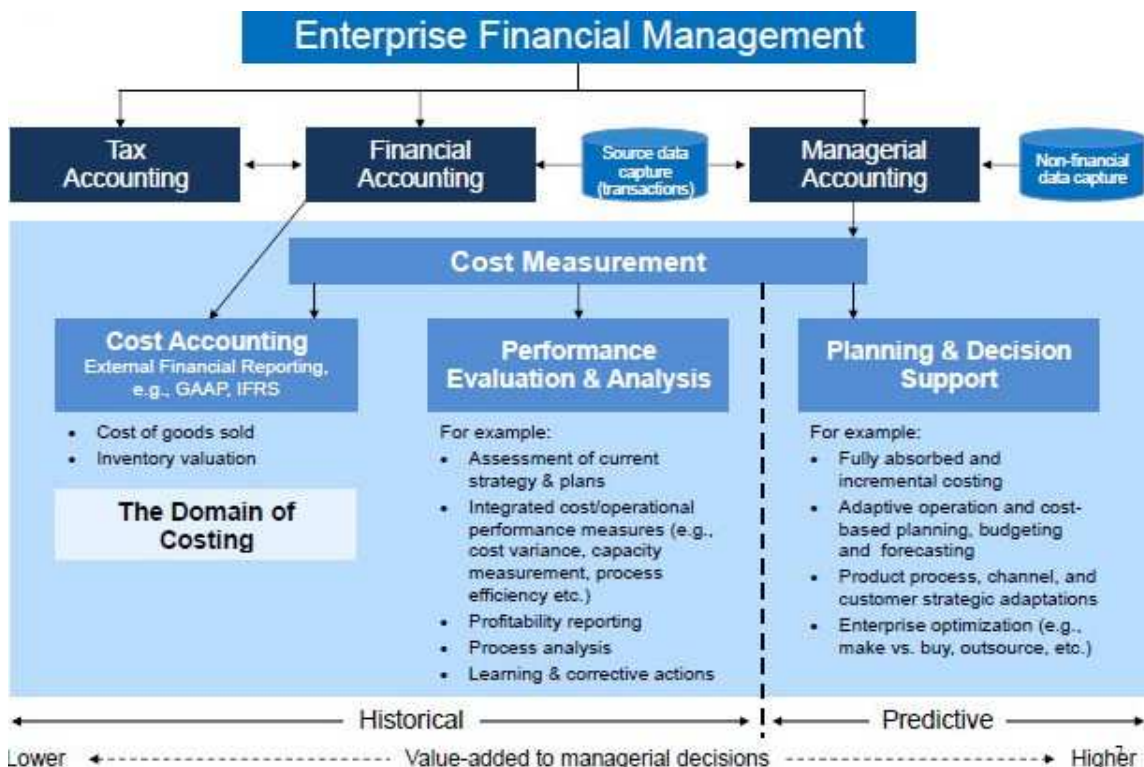


Figure 2. IFAC Definition of enterprise financial management embracing three broad areas: cost accounting; performance evaluation and analysis; planning and decision support. Managerial accounting is associated with higher value, more predictive information. Copyright July 2009, International Federation of Accountants



Figure 1. Impact of ERP Systems on managerial accounting [1]

ERP is a broad term for any software application that integrates all business processes and data into a single system. ERP systems can be described as integrated software packages that control all personnel, material, monetary and information flows of a company. They are composed of several modules, such as human resources, sales, finance and production which provide cross-organization integration of data through embedded business processes. As these ERP systems are integrated, all data are available to all personnel throughout the organisation at any time. These software packages can be customised to cater for the specific needs of an organisation. ERP systems have become the system of choice for the majority of companies. These systems have changed the way accounting information is processed, evaluated and reported throughout the business.[9]

ERP systems are comprehensive systems as they operate throughout the entire company maintaining large amounts of data. They are also modular systems which are based on a client/server technology. Data are stored in a single database, which eliminates the need to update data in several different subsystems. ERP can help companies to arrange data flows and provides management with direct access to a wealth of real-time operating information. This can help companies to achieve productivity gains and time savings. By providing universal, real-time access to operating and financial data, the systems allow companies to streamline their management structures, creating flatter, more flexible, and more democratic organisations. The ability of ERP systems to simplify business processing and provide time savings for the company while simultaneously improving customer service are among the main reasons for the success of these systems.

In this new environment the management accountant must acquire a broad knowledge of the business, and add value to the organisation by bringing financial expertise to the management process and participating as team players. The management accountant must now move into the spotlight and become an integral part of the management team by using a broader range of skills, utilising both financial and non-financial indicators; taking decision-making roles in cross functional teams; and integrating operational and strategic control. The management accountant must broaden the nature of their role and become a strategic manager.

3. CONCLUSIONS

ERP implementations results in changes in the tasks of the management accountants, with the quality of many operational factors, such as inventory control, and the overall quality of data and information improving irrespective of the success or failure of the implementation and the role of management accountants was related to the level of success of the ERP implementation.

Under successful ERP implementations, data quality increases, decision-making is improved, and the percentage of reports automatically generated by the (ERP) system is greater than under the previous (traditional-software-based) information systems. Many reports produced automatically by the ERP system or by managers using the ERP system were previously prepared by the management accountants using other software, such as spreadsheets.[10]

In conclusion, when an ERP implementation is successful, management accountants have time for other, less mundane activities; and their role becomes more enriching as a result.

When an ERP implementation is unsuccessful, the role of the management accountant increases. Some of the ERP system deficiencies require increased activity on the part of the management accountants without any noticeable reduction in the tasks they traditionally perform. For ERP implementations to be successful, management accountants should be involved from an early stage. Whether it is a success or a failure, they also need to be prepared for changes in their role which go well beyond simply doing more than before.

The scope of traditional auditing has changed and the change is not only being promoted by regulatory bodies but also by the enactment of legislations. These developments come in the wake of weaknesses in the traditional auditing systems that have resulted in the loss of confidence in profession. The circumstance has become more challenging for the audit profession as the advancement in the use of cutting edge Information and Communication Technology has proved that there is a gap between the current competences of professionals in general and what is required to provide a comprehensive audit according to the regulations and laws.

It has been recommended that practitioner in the fields of accountancy who have been educated in the key aspects of information technology should bring their experiences to bear in reshaping the design of curricula of accountancy syllabi. Practicing accountants should use their rich experiences to contribute effectively and efficiently to satisfy the increasing ICT requirements of accounting information systems and auditing financial reporting systems in modern organizations.

REFERENCES

1. Akkermans, H., & van Helden, K. (2002). Vicious and virtuous cycles in ERP implementation: A case study of interrelations between success factors. *European Journal of Information Systems*. 11(1), 35 – 46.
2. Aloini, D., Dulmin, R., & V. Mininno (2007). Risk management in ERP project introduction: Review of the literature. *Information and Management*. 44 (6), 547-67.
3. Brignall, S. and J. Ballantine. (2004). Strategic enterprise management systems: New directions for research. *Management Accounting Review*, 15, 22-240.

4. Denna, E.L., Cherrington, J. O., Andros, D. P., & Hollander, A. S. (1993). *Event-drive business solutions*. Homewood, IL: Business One Irwin,p. 45-50.
5. Fahy, M.J. (2000, march). Strategic Enterprise Management: The Implications for Management Accounting and Control. *23rd Annual Congress, European Accounting Association*, Munich, Germany.
6. Brignall, S. and J. Ballantine. (2004). Strategic enterprise management systems: New directions for research. *Management Accounting Review*, 15, 22-240.
7. Fearon, C. (2000, may). The Budgeting Nightmare. *CMA Management*. 2000, 11-12.
8. Denna, E.L., Cherrington, J. O., Andros, D. P., & Hollander, A. S. (1993). *Event-drive business solutions*. Homewood, IL: Business One Irwin,p.23-30.
9. Li C (2012), 'The Consequences of Information Technology Control Weaknesses on management Information systems: the case of Sarbanes–Oxley internal Control reports', *MIS Quarterly* Vol. 36 No. 1 pp. 179-203/March 2012.
10. Pine B (2011), 'Specific aspects Of Auditing in a Computer-Based Environment', http://www2.accaglobal.com/pubs/students/publications/student_accountant/archive/sa_jan_11_CAATs.pdf(accessed on 29 December 2012)

FUTURE VISION TO LIBYAN FOREIGN POLICY TOWARDS AFRICAN COUNTRIES

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Abstract: It is not an exaggeration to say that the Libyan revolution in the seventeenth of February 2011 have had a dramatic changes, transformations in the internal areas of strategy in all sides like the political, economic, social, cultural, media, etc., which necessarily affects - sooner or later - Libya's foreign policy in practice, in oriented institution. According to this we can say the Libyan foreign politics will witness a change or a shift towards its various circles both during rearrangement to those circles or reconsider to tools that used to deal with those circles. It is worth saying in this regard that the foreign policy of the state could see patterns of change "Herman" summarized these factors in four types as follows Adjustment Change means change in the level of attention directed to an issue with the survival of policy objectives and its tools to deals with this issue without prejudice or change. Program change, it is going out to policy tools change and its means without any change in its goals or objectives. Goal Change according to this pattern, the policy objectives changes, And then its tools, its means will change. Orientation Change is the most extreme four patterns, radical, is going out to affect change the general direction of the country's foreign policy, including. This strategies changes and its flow from change in goals in objectives in means and in tools.

It is worth mentioning that according to the "Herman" that if the first pattern in is a purely theoretical pattern without to have a real impact in a reality of a foreign policy change. The fourth pattern is according to "James Rosenao" is a rare form in international relations. Based on this, we can say that the second and third type are the most common for change in international politics in line with the principle of gradual ruling to the logic of change, in the strategic considerations policies related to those countries, and other related to the reality International of those countries with its interactions and operations. In light of this, we can say that the change which is expected to be in Libyan foreign policy towards the countries of the African continent depends on the extent of change in vision, which was governor before the revolution, it is known that the vision is the ruling philosophy of foreign policy, which stems including positions with making its specific decisions. Since it was difficult for any revolution is stilling ongoing, its events continuous, have on various foreign policy issues, where the revolution took its all concerns in outset how to arrange its inside house, while revolution starts in interesting to the foreign revolution with its transformation from revaluation to State The foreign policy comes as the second phase.

Keywords: Foreign policy, African countries, the Libyan revolution, Gaddafi, relationships, transitional government, the African Union.

1. INTRODUCTION

Libyan state seeks post-Gaddafi period to build its foundations its renaissance, through the development by reading the reality of today with all its challenges and interaction with all of this, which the head the former of transitional government in addressing before the African Union (AU) summit in June 2012, by Suring on the basis of building Libyan

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Based on this, we can say, till the Libyan revolution not translate to state with all its foundations we can not see the succeeded foreign policy in our international relation, because of the new state will based on the new institutions, new policies commensurate with the size of the transitions, until now we can say that there is no new vision at all in Libyan foreign policy after the revolution, but we have a new attitudes and decisions about some issues, which remain issues ruling in Libyan relation with African continent is the core of the future vision of the Libyan policy towards the African countries. at least in the near term, including requiring quickly work to find practical logical solutions and realistic contributes in building a Libyan-African relations on the right basis, governed through converging visions and the common principles for vital interests.

2. EXPECTED CHANGES IN LIBYAN POLICY TOWARD AFRICAN NATIONS:

First: In the regard of security issues related to the weapons & drugs smuggling, we can facing these issues through regional role, with hold a security conference in Libya

attended by ministers interior and defense to neighboring countries in order to coordinate and create mechanisms to eliminate of these threats, it is importance to activating tat we are reaching in this regard ⁽⁶⁹⁾, through international role the contribution of the international community to establish an international fund to collect weapons.

Foreign policy decision-maker puts its priorities pattern as the nature of its country's relations with these countries; these decisions will depend on security side primarily. We not having security concerns with Egypt & Tunisia, that they are living in the phase of so-called Arab Spring and security coordination with them will have a common interest, the big challenge to us is in the ability to control the border with Chad and Niger, which with long thousands of kilometers, as well as monitoring the triangle Libyan border- Sudanese - Chadian, which involves security liquidity situation long time ago. In the past the security doctrine has interested neighboring countries based on the rule that the Darfur region can be a threat to security of Chad. According to that we can see that any work on this region can threaten the N'djamena regime, but the evolution of military methods, modern technology, it is proved that Khartoum also is not immune from the threat of the Darfur region as well as from the border with Libya, so the logic requires a focus on finding a satisfactory solution to the Darfur issue and working to establish good neighborly relations with all of these countries, including the composition of the security committees to coordinate the security level to dealing with dangers that lie,

Second restructuring through integrating the rebel forces, legitimize quickly in the ranks of the state formations to adjust the security and restore stability to the Libyan street and borders.

In the regard the negative attitude of some African countries from the Libyan revolution, requires collapse the past page, then look to the future as the words of the President of the Commission of the African Union, "Jean Ping "that:" Africans want to build a new relations on a new basis with the new Libyan officials, turn the page of Muammar Gaddafi ... The past is the past, no matter what happens, we should turn the page and look to the future.

If this noted around the Libya's relations with some other countries represents a continuation of the trends Libyan towards the countries of the African continent, notably:

1. Libyan-Moroccan relations: There is no doubt that is the visit the official delegation of Libyan Prime Minister Abdul Rahim El-Heib to the Kingdom of Morocco in secondhalf in thisyear2012 emphasizes the orientation of the two countries towards the needing of these countries in open a new page in their bilateral relations, especially economic, trade, especially in light of the Kingdom's political positions, clear operation of the Libyan revolution, Whereas it is no secret that Morocco Kingdom its support, without any hesitate, then the Moroccan minister of Foreign Affairs and Cooperation on his visit to Libya, meeting with officials of the National Transitional Council, then receive wounded revolution for treatment, since the stability of the new Libyan political power emerged many political rapprochement between Elrebat and Tripoli, there is no doubt that it will be reflected in the strengthening the economic cooperation between them, so facilitate the movement the people, the goods, the capital, the investment, to serve the interests of the two peoples. In the future the Maghreb region, through incorporation to establishment to the new phase in relations between the two countries, based on mutual respect, non-interference in internal affairs, the comprehensive cooperation in political,

security, strategy fields, and also in the fields of economy, development the trade, including invests. Potential of each country and has strengths in the common interest.

2. The Sudanese Libyan rapprochement: Libyan-Sudanese relations have witnessed a remarkable rapprochement after revolution after the tensions that characterized the Sudanese following accusations of former Libyan leader "Muammar Gaddafi" that he supports the rebel movements in the Darfur region since 2003, and which is located directly along the Libyan territory, reflected in the level of mutual visits of senior officials in the two countries, which started with the visit of Prime Libyan National Transitional Council "Mustafa Abdul Jalil" to Sudan in November 2011 in the first visit by a Libyan official to this country since the fall of Gaddafi's regime, which he stressed during this visit that: "Sudan has had active role, he was a true partner in the revolution, where donated weapons to the western mountain rebels through Tunisia ... and that were it not aid militarization Sudanese that arrived through Sahara, through borders, it was not possible for the city of Kufra be liberated from the remnants of the former regime, then Followed by the visit of Sudanese President "Omar El-Bashir" to Libya in January 2012⁽⁷⁰⁾, then visit the first vice president of Sudan, "Ali Osman Taha," at 12th June , 2012, which confirmed the solidarity and cooperation between the two countries in various fields, especially security And economic.

There was, several factors are still developments interact such results to play a crucial role in shaping a new reality for the Libyan-Sudanese relations. Among these factors affecting the future of Libyan-Sudanese relations final scenario Libyan revolution in terms of its ability to exert control over security, military on all Libyan soil, completely eliminating the potential pockets of resistance for the remnants of the Gaddafi regime, especially in desert areas bordering Sudan, Chad, because the continuation of any influence of the elements of the remnants of Gaddafi in the region are trying to destabilize the new situation. In Libya may constitute a resource supply of weapons to the Darfur region, which it will abort the settlement efforts Peaceful, enhances the chances of continuing guerrilla warfare if some armed movements rejected engage in the peace process.

3. Many African countries declined for its support Ghaddafi or peaceful solution with him, it was Senegal president Abdalla Wade the first president of the African countries located Sub-Saharan visiting the opposition stronghold city of Benghazi for the recognition of the national council. He also received transitional council leaders in the Senegalese capital Dakar. Equally important, issued a statement attributed to the Mauritanian Presiden Mohamed Weld Abdel Aziz, who previously was part of a mediation committee of the African Union on Libya which he said that the departure of Gaddafi has become a necessity. Chad explained, which has faced accusations from the Transitional National Council Libyan that its soldiers fighting alongside Gaddafi's forces, that it does not support Gaddafi according to the statement by Hillary Clinton and U.S. Secretary of State after talks with Chad's Foreign Minister in the same context. Ellen Johnson Sir leaf President Liberian diplomatic cut the relations with Libya, she is declaring that Gaddafi has lost its legitimacy while doing the same thing by Gambia in West Africa.

Thirdly Correct the misconceptions about the size of the Libyan contribution in the budget of the African Union:

It was believed that Libya is the biggest contributor to the main activities of the Union its effectiveness, but it is not right thing there is a top five shareholders in the EU budget, the share of each of them About 15%, and they are: Libya, Algeria, Egypt, Nigeria and South Africa, which reaches combined share of the five countries about 75% of the budget of the African Union, while remaining percentage is distributed 25% in other EU member states.

Fourthly We must focus on building strong relationships with neighboring countries and geographical distance from policy Axes, maintain the institutions , the existing regional groupings such as the Maghreb Union, enhance in the dialogue in the space of (5+5), positive contribution in solving the problems of desert belt between Mali, Niger from the side of Tuareg from one side and from other side, we must be dealing with the problems of the Sahara , stability in Algeria and Morocco, as well as the search for more practical formulas for dialogue with the southern Mediterranean should also not overlook the importance of the community of Sahel and Saharan States, especially in the security aspects. We should be searching through the framework for addressing the issue of illegal immigration, that will be one of the biggest challenges that will face the new Libya regime in its relations with the South Europe and the desert belt.

Fifth The environmental conditions that surrounding, enforced on the new Libya, the Ministry of Foreign affairs, the Council transition, the interim government to engage in an objective assessment process towards Africa in general, the African Union in particular is based on any objective assessment process towards Africa to set the following standard:

1. Achieve the supreme national interest of the new Libya, whatever the data in Africa.
2. Away from ideology, slogans vague to pretext of humanitarian considerations, historical and geographical.
3. Use of soft power the hard power in need with the African countries which is still home to some of the family members Gaddafi (buried) or his supporters, especially those neighboring.
4. Use all possible means to restore money, gold, Libyan investments from African countries that have taken positions hostile to 17th February revolution.
5. Reduce the Libyan missions in Africa and beyond to economic, security considerations, the social, political, where we can maintain on the missions in countries that have recognized in early of Transitional National Council during the revolution of 17th February as the major missions but the tight scope with the new vision that has overcome the national interest above all else.
6. Strengthen the relations with African countries that have taken positions in favor of the revolution on 17th February in line with the policy of rewarding friends and punishing enemies.
7. Reduce the activity of the Libyan political; economic in the framework of the African Union to near biased a view of the role of this organization for the benefit of the dictatorial system tyrant. Union African was significantly funded from the budget of the Libyan people, and thus can be in this context demand the return of money that has been spent unlawfully on this body. As we know, the Gaddafi regime has

contributed to the establishment of the African Union in order to glorify Himself as King of kings and not a service to Africa, and it has contributed to appoint figures loyal to him in this lean body, such as the head of his office (Bing) and many others.

8. We should be adopt a firm policies toward illegal immigrants from Africa because that is represented a threat to national security Libyan in present and future, where Libya can take advantage of offers from European countries, the European Union in this field. But on Libyan government to avoid becoming an aim's ground for illegal immigrants returning from Europe, where border controls have to hand and send illegal immigrants immediately to their home countries on the other hand.

Sixth Libya should be establishing its foreign policy on the political geopolitical constants, mutual interests, common values, respect for international obligations, confidence-building, and the most prominent of these features the following:

1. Confidence-building, Gaddafi has worked for four decades, to distort the reputation and standing of Libya before the world. through its practices, his antics, deplorable, contrary to norms, international charters, also worked hard to marginalize the role of the foreign ministry, discharged gradually from professional, technical cadres, through, escalation, the revolutionary committees, the people, the various security agencies, which brought elements are not eligible, acquired diplomatic work, competence, professional content, under the so-called People's diplomacy, ending a traditional diplomatic career. restore confidence in Libyan diplomacy, with it, requires persons, restructuring of the Ministry of Foreign Affairs, a human organizationally, externally requires the establishment of this trust, in international relations on cooperation common interests, mutual respect(71), Which can be achieved by:
 - Re-activation of the Institute of diplomatic Studies.
 - Establishment of the Department of Cultural Affairs, the media belonging to the Ministry of Foreign dispatch supplement the media and the cultural envoy.
 - Rehabilitation of diplomats and administrators who decide to keep them within the cadre Ministry.
 1. The national security of Libya is related to in a high level with Arabic, Islamic depth, extension, after the African Union, which from its geographical position, representing link between these episodes. Libya can contribute to strengthening cooperation, security, prosperity in the region, which calls for the imposition of strict controls at all their borders, private land sea, at least at this stage, to prevent mercenaries, smuggling and illegal immigration.
 2. Application of the system of openness, reconciliation which establishes state collect all the factions in one thing, along the lines of what happened in South Africa when the fall of the apartheid regime racial there when it happened in 1993 with the establishment of the National Reconciliation Commission, succeeded restore national cohesion without wasting the rights of victims of the former regime, or deprive former officials the chance of rehabilitation, reintegration into society. If the true that
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Libya has seen several attempts in recent months in this context, was most recently the formation of a fact-finding body reconciliation of five adviser's retirees. But it is true that the experience of South Africa showed that the presence of international cooperation, support of neighboring countries were the main reasons for the success of the reconciliation experience. The complexities of the situation Libyan current requires that the Arab League, neighboring countries, actors Libyan arena key role in this thing to succeed. More specific sense required is having a comprehensive national reconciliation is not its own political agendas to heal the rift between all Libyans to devote all for building the future.

Seventh: Rebuilding Libyan economy contributing to the increase in the effectiveness of the external role, ensure the independence of the decision, especially since Libya has self-important resources enable them to identify priorities and choose their policies without any external pressure, which requires taking a package of policies that can be summarized as follows:

1. Adoption of rational management of oil revenues based on clarity, transparency, stakeholder National, in order to avoid regional or tribal disputes about the country's resources. It should exploitation of oil revenues allocated in the government budget as a strategy to achieve economic development objectives.
2. Support productive activities that contribute to the achievement of in all sectors with diversification, dismantling of excessive. We shouldn't be depending on one sector is subject to price fluctuations in the global markets. We should create an environment here legal, administrative business-friendly, encourage individual initiative, to seize the opportunities available investment to move from a primitive economy based on oil extraction, distribution rent, to an advanced economy based on production, competition. Libya is replete with great qualifications to the development of many sectors in various fields, especially tourism.
3. We need to rehabilitation skills of the local workforce, to create the right incentives to be absorbed in the various productive sectors; especially in the high-wage policy sector government may be an impediment to the ability of the private sector subject to the competition to recruit local labor. The estimated unemployment rate, according to official figures by 25th percent, while more than 30th percent among young people under 30 years old. In the same time, Libya is growing higher population of up to three percent a year. We are expected to enter regiments significant to the labor market over the next few years.
4. So we need to development of the financial or banking sector to support private investment and create jobs. Loans Banking directed to the private sector is still limited, and beyond, according to the attest Figures 20 percent of GDP, and the various financial markets, with its component are stilling under construction.

3. CONCLUSIONS

In light of this, we can say that the change which is expected to be in Libyan foreign policy towards the countries of the African continent depends on the extent of change in vision, which was governor before the revolution, it is known that the vision is the ruling philosophy of foreign policy, which stems including positions with making its specific decisions. Since it was difficult for any revolution is stilling ongoing, its events

continuous, have on various foreign policy issues, where the revolution took its all concerns in outset how to arrange its inside house, while revolution starts in interesting to the foreign revolution with its transformation from revaluation to State The foreign policy comes as the second phase. We mean the new regime formed its legal frameworks, its institutions, as we know the talk about foreign policy not looks like the talk about foreign resolutions related to any regime, this resolutions is linked to the stability of certain situations and relationships to internal level, allowing translated on the international level. As long as the revolutionary elite is moving through the institutions of exceptional, extraordinary laws will remain foreign policy is a set of decisions issued in response to international crises or certain situations. The more in the stability of the new political regime will transfer the sense of the revolutionary elite begins to shift to a political elite working through institutional and legal conditions more stabilize. After that we see the development in these decisions and responses to shape of foreign policy that has specific features working to achieve the goals of the new regime enjoying with growing level of national consensus .

* We need to mobilize opportunities for regional cooperation, trade, financial integration, especially with Egypt and the Maghreb countries. The regional integration in North Africa of is the most answers to face the challenges with our region, both in terms of job creation or to hand achieve a balanced development within the countries, we should be taking into our account that if it as natural that Libya will using during this phase technical assistance from international organizations such as the International bank, the International Monetary Fund, the experience offices, intellectual forums, the final word in this issue of the development of strategic options should remain in the hand of Libyan people, through consultations. And apolitical consensus within the constitutional institutions.

* But The success of the Libyan policy towards the African continent requires an Arabic comprehensive understand toward continent, to rehabilitate its position within the circles of their foreign policies, which some understand through new concept of new policy in Africa based on:

* We need to activate the common civilization between Africa and the Arab world through the Islamic culture which belongs to the millions of people of Africa, that was one of the main entrances to Gaddafi to hearts Africans, his prayers were multiple universities, his mosques in the countries of the continent is an essential to convince the Muslims of Africa that Gaddafi "Muslim Rebel", he was receiving each year a thousands Africans who declare their incomes in Islam before gifts and gratuities.

* We need to promote regional alliance between Africa and the Arab world, whether through union organizations Maghreb and activating the Arab presence in the African Union as well as the activation of cooperation positive between the Arab League and the African Union organizations.

• So we need to rediscovery the rich Africa with its economic resources, its fertile fields investment allowing the positive impact in the resolution of Africa, which is the first gate is economy so the last.

REFERENCES

- 1) Khaled Hanafy, concern neighborly: The effects of the revolution in Libya's relations - Mabazine of "International policy- ElAhram Foundation- April 2012.
- 2) Ziad Akl, "The features of the new political system in Libya" 23/10/2011.
- 3) Shon Kaine – " Islamic Challenges and separatist forces in Libya" from "American Foreign Policy, magazine 12/07/2012 . "Elshorouq" Egyptian newspaper - .2012/1/30, issued No 1094.
- 4) Amin Mohamed, "reading in the Libyan election results", Al Jazeera Net,10/7/2012<http://www.aljazeera.net>
- 5) Freedom and Justice newspaper Egyptian, 5/3/2012 , issued No. 130.
- 6) Camille Eltawil, Libyans Islamic fighters are moving to political action, Al-Hayat newspaper- London .issued No 17957-3/6/2012.
- 7) Ali Ibrahim "Does Libya surprised us?" Middle East Newspaper No 12278, 10/7/2012.
- 8) <http://www.libya-al-mostakbal.org/news/clicked/20487>
- 9) Salem Kwatien, visions of the future of Libya's foreign policy, Al-Quds Al-Arabi, 12/8/2012
- 10) Announce of the establishment of «federal union in Barak territory, Middle East London newspaper, 7/3/2012.
<http://www.aawsat.com/details.asp?section=4&issueno=12153&article=666908>
- 11) Mohammed Kawas, Libya: Federal and return back to pre-public - Al-Hayat newspaper- London- No 17885- 23/3/2012.
- 12) The Barka dicleration is the uspicious agenda?- Al Jazeera Net /3/2012.
<http://www.aljazeera.net/news/pages/889d0799-6876-4a77-82e4-f6fcf7984dfd>
- 13) Khaled Hanafy, concern neighborly: the effects of the revolution in Libya's relations regional, Journal of International Politics, April2012.-

PROGRAM MANAGEMENT OF THE PROJECT ON FILLING IN THE "JAMA" BOR IN ORDER TO PRESERVE THE GROUND SURFACE

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Abstract: Each project, simple or not, is unique because it contains the corresponding own distinctive elements that require some degree of adaptation to the needs of the project during the planning and development of the implementation plan. Successful program management of these projects enabled the successful implementation of the projects that is the goal of this paper. Program management of projects by the use of MS Project program is contributed the optimization of time of the project implementation within minimizing associated costs and optimal use of existing resources. In this way it is simultaneously possible to monitor, control and optimize several design cycles, which is shown in this paper through the management of the project - ore body "T" and the project ore body "T1". This method of program management of project represents a new model and guide for all future projects in the mining industry and beyond.

Keywords: project management, project, program management

1. INTRODUCTION

The project is defined as a unique and unrepeatable venture that has defined objectives; consumes resources and operates under the time, costs and quality limits. The projects are analyzed and prepared in the present; decisions on their implementation are also made nowadays, but the actual implementation is performed in the future, and where the results of the project are expected. While the project management is focused on technical implementation of a project, the program management is based on a concept design of business strategy vision in the future. This means that the project is aimed to the realization of a single predicted result and the actual work necessary to achieve this objective, and the program is focused on a number of goals (project management is the process of energy directing and the program management process of energy combining). The program, management refers to a large and complex undertaking which contains several projects or subprojects, where each subproject relates to one aspect of undertaking that is treated as a program. Program is a complex undertaking that contains several projects that are aimed to achieving the unique objective of the program. Each project has a specific pursued objective, but all projects are connected and tend to the common objective of the program.

This paper describes the program management of the project on filling in Jama Bor in order to preserve the ground surface and it includes two ore bodies, which are in close proximity with each other: the project ore body "T" and the project ore body "T1".

2. PLANNING THE PROJECT IMPLEMENTATION

Planning is an analytical process that includes the future assessment, determines the desired objectives in accordance with it and develops the alternative actions in order to achieve the defined objectives. In accordance with defined term of planning, it follows that planning is the first phase of the project or the initial step necessary for the project, and as the project management is focused on the project implementation within the given time, resources and costs, planning will be also directed on these elements. Planning of the project realization may be related to three basic elements of the project: time, resources and costs that need to be harmonized and enable the realization of given project.

Project can be planned at two levels - global and detailed. Global planning of the project implementation is used for assessment the overall implementation of the project; based on which, it is approached to the detailed planning, which is used for immediate implementation and control.

The first step in planning is to define the project objective: the expected results or product. The objective must be clearly defined, reproducible, specific and measurably. Realization the project objective must be easily recognizable by the contracting authority and contractor. For the project, the objective is usually defined by the scope, schedule and costs. In other words, the project implementation is required within the budget at appropriate time. Project objectives should be clear and concise when starting the project implementation, although they must be modified sometimes in project development.

Upon defining the project objective, it is necessary to define the work elements or activities that are necessary for the project implementation. This requires structuring the project into smaller units using the technology of organizational structuring. Upon structuring the project to a certain level of detail, there is determining an access of links within the structure so that the graphic presentation is also possible.

Estimating the required time for implementation of each part of the project, a basis is made for development the global project implementation plan, based on which the details are made that are important and necessary for operational management of the project.

It is important that the people who will work on implementation participate in the planning, because of familiarity with details on the needs of activities and their time duration. By active participation in the planning process, they become familiar with implementation in accordance with the plan and its timetable and budget. In the case of multi-year projects, involving hundreds or thousands of people, it is not possible to include everyone in the planning process, but with the progress of project implementation, many of these individuals may be involved in development of detailed plans. [1]

3. PLANNING TECHNIQUES IN THE PROJECT MANAGEMENT

Planning involves the project in a whole, starting from the global stages through to individual activities. *Global planning* presents smaller number of stages and serves to the management, contractors and investors for global monitoring. *Detailed planning* precisely defines all elements of the project implementation, and on the basis of this, the project manager and his team monitor and control the project implementation. One of the techniques of project planning is the time planning of project implementation. The time planning is developed step-by-step, and the global plan is firstly made that contains the

main or collective activities, which provide a global insight into the whole project. On the basis of a global plan, the lower level plans are made, that is [2]

- global (master) plan of the project;
- network plans and Gantt charts of key events;
- plans relating to the individual stages, parts of the project, the individual contractors, subcontractors.

For planning realization according to this hierarchy, it is necessary firstly to divide the project into its integral component elements or to make the structuring of the project. The technique by which this is done is called the **WBS technique**.

After dividing the project structure or development the WBS of the project, identifying the **key events** is carried out and development the plan of key events.

The **Gantt chart** is usually used for viewing the time plans which is also the oldest technique of time planning. The Gantt chart is a way to clearly express plans, and some of its advantages are that it is easy to draw, easy to read and complete clarity of task is achieved.

4. PROGRAM MANAGEMENT

Program is a complex undertaking that contains several projects aimed at achieving a single objective of program. Subprogram refers to a large and complex undertaking which contains several projects or subprojects, where each subproject relates to one aspect of undertaking that is treated as a program. Program is a complex undertaking that contains several projects that are aimed at achieving the unique objective of the program. Each project has a specific objective pursued, but the all projects are connected and tend to the common objective of the program.

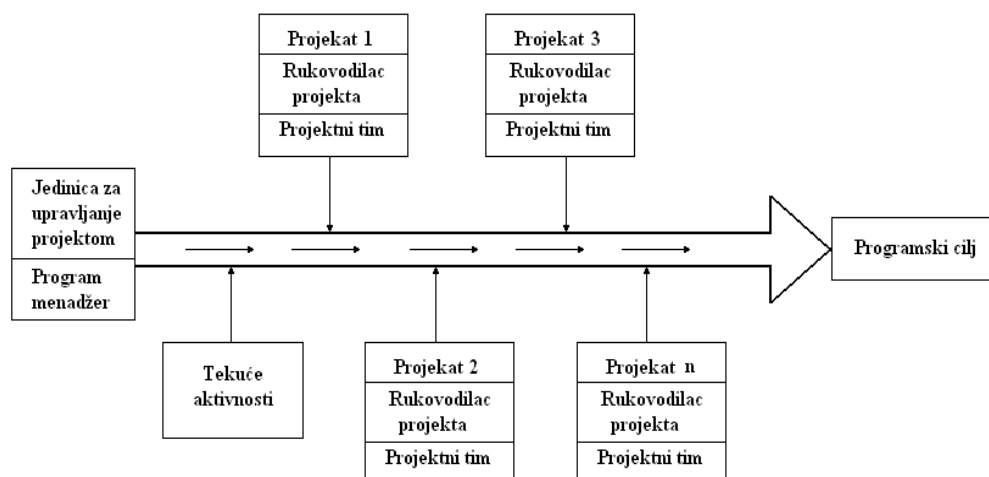


Figure 1. Program management

Program management provides a link between the strategic planning and project management and it is responsible for implementation of a number of interrelated projects. It is the sum of all attempts for project implementation to achieve benefits in accordance

with the strategic plan. In doing so, based on defining the strategic objectives, the required number of medium-term objectives is determined. For each of the medium-term objectives are then determined one or more programs that lead toward its achievement. In this case, the program objective is actually a common one, medium-term objective. After that, the certain number of projects is also defined within the program. Each project has its own individual objective. This objective, in terms of duration, can be medium-term or short term, but it certainly must contribute to achieving the overall program objective. Only through realization of all projects, the program will fully achieve the planned results. If using the previously mentioned method, a sub-process of implementation the strategic management process is achieved, then such concept provides good results, which are reflected primarily in an objective-orientated approach of medium-term framed management. In addition, this approach provides a good basis for monitoring and control of achieving the adopted strategic objectives and strategy documents in general. [3]

4.1 CONSOLIDATION A MODEL OF THE PLANNING PROCESS OF PROGRAM

Program management is based on the consolidation process of a model of program planning. The consolidation process of a model contains seven levels in the planning of the project portfolio. These levels are as follows: [3]

- **Planning.** The planning process of each project in the respective time periods and within the required resources. Similarly, the planning of individual projects.
- **Transmission.** Transmission of single (individual) projects to the central point (center).
- **Consolidation** (straightening). The process of combining many individual project plans into the program plan.
- **Assessment.** Stating of the existing conflicts between the projects and identification of problems, especially for excessive resource demands of several projects.
- **Experimentation** (testing and decision making). The process of testing several alternative strategies to find the optimal schedule for future work.
- **Expansion.** The made decision are blown back to the individual project teams, what enables the modification of individual project plans.
- **Execution and success measuring.** Feedback of implemented.

Development of planning process is achieved through three paths. *Middle path* shows the process of preparation of many individual project plans and sending of these plans to the central part where these individual plans are consolidated into the program plan. *Internal path* shows the process of experimentation and evaluation the project plans and identification and solution the conflicts between the projects. *External path* points to the processes of expanding and executing and measuring the success of this consolidated model.

5. RTB BOR GROUP

After decomposing the holding company RTB Bor Group and privatization of subsidiaries, the company operates as a single system with four main production subsidiaries: [4]

- RBB – Copper Mines Bor Ltd.
- RBM – Copper Mines Majdanpek Ltd.
- TIR – Smelter and Refinery Ltd.
- Parent Company.

RBB, RBM and TIR deal with the basic activity, the ore mining and processing.

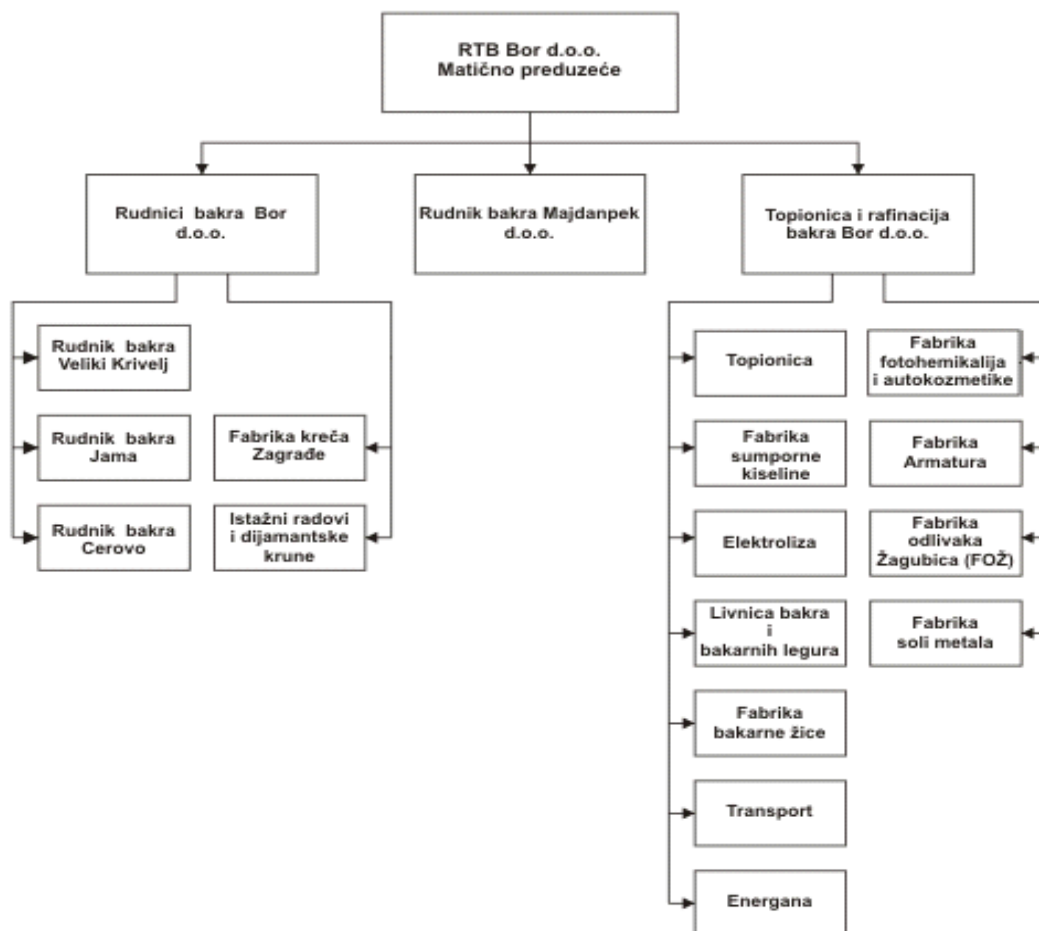


Figure 2. Organizational chart of RTB Bor Group

5.1 RBB “JAMA”

The underground mine in Bor, known as the "Jama", has been continuously working since 1902. The record production results are recorded in the period from 1996 to 1998, when the annual ore mining was up to 1.9 million tons.

The ore bodies "Brezonik" and "T" are currently mined in the "Jama". The remaining ore reserves of the ore body "Brezonik" amount to 475,000 tons, with the average copper content of 1.25%. The verified geological reserves of the ore body "T" amount to 239,000 tonnes and the average copper content of 5.095% and medium gold content of 2.621 g/t of ore. [4]

6. TECHNICAL DESCRIPTION OF MINING OPERATIONS

The program of filling is carried out in order to preserve the surface ground and it includes two ore bodies, which are in close proximity with each other: the project **ore body "T"** and the project **ore body "T1"**.

6.1. ORE BODY "T"

The ore body "T" is situated in the central part of the Bor deposit in the area between the ore bodies "F" and "F1". Backfilling for this ore body is planned after completion of excavation, when the empty excavated space is formed of the ore body size. Backfilling will be carried out from the upper level, or from a service-ventilation adit SVN -89/-95. To the excavated area of the ore body, the backfill is transported by the conveyor belts, which is located in the hall of backfill HZ -90/2. During filling, the dry backfill material directly from belt falls into the excavated space and fills the same.

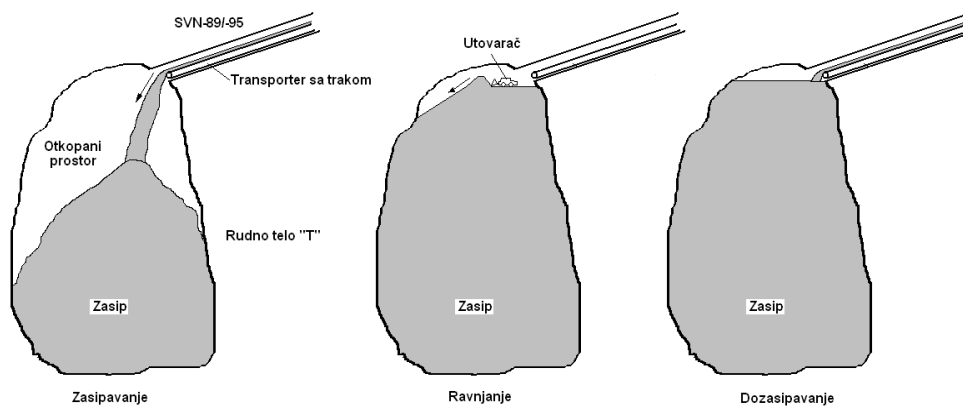


Figure 3. Scheme of backfilling the ore body "T"

6.2. ORE BODY "T1"

The ore body "T1" is located in the central part of the Bor deposit, situated in the tectonic zone. Filling the excavated area of the ore body "T1" by dry backfill is done during the exploitation of this ore body. Backfilling system consists of the following operations - loading backfill using loaders with a transient-ventilation-filling shaft PVZO into a special vehicle with ribbon launchers of backfill and backfilling the excavated area from the transient-ventilation-filling shaft PVZO to the middle of the ore body. Backfilling begins at the first excavation layer and when a sufficient plateau is made, the

loader climbs on it and from there it loads a special vehicle. This operation is repeated until the first excavated layer is backfilled. Each subsequent layer is filled by the same way.

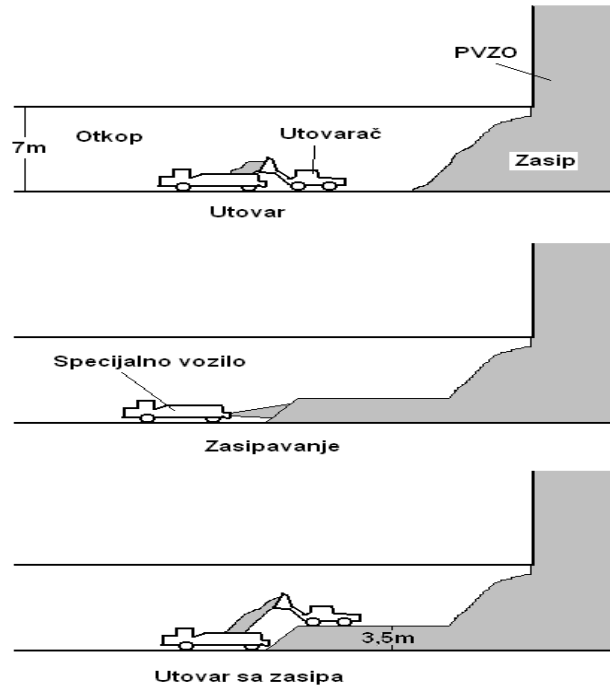


Figure 4. Scheme of backfilling the ore body "T1"

7. CONSOLIDATION THE PROGRAM MODEL OF THE PROJECTS "T" AND "T1"

7.1 DYNAMICS OF THE WORKS

Dynamics of execution all work on filling (from the beginning of filling) was determined using an appropriate diagram. These activities include development of rooms for filling and installation of equipment on transport material in the excavated area.

Prostorija	Trajanje (meseci)	1	2	3	4	5	6	7	8
PH-80	0,33	■							
HZ-80/1	1,67	■	■						
CZO-80/+370	4,2			■	■	■	■	■	
Ugradnja trakastog dodavača kod CZO-80/+370	0,7							■	
Ugradnja transporter sa gumenom trakom u HZ-80/1	1,5							■	■
PH-90	0,14	■							
HZ-90/2	0,28	■							
ZO-90/-80	0,09		■						
HZ-90/3	1,25		■	■					
HZ-90/4	1,03			■	■				
Ugradnja transporter sa gumenom trakom u HZ-90/2	2		■	■	■				
Ugradnja trakastog dodavača kod ZO-90/-80	0,7		■						
Ugradnja transporter sa gumenom trakom u HZ-90/3	1,5				■	■			
Ugradnja transporter sa gumenom trakom u HZ-90/4	1,5				■	■			

Figure 5. Collective dynamics of execution the works

Since dynamics of works is given, the creation of WBS can start. This involves defining the structure or decomposition to the stages and substrates as it is given in Figure 6.

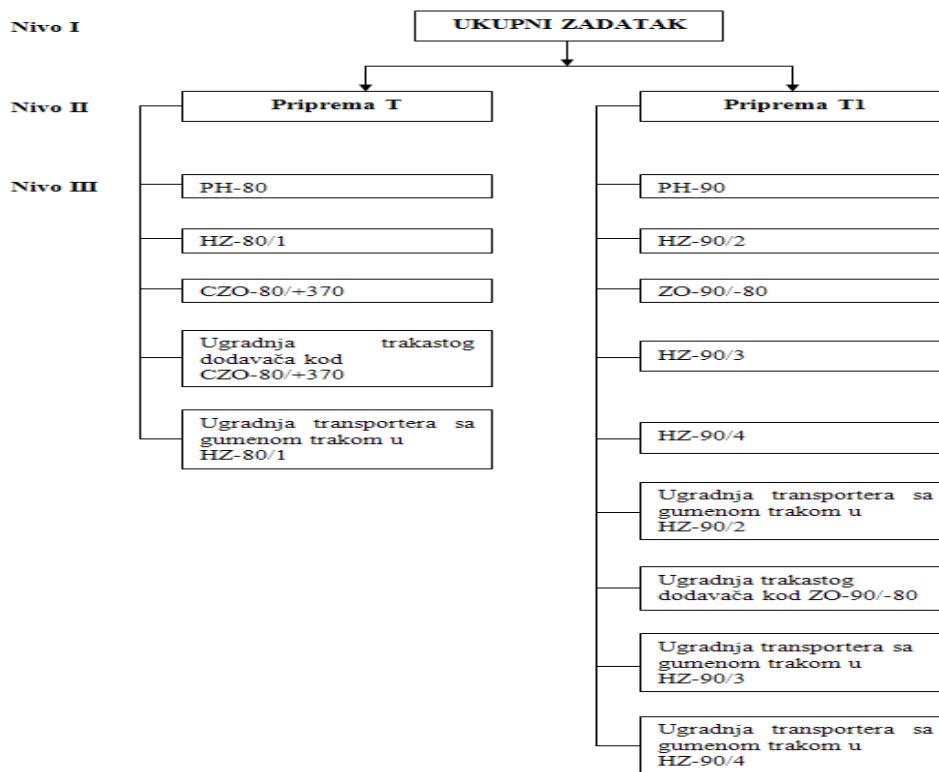


Figure 6. WBS structure of the project program of the ore bodies "T" and "T1"

After decomposition the structure of the project, or development the WBS project, determining the key events and development of key events are carried out.

Table 1. Specification of key events

Order No.	Key event	Target date
1.	Start "T"	15.03.2012.
2.	Completion "T"	05.11.2012.
3.	Start "T1"	15.03.2012.
4.	Completion "T1"	09.07.2012.

The **Gantt chart** is usually used for viewing the time plans that is also the oldest technique of the time planning.

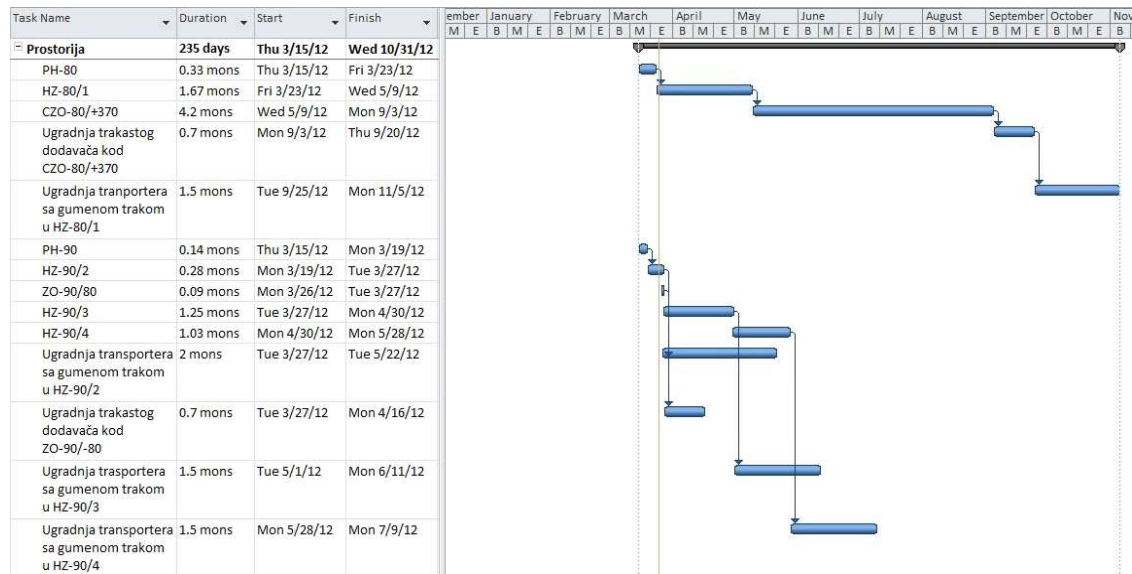


Figure 7. View of the Gantt chart for dynamics of operations

8. TOTAL INVESTMENTS AND DYNAMICS OF INVESTMENTS

Total investments are determined by totalling the costs of development the all the rooms for filling and the costs of procurement and installation the necessary equipment for filling.

Table 2. Costs of development the rooms for filling

Type of room	Length (m)	Price per 1m' (Euro)	Total (Euro)
Horizontal	845	728.86	615,886.70
Vertical	460	1964.60	903,716.00
Plateau K+370	-	-	50,000.00
TOTAL			1 569,602.70

Table 3. Costs of procurement and installation the equipment

Equipment	Length (m)	Costs of procurement and installation (Euro)
Rubber belt conveyor in HZ-80/1	300	300,000.00
Rubber belt conveyor in HZ-90/2	50	50,000.00
Rubber belt conveyor in HZ-90/3	225	225,000.00
Rubber belt conveyor in HZ-90/4	185	185,000.00
Belt feeder in CZO -80/+370	-	20,000.00
Belt feeder in ZO -90/-80	-	20,000.00
TOTAL		800.000.00

Total investments arwe:

$$I = 1\,569\,602.70 + 800\,000.00 = 2\,369\,602.70 \text{ Euro}$$

Table 4. Dynamics of investments

Investments	1. month	2. month	3. month	4. month	5. month	6. month	7. month	8. month	Total
Development of opening rooms	349602.7	250000	350000	200000	200000	200000	20000	-	1569602.7
Procurement and installation of equipment	20000	40000	50000	350000	20000	-	170000	150000	800000
TOTAL	369602.7	290000	400000	550000	220000	200000	190000	150000	2369602.7

9. CONCLUSION

Based on the carried out processing of projects, it can be seen that these are very complex projects consisting of a number of lower-level projects. Using the method of project program, it is also proven that it is much easier for such projects to plan, organize, and during work to control and successfully manage to the end of their implementation. During management of the project program, the Ms Project was used for better monitoring of both projects and that was the objective of this paper. That means to show monitoring the implementation of project at any point in its development and the all steps to be taken in planning and project cycle management, what is shown in this paper through the management of the project program – the ore body "T" and the project of the ore body "T1".

REFERENCES

- [1] Hussez, D.: Corporate Planning, Theory and Practice, Pergamon Press, London, 1982;
- [2] Jovanović, A: Project Management – Planning and Management Technique, 2004 (in Serbian);
- [3] Bogdanović, D.: Lectures on Graduate Academic - Master Studies of 2010/2011 school year, Technical Faculty Bor, 2010 (in Serbian);
- [4] Jovanović A., Mihajlović I., Project Management – Workbook, University of Belgrade, Technical Faculty in Bor, 2006, pp. 155- 162 (in Serbian);
- [5] <http://www.rtb.rs/>
- [6] Slavica Miletić, master rad, TF Bor, 2011
- [7] Valentina Velinov, master rad, TF Bor, 2012

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PROCEEDINGS OF PAPERS IN SERBIAN

FUZZY MODEL OF DETERMINING THE OPTIMAL PRODUCTION LEVEL

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Abstract: The production planning process often involves situations in which the management of the organization do not have enough accurate information about the values of the parameters that are relevant for the determination of the optimal solution. Considering the fact that fuzzy logic adequately deals with different types of uncertainty within a single conceptual framework, models based on the fuzzy logic can be effectively applied to the solution of planning problems under demand uncertainty and supply chain uncertainty. As very useful tool for production planning in complex and ambiguous situations, the fuzzy linear programming could be used. In this paper, we represented a model of fuzzy linear programming which is demonstrated with numerical example.

Keywords: fuzzy model, production planning, optimization, linear programming

FUZZY MODEL ODREĐIVANJA OPTIMALNOG NIVOVA PROIZVODNJE

Pešić Duška, Pešić Aleksandar, Ivković Slavko

Abstrakt: Proces planiranja proizvodnje često podrazumeva situacije u kojima menadžment organizacije ne raspolaže sa dovoljno preciznim informacijama o vrednostima parametara koji su relevantni za određivanje optimalnog rešenja. S obzirom na to da fuzzy logika na zadovoljavajući način tretira različite tipove nesigurnosti u jednom konceptualnom okviru, modeli bazirani na fuzzy logici se mogu efektivno primeniti za rešavanje problema planiranja u uslovima neizvesne potražnje i nesigurnosti u lancu snabdevanja. Kao veoma podesan alat za planiranje proizvodnje u kompleksnim i nejasnim uslovima može se koristiti fuzzy linearno planiranje. U ovom radu, predstavljen je model fuzzy linearnog programiranja kroz teorijski deo i numerički primer.

Ključne reči: Fuzzy model, planiranje proizvodnje, optimizacija, linearno programiranje

1. UVOD

U menadžmentu proizvodnje kao skupu organizacionih aktivnosti koje su uključene u proizvodnju određenog proizvoda mnogi problemi se tretiraju kao kompleksni i nelinearni što uzrokuje da i procedure planiranja proizvodnje u takvim uslovima karakteriše visok stepen nesigurnosti. Kada su informacije nekompletne i neprecizne i kada situacije nisu jasne ili se ne mogu precizno opisati, tradicionalne matematičke metode bazirane na

dvovalentnoj logici se mogu nadograditi korišćenjem fuzzy logike i osobina teorije fuzzy skupova. Naime, modeli bazirani na teoriji fuzzy skupova i fuzzy logici kao alternativni pristupi za iznalaženje efektivnijih rešenja mogu na realan i adekvatan način poslužiti u tretiranju stanja neodređenosti i nesigurnosti.

Generalno, razvoj teorije fuzzy skupova i fuzzy logike se zasnivao na percepciji da tradicionalne tehnike analize sistema nisu u dovoljnoj meri efektivne u rešavanju situacija u kojima su zavisnosti između varijabli suviše kompleksne ili su neadekvatno definisane. Većina inicijalnih aplikacija fuzzy logike se odnosila na modeliranje prirodnog jezika, automatizaciju i sisteme za učenje, međutim uvođenjem koncepta lingvističke promenljive i fuzzy „ako-onda“ pravila omogućena je znatno šira primena. Tako se usavršavanjem i rasprostriranjem modernih informacionih sistema, pored sistema kontrole, značajno povećao broj primena u ekonomiji i menadžmentu [1].

REFERENCE koja se bavi planiranjem proizvodnje u uslovima nesigurnosti i mogućnostima formalizovanja nesigurnosti u proizvodnji je obimna. Prema Zimmermann-u teorija fuzzy skupova se može koristiti u operativnim istraživanjima za modeliranje problema koji sadrže nejasne fenomene ili nejasne relacije kao i za analiziranje takvih modela u cilju dobijanja boljeg uvida u problem, a moguće je i korišćenje teorije fuzzy skupova u cilju nadogradnje procedura za rešavanje problema [17].

Sommer je za rešavanje realnih problema u planiranju proizvodnje koristio pristup baziran na fuzzy dinamičkom planiranju. Fuzzy dinamičko planiranje je korišćeno da se odrede optimalni nivoi inventara i proizvodnje [2]. Rinks je koristeći fuzzy kondicionalne ako-onda izjave razvio algoritme za fuzzy agregatno planiranje. Skup lingvističkih termina koji je relevantan za agregatno planiranje je definisan i korišćen je za konstrukciju menadžerskih protokola (pravila odlučivanja) [6]. Turksen je za razliku od Rinksa posmatrao intervalnu funkciju pripadnosti prilikom definisanja lingvističkih pravila za planiranje agregatne proizvodnje. Takođe, u daljim analizama korišćen je manji broj pravila od originalno postavljenih 40 pravila koje je definisao Rinks [13]. Na bazi ovih pristupa i istraživanja koje su obavili Mamdani i Assilian, Ward i saradnici su modifikovali ranije pristupe i koristili diskretne funkcije pripadnosti da reprezentuju nesigurnost u planu proizvodnje [16].

Park se bavio modeliranjem jedne od najkorišćenijih formula u oblasti industrijskog menadžmenta - ekonomske količine naručivanja (EOQ, Economic Order Quantity) sa teorijske perspektive fuzzy skupova. Za modeliranje troškova naručivanja i troškova držanja zaliha upotrebljeni su trapezoidni fuzzy brojevi, a pristup je obrazložen tvrdnjom da su kompozicija i procena parametara troškova po prirodi nejasne i neprecizne kategorije [7].

Petrović i saradnici su posmatrali lanac snabdevanja proizvodnje u uslovima nesigurnosti povezane sa tražnjom kupaca, isporukama u lancu snabdevanja i eksternom ili tržišnom potražnjom [9]. Nesigurnosti su opisane nejasnim i nepreciznim frazama koje su interpretirane i reprezentovane upotrebom fuzzy skupova. D. Petrović je razvila simulacioni alat SCSIM za analiziranje lanca snabdevanja u uslovima nesigurnosti [10].

Wang i Fang su predstavili specifičan model fuzzy linearnog programiranja za rešavanje problema agregatnog planiranja proizvodnje sa višestrukim ciljevima gde cena proizvoda, nivoi radne snage, kapacitet proizvodnje i tržišna potražnja imaju fuzzy karakter [15]. Predložena procedura dozvoljava donosiocu odluka da modelira problem na osnovu trenutnih informacija. Takođe, ukazano je i na ograničenja u primenjivanju konvencionalnih tehnika matematičkog programiranja u srednjoročnom planiranju proizvodnje. Model linearnog programiranja u srednjoročnom planiranju ponudio je i Mula. Ovaj model je transformisan na 15 fuzzy modela baziranih na različitim pristupima

fuzzy linearnom planiranju u kojima se koeficijenti troškova u objektivnoj funkciji, tržišnoj potražnji, potrebnim kapacitetima i raspoloživim kapacitetima mogu posmatrati (u zavisnosti od svakog modela) kao nejasni i nesigurni [6].

Vasant je ponudio inovativnu metodologiju fuzzy linearnog programiranja koristeći specifičnu funkciju pripadnosti nazvanu modifikovana logistička funkcija pripadnosti. Kako je u predloženom pristupu rešavanja problema u industrijskom planiranju uključen mehanizam povratne informacije do implementatora, donosioca odluke i analitičara Vasant je pristup okarakterisao kao interaktivno fuzzy linearno programiranje (IFLP, Interactive Fuzzy Linear Programming) [14].

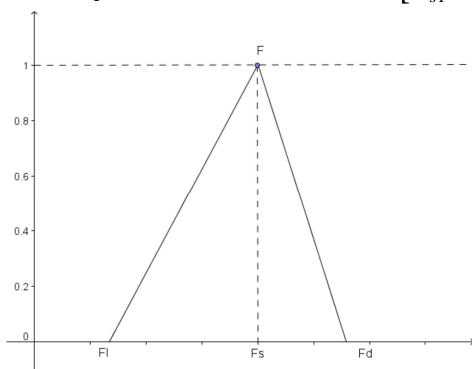
U cilju jasnijeg predstavljanja pogodnosti i doprinosa primene teorije fuzzy skupova za rešavanje problema u menadžmentu proizvodnje, Guffrida i Nagi su klasifikovali literaturu o primeni teorije fuzzy skupova na oblasti: raspoređivanja poslova, upravljanja kvalitetom, raspoređivanja projekata, rasporeda i lokacije postrojenja, agregatnog planiranja, proizvodnje i planiranja inventara i predviđanja [4]. Slično, Mula i saradnici su ponudili klasifikacionu šemu za modele planiranja proizvodnje u uslovima nesigurnosti koja obuhvata: agregatno planiranje, hijerarhijsko planiranje proizvodnje, planiranje zahteva za materijalima, planiranje kapaciteta, planiranje proizvodnih resursa, menadžment inventara i planiranje lanca snabdevanja [6]. Na osnovu saznanja iz brojnih modela zasnovanih na primeni teorije fuzzy skupova u ovom radu je prikazana primena modela fuzzy linearnog programiranja u procesu planiranja proizvodnje.

2. PROCES OPTIMIZACIJE U FUZZY OKRUŽENJU

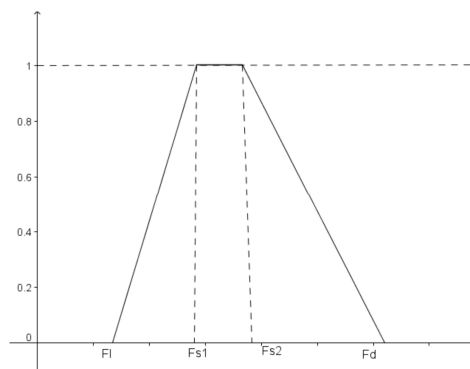
Koncept fuzzy brojeva je nastao posle pojma fuzzy skupa, a veliki doprinos razvoju fuzzy brojeva dali su: Nahmias, Dubois i Prade i Kaufmann i Gupta [1].

Fuzzy brojevi predstavljaju fizički svet znatno realističnije nego „obični“ brojevi. Naime, subjektivna procena kao što je npr. „troškovi proizvodnje su otprilike 3000“ nije okarakterisana tačno određenom brojnom vrednošću. Brojevi tipa: „oko 300“ ili „blizu 1000“ se mogu predstaviti fuzzy skupovima koji se pod određenim uslovima tretiraju kao fuzzy brojevi. Fuzzy brojevi se definišu kao konveksni normalizovani fuzzy skupovi.

Na sl. 1 je prikazan trougaoni fuzzy broj koji „blizu F “ pomoću uređene trojke brojeva (F_l, F_s, F_d) . Njega određuju tri veličine: F_l - leva granica fuzzy broja. F_s - srednja vrednost fuzzy broja i F_d - desna granica fuzzy broja. Na sl. 2 je prikazan trapezoidni fuzzy broj $(F_l, F_{s1}, F_{s2}, F_d)$ čije se vrednosti kreću u intervalu $[F_l, F_d]$ a čija je najverovatnija vrednost iz intervala $[F_{s1}, F_{s2}]$.



Slika 1. Trougaoni fuzzy broj „blizu F “

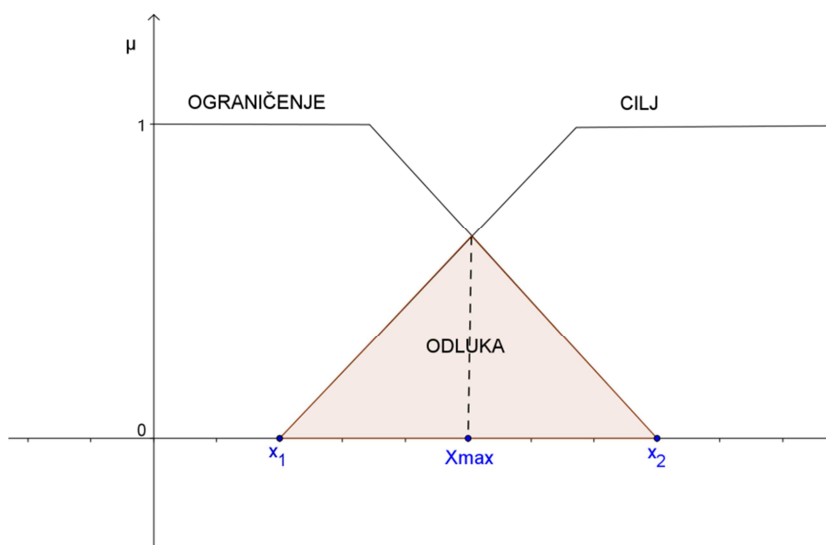


Slika 2. Trapezoidni fuzzy broj

Bellman i Zadeh, kao prvi autori koji su 1970. primenili teoriju fuzzy skupova u razmatranju problema optimizacije u fuzzy okruženju, smatraju da odluka može da se predstavi kao fuzzy skup \bar{D} . Taj skup se po njima dobija kao presek dva druga fuzzy skupa: \bar{G} (cilj) i \bar{C} (ograničenje):

$$\bar{D} = \bar{G} \cap \bar{C} = \{(x, \mu_D(x)) | x \in A, \mu_D(x) = \min(\mu_G(x), \mu_C(x))\}$$

gde je A skup alternativa (mogućnosti za x). Na slici 3 skup alternativa je $A = [x_1, x_2]$.

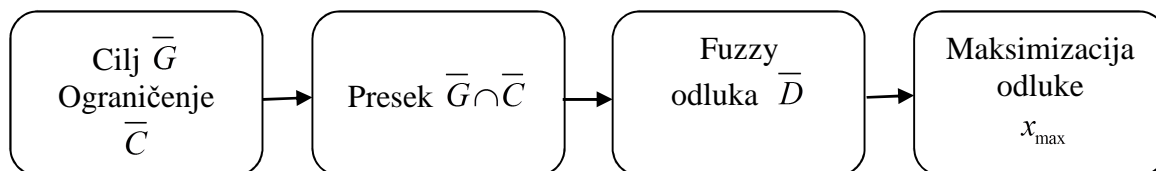


Slika 3. Ograničenje, Cilj, Odluka

Često je kao rezultat potrebno dobiti konkretan (ne fuzzy) broj. Tada je prirodno u procesu defazifikacije uzeti ono rešenje iz skupa alternativa koje ima najveći stepen pripadnosti skupu odluka (to je proces maksimizacije odluke).

$$x_{\max} = \left\{ x \mid \max \mu_D(x) = \max_{x \in A} \min(\mu_G(x), \mu_C(x)) \right\}$$

Sam proces donošenja odluka može se prikazati šemom predstavljenom na slici 4:



Slika 4. Proces donošenja odluka u fuzzy okruženju

Ceo proces odlučivanja u fuzzy okruženju se generalizuje ukoliko postoji više ciljeva i više ograničenja. U tom slučaju važi sledeće:

$$\bar{D} = \bar{G}_1 \cap \dots \cap \bar{G}_n \cap \bar{C}_1 \cap \dots \cap \bar{C}_m$$

$$\mu_D(x) = \min(\mu_{G_1}(x), \dots, \mu_{G_n}(x), \mu_{C_1}(x), \dots, \mu_{C_m}(x))$$

$$x_{\max} = \{x \mid \mu_D(x) \text{ je maksimalno}\}$$

3. FUZZY MODEL LINEARNOG PROGRAMIRANJA

U slučaju linearnog programiranja, kriterijumska funkcija i skup ograničenja se predstavljaju linearnim funkcijama. Problem se svodi na traženje maksimalne vrednosti kriterijumske funkcije prihoda i minimalne vrednosti kriterijumske funkcije troškova pod određenim ograničenjima. Ukoliko postoji rasplinetost koeficijenata koji se pojavljuju u funkciji cilja ili u funkcijama ograničenja tj. kada je vrednost nekih od koeficijenata fuzzy broj tada se radi o problemu fuzzy linearnog programiranja. Tanaka i Asai su 1984. uveli pojam najmanjeg „ α - nivoa zadovoljenja“ kriterijumske funkcije sa kojim su ispunjena sva ograničenja postavljenog problema fuzzy linearnog programiranja [1].

3.1 FUZZY KOEFICIJENTI OGRANIČENJA

Ako su neki od koeficijenata iz skupa ograničenja fuzzy brojevi, rešavanje problema fuzzy linearnog programiranja se objašnjava na sledeći način:

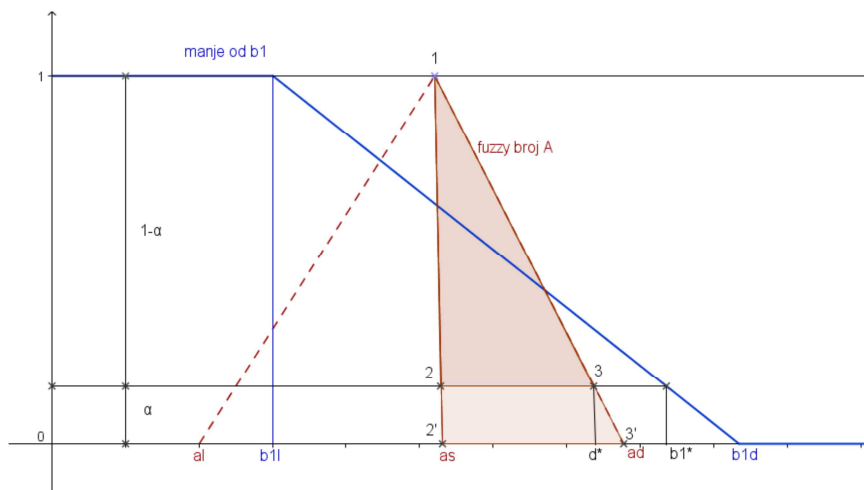
Potrebno je izračunati maksimum funkcije cilja: $F(x_1, x_2) = c_1x_1 + c_2x_2$ uz ograničenja: $\bar{a}_{11}x_1 + \bar{a}_{12}x_2 \leq \bar{b}_1 \wedge a_{21}x_1 + a_{22}x_2 \leq b_2$, gde su vrednosti koeficijenata u prvoj nejednačini trougaoni fuzzy brojevi:

$$\bar{a}_{11} = (a_{11}^l, a_{11}^s, a_{11}^d); \bar{a}_{12} = (a_{12}^l, a_{12}^s, a_{12}^d); \bar{b}_1 = (b_1^l, b_1^s, b_1^d).$$

Vršenjem odgovarajućih operacija množenja fuzzy brojeva skalarom i sabiranja fuzzy brojeva, dobija se novi fuzzy broj, gde je:

$$a^l = a_{11}^l x_1 + a_{12}^l x_2; a^s = a_{11}^s x_1 + a_{12}^s x_2; a^d = a_{11}^d x_1 + a_{12}^d x_2. \quad (1)$$

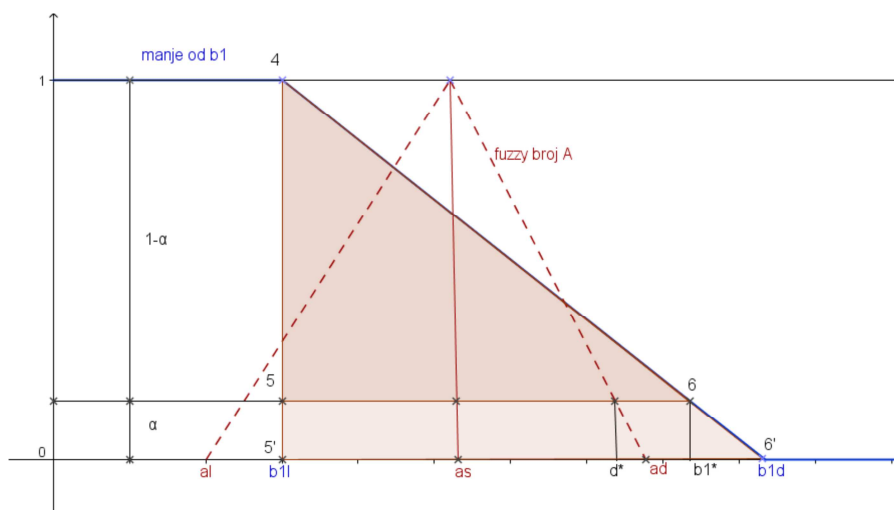
Na slici 5 prikazani su fuzzy broj \bar{A} i fuzzy broj $\leq \bar{b}_1$ (fuzzy broj „manje od \bar{b}_1 “ ima značenje „manje od otprilike b_1^s “).



Slika 5. Fuzzy broj \bar{A} , fuzzy broj $\leq \bar{b}_1$, nivo zadovoljenja α

Na slici 5 su sa d^* i b_1^* označene najveće moguće vrednosti fuzzy brojeva \bar{A} i \bar{b}_1 uz nivo zadovoljenja α . Takođe se uočavaju se parovi sličnih trouglova. Iz proporcija odgovarajućih stranica sličnih trouglova $\Delta 123$ i $\Delta 12'3'$ se mogu izvesti sledeće jednakosti:

$$\begin{aligned} \overline{12} : \overline{12'} &= \overline{23} : \overline{2'3'} \Rightarrow (1-\alpha) : (d^* - a^s) = 1 : (a^d - a^s) \\ d^* - a^s &= (1-\alpha) \cdot (a^d - a^s) \Rightarrow d^* = a^s + (1-\alpha)(a^d - a^s) \end{aligned} \quad (2)$$



Slika 6. Slični trouglovi $\Delta 456$ i $\Delta 45'6'$

Analogno iz proporcija odgovarajućih stranica sličnih trouglova $\Delta 456$ i $\Delta 45'6'$ (slika 6) izvode se sledeće jednakosti:

$$\begin{aligned} \overline{45} : \overline{45'} &= \overline{56} : \overline{5'6'} \Rightarrow (1-\alpha) : 1 = (b_1^* - b_1^l) : (b_1^d - b_1^l) \\ b_1^* - b_1^l &= (1-\alpha) \cdot (b_1^d - b_1^l) \Rightarrow b_1^* = b_1^l + (1-\alpha)(b_1^d - b_1^l) \end{aligned} \quad (3)$$

Da bi se postigao traženi nivo zadovoljenja ograničenja potrebno je da $d^* \leq b_1^*$, tj.

$$a^s + (1-\alpha)(a^d - a^s) \leq b_1^l + (1-\alpha)(b_1^d - b_1^l). \quad (4)$$

Time se postavljeni problem linearnog programiranja defazifikuje i svodi na običan problem traženja maksimuma funkcije cilja uz ograničenja:

$$(a^s + (1-\alpha)(a^d - a^s) \leq b_1^l + (1-\alpha)(b_1^d - b_1^l)) \wedge (a_{21}x_1 + a_{22}x_2 \leq b_2). \quad (5)$$

Ako je menadžment organizacije u stanju da proceni zadovoljavajuću vrednost funkcije cilja uz nivo zadovoljenja α , tada kriterijumska funkcija postaje ograničenje. Drugim rečima, kada se radi o fuzzy okruženju, i funkcija cilja se može tretirati kao ograničenje, a kao novi cilj se logično uzima maksimizacija nivoa zadovoljenja α . [1]

3.2 FUZZY KOEFICIJENTI FUNKCIJE CILJA

U nekim situacijama, zbog nedovoljno jasnih informacija, moguća je pojava fuzzy trougaonih brojeva kao koeficijenata u samoj funkciji cilja. U tom slučaju kriterijumska funkcija glasi: $F(x_1, x_2, \dots, x_n) = \overline{c}_1 x_1 + \overline{c}_2 x_2 + \dots + \overline{c}_n x_n$, gde su koeficijenti \overline{c}_i fuzzy trougaoni brojevi:

$$\overline{c}_1 = (c_1^l, c_1^s, c_1^d), \overline{c}_2 = (c_2^l, c_2^s, c_2^d), \dots, \overline{c}_n = (c_n^l, c_n^s, c_n^d).$$

Korišćenjem pravila fuzzy aritmetike vrednost funkcije F se takođe može predstaviti fuzzy trougaonim brojem (f^l, f^s, f^d) . Iz sličnosti trouglova dobija se:

$$1:(f^d - f^s) = \alpha:(f^d - f^*) \Rightarrow f^* = f^d - \alpha \cdot (f^d - f^s) \quad (6)$$

Novi zadatak linearnog programiranja sada se svodi na traženje maksimuma f^* uz prethodno zadavanje željenog α -nivoa zadovoljenja.

4. PRIMER FUZZY MODELA OPTIMIZACIJE PROIZVODNJE

U organizaciji u kojoj se proizvode dve vrste proizvoda označenih sa I i II je potrebno napraviti optimalan plan proizvodnje.

Za proizvodnju prve vrste potrebno je 8 radnih časova, a za proizvodnju druge vrste potrebno je 5 radnih časova. Cena utrošenog materijala za proizvod I je 400 novčanih jedinica, a za proizvod II je 500 novčanih jedinica. Prihod od prodaje jedinice proizvoda I je 175 novčanih jedinica, a od prodaje jedinice proizvoda II je 150 novčanih jedinica. Nedeljna potražnja je bar 15 proizvoda I i bar 10 proizvoda II. Za proizvodnju ovih vrsta proizvoda fabrika raspolaže sa 320 radnih časova nedeljno, dok troškovi materijala ne smeju biti veći od 20000 novčanih jedinica.

Kada bi svi dati podaci bili dovoljno precizni, ovaj zadatak se rešava traženjem maksimuma funkcije: $F(x, y) = 175x + 150y$, uz ograničenja:

$$8x + 5y \leq 320 \wedge 400x + 500y \leq 20000 \wedge x \geq 15 \wedge y \geq 10.$$

Rešenje ovako definisanog problema korišćenjem klasičnog načina rešavanja metodom linearnog programiranja je 7650 novčanih jedinica za proizvodnju 30 komada proizvoda tipa I, i 16 komada proizvoda tipa II.

4.1. RASPLINUTOST KOEFICIJENATA SKUPA OGRANIČENJA

Ako vreme potrebno za proizvodnju ova dva proizvoda nije precizno definisano, nego se smatra da je za proizvodnju proizvoda I potrebno oko 8 sati, a za proizvodnju proizvoda II oko 5 sati, dok fabrika raspolaže sa približno 320 radnih časova, u prvo ograničenje se uvode fuzzy trougaoni brojevi: $\bar{8} = (7, 8, 9)$; $\bar{5} = (4, 5, 6)$. Tada se traži najveća moguća vrednost fuzzy trougaonog broja: $(7x + 4y, 8x + 5y, 9x + 6y)$ koji je manji od fuzzy trougaonog broja $(315, 320, 325)$ uz nivo zadovoljenja α . Po uslovu (4) dobija se:

$$\begin{aligned} 8x + 5y + (1 - \alpha)((9x + 6y) - (8x + 5y)) &\leq 315 + (1 - \alpha)(325 - 315) \\ 9x + 6y - \alpha(x + y) &\leq 325 - 10\alpha \end{aligned}$$

Uz nivo zadovoljenja $\alpha = 0.8$ dobija se sledeće ograničenje: $8.2x + 5.2y \leq 317$. Maksimum funkcije cilja uz dati nivo zadovoljenja je 7425 novčanih jedinica za $x = 27$, $y = 18$ (uz napomenu da se traži celobrojno rešenje zbog prirode zadatka).

4.2. „ZADOVOLJAVAJUĆI“ PROFIT

Ako se u funkciji cilja odaberu proizvoljne vrednosti promenljivih koje zadovoljavaju sve date uslove (npr. $x = 20$, $y = 20$) profit iznosi 6500 novčanih jedinica. Tada se zadovoljavajući profit predstavlja fuzzy trougaonim brojem $(6000, 6500, 7000)$. Funkcija cilja (profit je zadovoljavajući ili veći od zadovoljavajućeg) se tada transformiše u sledeći oblik:

$$\begin{aligned} 175x + 150y &\geq 6000 + \alpha(7000 - 6000) \\ 175x + 150y &\geq 6000 + 1000\alpha \end{aligned}$$

Problem linearnog programiranja se svodi na problem maksimizacije nivoa zadovoljenja α uz data ograničenja. Ako je $\alpha = 1$ i ukoliko se ostavi rasplinitost ograničenja iz prethodnog slučaja, rešenje je 7450 novčanih jedinica za $x = 28$, $y = 17$. Ako se preuzmu ograničenja bez rasplinitosti koeficijenata, tada se maksimalan profit postiže za $x = 30$, $y = 16$ i iznosi 7650.

4.3 RASPLINUTOST KOEFICIJENATA FUNKCIJE CILJA

Pretpostavka je da su koeficijenti u kriterijumskoj funkciji fuzzy trougaoni brojevi (ako se zna da je dohodak približno 175, odnosno 150, novčanih jedinica po jedinici proizvoda I, odnosno II). Neka su to brojevi $(170, 175, 180)$ i $(145, 150, 155)$. Tada se izraz u funkciji

cilja svodi na: $(170x+145y, 175x+150y, 180x+155y)$ odakle se dobija sledeća kriterijumska funkcija:

$$F(x, y) = 180x + 155y - \alpha((180x + 155y) - (175x + 150y))$$

$$F(x, y) = 180x + 155y - \alpha(5x + 5y)$$

Ako se uzme nivo zadovoljenja $\alpha = 0.9$ početni problem se svodi na traženje maksimuma funkcije: $F(x, y) = 175.5x + 150.5y$. Maksimum u ovom slučaju iznosi 7673 novčanih jedinica za $x = 30, y = 16$.

5. ZAKLJUČAK

Optimizacija proizvodnje se u promenljivom i konkurentskom poslovnom okruženju često posmatra kao zahtevna i kompleksna menadžment aktivnost koja u određenim situacijama i pod određenim uslovima uključuje neophodnost donošenja odluka na osnovu nepreciznih i nekompletnih informacija. S obzirom na to da linearno programiranje, koje se primenjuje u cilju rešavanja praktičnih problema u proizvodnji i donošenju optimalnih odluka, zahteva jasno definisane i precizne podatke, ova tehnika ne može na adekvatan način da posluži u razmatranju kompleksnih i nelinearnih sistema i razmatranju situacija koje nose neprecizne i nejasne informacije. U takvim slučajevima moguće je korišćenje modela zasnovanih na fuzzy logici i teoriji fuzzy skupova.

Naime, problemi planiranja proizvodnje u uslovima neizvesnosti i nesigurnosti koji uključuju simultano određivanje nivoa proizvodnje, inventara i radne snage uz ostvarivanje minimalnih ukupnih troškova u definisanom vremenskom periodu, kao i procedure za rešavanje takvih problema, mogu se na prihvatljiviji način obuhvatiti teorijom fuzzy skupova. U radu je ukazano na prednosti koje pruža teorija fuzzy skupova i predstavljen je pristup fuzzy linearnog programiranja kojim se obezbeđuje okvir za određivanje nivoa proizvodnje u uslovima kada menadžeri proizvodnje ne raspolažu sa preciznim i potpunim informacijama.

Predstavljeni model fuzzy linearnog programiranja proizvodnje rešava probleme optimizacije proizvodnje pod takvim ograničenjima jer omogućava da menadžeri modeliraju problem na osnovu trenutno dostupnih informacija i tako izbegnu troškove pribavljanja dodatnih informacija. Na ovaj način se omogućava realistično modeliranje i pružaju se prihvatljiva rešenja u situacijama kada je potrebno obuhvatiti veći broj međuzavisnih faktora u oblastima lanca snabdevanja i potražnje za proizvodima. Generalno, implementacijom fuzzy modela linearnog programiranja omogućava se dobijanje razumljivih i realnih informacija koje zasebno i u okviru poslovnih softverskih paketa, mogu pružiti potrebnu asistenciju menadžerima proizvodnih organizacija u procesu planiranja i efektivnijem pristupu optimizaciji proizvodnje.

REFERENCE

1. G.Bojadziev, M. Bojadziev, *Fuzzy Logic for Business, Finance, and Management*, Second Edition, World Scientific Publishing Co, 2007.
2. A.L.Guiffrida, R. Nagi, *Fuzzy Set Theory Applications in Production Management Research: A Literature Survey*, *Journal of Intelligent Manufacturing*, 9, 1998, p.39-56.
3. R. Handfield, D. Warsing, X. Wu, *Inventory Policies in a Fuzzy Uncertain Supply Chain Environment*, *European Journal of operational research*, Vol.197, Issue 2, 2009, p.609-619.
4. G. Hayward, V. Davidson, *Fuzzy logic applications*, *Analyst*, 128, 2003, p.1304-1306.
5. F. Hoffmann, M. Koppen, F. Klawonn, R. Rajkumar, *Soft Computing: Methodologies and Applications*, Springer-Verlag, 2005.
6. J. Mula, R. Poler, J.P.Garcia-Sabater, F.C.Lario, *Models for Production Planning Under Uncertainty: A Review*, *International Journal of Production Economics*, 103, 2006, p. 271-285.
7. K.S.Park, *Fuzzy Set Theoretic Interpretation of Economic Order Quantity*, *Systems, Man and Cybernetics*, Vol.17, Issue 6, 1987, p.1082-1084.
8. D. Peidro, J. Mula, R. Poler, J.L.Verdegay, *Fuzzy Optimization for Supply Chain Planning Under Supply, Demand and Process Uncertainties*, *Fuzzy Sets and Systems*, Vol.160, Issue 18, 2009, p.2640-2657.
9. D. Petrović, R. Roy, R. Petrović, *Supply Chain Modelling Using Fuzzy Sets*, *International Journal of Production Economics*, Vol.59, Issues 1-3, 1999, p.443-453.
10. D. Petrović, *Simulation of Supply Chain Behaviour and Performance in an Uncertain Environment*, *International Journal of Production Economics*, Vol.71, Issue 1-3, 2001, p.429-438.
11. A. Pešić, D. Pešić, A. Tepavčević, *A New Strategic Tool For Internal Audit Of The Company Based On Fuzzy Logic*, *ComSIS Journal*, Vol. 9, No. 2, 2012, p.653-666,
12. A. Tepavčević, A. Pešić, *Special Lattice Intuitionistic Fuzzy Sets and Applications in Management in Non-profit Organizations*, *Fuzzy Economic Review*, Volume X, No 1, 2008, p. 63-70
13. I.B.Turksen, *Approximate Reasoning for Production Planning*. *Fuzzy Sets and Systems* 26, 1988, p.23-37.
14. P.L.Vasant, *Application of Fuzzy Linear Programming in Production Planning, Fuzzy Optimization and Decision Making*, 3, 2003, p.229.241.
15. R.C.Wang, H.H. Fang, *Aggregate Production Planning with Multiple Objectives in a Fuzzy Environment*, *European Journal of Operational Research*, Vol.133, Issue 3, 2001, p.521-536.
16. T.L. Ward, P.A.S. Ralston, J.A.Davis, *Fuzzy Logic Control of Aggregate Production Planning*. *Computers and Industrial Engineering* 23, 1992, p.137-140.
17. H.J.Zimmerman, *Using Fuzzy Sets in Operational Research*, *European Journal of Operational Research*, Vol. 13, Issue 3, 1983, p.201-216.
18. H.J.Zimmermann, *Fuzzy Set Theory and its Applications*, Fourth Edition, Kluwer Academic Publishers, 2001.

ENVIRONMENTAL SAFETY AND ENVIRONMENTAL MANAGEMENT

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Abstract: In modern life circumstances, the achievement of environmental security is one of the most important global priority, since the world 's population is more numerous and more demanding in its consumerism. very often, the environment and natural resources represent a limiting factor for the development, and modern society has a difficult choice whether to align their economic and social aspirations with the limited possibilities of the environment

and natural resources, or to cross the "red line", which accelerates and irreversibly destroys the environment and thus directly negatively impacts ecological security. there are different classifications of the global environmental problems that threaten the ecological security, however, each of these classifications is conditional, because all environmental problems are closely associated with the natural processes in the environment, and there are no clear boundaries, as the pollutants easily migrate from one medium to another in environment. the only limitation is the capacity of the filing pollutants in the environment. Today we can not imagine our daily life without application of scientific and technological achievements, however, all this requires the creation of new industries and new technologies and finding a certain balance between ecology and economy. it is through the management of the environment that we are trying to find a balance between social development and (eliminating) negative environmental consequences. The management of the environment in economic systems is a part of the management company, which includes organizational structure, planning activities, responsibilities, personal practice, procedures, processes and resources for developing, implementing, evaluating progress, and improving environmental policy of the company.

Keywords: management, security, environment, environmental safety

EKOLOŠKA BEZBEDNOST I MENADŽMENT ŽIVOTNE SREDINE

Aleksandra Ljuština

Abstrakt: U savremenim životnim okolnostima, ostvarivanje ekološke bezbednosti je jedan od najvažnijih globalnih prioriteta, budući da je svetsko stanovništvo sve brojnije i sve prohtevnije. Vrlo često životna sredina i prirodni resursi predstavljaju ograničavajući faktor razvoja, te savremeno društvo ima težak izbor ili da svoje ekonomske i socijalne težnje uskladi sa ograničenim mogućnostima životne sredine i prirodnih resursa ili da pređu „crvenu“ liniju, kojom se ubrzava i nepovratno unistava životna sredina i time direkto negativno utiče na ekološku bezbednost. Postoje različite klasifikacije globalnih ekoloških problema koji ugrožavaju ekološku bezbednost, međutim, svaka od tih klasifikacija je uslovna, jer svi ekološki problemi su tesno povezani sa prirodnim procesima u životnoj sredini, te tu ne postoje jasne granice, budući da zagađujuće

supstance vrlo lako migriraju iz jednog u drugi medijum životne sredine, jedino ograničenje je kapacitet podnošenja zagađujuće supstance u životnoj sredini. Danas se ne može zamisliti svakodnevni život bez primene svremenih naučno-tehnoloških dostignuća, međutim sve to zahteva stvaranje novih industrija i novih tehnologija i pronalaženje određenog balansa između ekologije i ekonomije, a upravo kroz menadžment životne sredine se nastoji naći balans između društvenog razvoja i eliminisanja negativnih posledica po životnu sredinu. Menadžment životne sredine u privrednim sistemima je deo menadžmenta preduzeća koji obuhvata organizacionu strukturu, planiranje aktivnosti, odgovornosti, sopstvenu praksu, procedure, procese i resurse za razvoj, implementaciju, evaluaciju napretka i poboljšanje ekološke politike preduzeća.

Ključne reči: menadžment, bezbednost, životna sredina, ekološka bezbednost

*“Čovek je zavladao prirodom,
pre nego što je naučio vladati samim sobom.”*
Albert Švajcer (Albert Schweitzer)

1. UVODNA RAZMATRANJA

Bezbednost je okvir u kom se odvija svakodnevni društveni život, kao i sve poslovne aktivnosti. U ljudskoj prirodi je da svaki čovek kao pojedinac, ali i kao član određene društveno-ekonomske sredine uvek želi da postigne određen (zavidan) stepen bezbednosti i maksimalno udoban život. S druge strane savremeni svet koji ljudi nastanjuju ispunjen je različitim i raznovrsnim izazovima rizicima i pretnjama po bezbednost.

„Savremene bezbednosne pretnje učinile su interesovanje za bezbednost mnogo većim nego ikad u istoriji, odnosno priroda savremenih bezbednosnih pretnji nametnula je potrebu bavljenja pitanjima bezbednosti i onim organizacijama koje bezbednost nikad nisu imale u svom delokrugu rada.“ [4]

„Bezbednost je društvena pojava u tom smislu što ljudi, njihove zajednice, organizacije i institucije postaju svesne opasnosti iz raznih izvora, sadržaja, oblika i intenziteta, koje mogu naneti štetu njihovoj egzistenciji (fizičkom (telesnom) i psihičkom integritetu, materijalnim dobrima, kulturi i prirodnom okruženju) i preduzimaju razne, prvenstveno organizovane i sistematske mere zaštite od tih opasnosti.“ [7]

Područje bezbednosti se menja zavisno od izazova, rizika i pretnji, budući da “bezbednost kao društvena tvorevina nosi obeležja konkretnog društveno istorijskog perioda.” [9] Dugi niz desetljeća koncept bezbednosti se posmatrao (tumačio) u užem smislu tj. bezbednost se posmatrala kao bezbednost države, odnosno kao oblik ostvarivanja bezbednosti od ugrožavanja koja dolaze izvan države i njenog društva. Takav koncept bezbednosti podrazumevao je i ostvarivanje bezbednosti od pretnji koje dolaze iznutra, odnosno pretnji koje svoje korene imaju unutar države i društva. Sa razvojem društva menja se i koncept bezbednosti. “Savremene bezbednosne pojave su veoma složene i dovode do širenje koncepta bezbednosti „vertikalno“ i „horizontalno“ od tradicionalne bezbednosti. „Vertikalno“ širenje bezbednosti ide „na dole“, od bezbednosti nacija do bezbednosti grupa i pojedinaca, i „na gore“ prema međunarodnoj bezbednosti. „Horizontalno“ proširenje koncepta bezbednosti ide od vojne bezbednosti prema nevojnim dimenzijama bezbednosti kao što su ekonomska i ekološka bezbednost.” [9] Koncept ekološke bezbednosti koji se bazira na proceni ekoloških rizika i zaštiti životne sredine,

oslanja se na činjenicu da pretnja po bezbednost i udobnost ljudskog postojanja sve češće dolazi iz nepovoljnih uslova sredine, pre svega rizika po zdravlje. Ekološke bezbednosne pretnje kreću se od individualnog ugrožavanja ekološke bezbednosti pa sve do globalne ekološke bezbednosti.

U savremenom globalizovanom svetu, svi njegovi elementi su sve povezaniji, te se i opasnosti po bezbednost u tako globalizovanom svetu relativno lako i brzo prenose i van administrativnih granica, to naročito važi za razne oblike ugrožavanja ekološke bezbednosti. Ekološki problemi ne poznaju državne granice, budući da su državne granice nastale zbog razgraničavanja različitih načina organizovanja života na određenom području, međutim, to ne utiče na ekološke pojave koje se šire nezavisno od administrativnih granica.

„Prostorna dimenzija koncepta ekološke bezbednosti određuje se prema geografskim oblastima bezbednosne politike, a odnosi se na: određenu lokalnu teritoriju, teritoriju države, regiona ili globalni svetski sistem. Razna geografska područja su sve više izložena promenama u životnom okruženju koje dovodi do ljudske neizvesnosti, koja je osnov povećanja socijalne nestabilnosti. Degradacija životne sredine izaziva stres u društvenim odnosima i povećava učestalost konfliktnim situacijama.“ [8] To je potpuno razumljivo, budući da svaki čovek kao pojedinac nastoji da zadovolji svoje osnovne fiziološke potrebe u bezbednoj zajednici o čemu govori više teorija motivacije. Prema Maslovljevoj (Abraham Maslow) teoriji motivacije[10], ljudske potrebe se hijerarhijski dele na:

- a) niže (osnovne fiziološke potrebe za vodom, vazduhom, hranom, produženjem vrste i potreba za bezbednim okruženjem) i
- b) više (potrebe za sopstvenim razvojem: pripadnost zajednici, poštovanje i samostvarenje)

Sličan je i „ERG“ model Alderfera (Clayton Alderfer), u kome se razlikuju egzistencijalne potrebe (existence), potrebe povezivanja (relatedness) i razvoja (growth).[1]

Nesumljivo, eksploatacija prirodnih potencijala biosfere usmerena je ka zadovoljenju osnovnih životnih potreba kao i potreba za bezbednim prostornim okruženjem, a menadžment životne sredine usko je povezan sa motivacijom kao procesom pokretanja, usmeravanja i održavanja ljudskog ponašanja ka određenom cilju.

„Uspeh poslovanja u savremenim uslovima u velikoj meri zavisi od bezbednosti. Nepovoljni bezbednosni uticaji koji umanjuju uspeh poslovnih organizacija dolaze iz okruženja i iz samih organizacija. Uticaji iz okruženja kreću se od nepovoljnih socijalnih uticaja, kao što su političke krize, ratovi, oružane pobune, terorizam i ekstremizam, socijalne napetosti i slično, do prirodnih katastrofa koje mogu izvršiti veći ili manji uticaj na poslovanje“.[4]

2. MENADŽMENT ŽIVOTNE SREDINE

Poslovne organizacije posluju u kompleksnoj mreži uzročno-posledičnih odnosa, koji deluju na nju kako iznutra tako i izvana (interno i eksterno poslovno okruženja). Neki faktori okruženja stvaraju prilike, a neki pretnje organizaciji, te tako elementi iz okruženja deluju na uslove i događaje koji imaju potencijalni uticaj na organizaciju.

Kada se govori o menadžmentu životne sredine obično se misli na elemente neposrednog poslovnog okruženja koji proizlaze iz životne sredine i koji deluju ili mogu delovati na određenu poslovnu organizaciju. Međutim, šire posmatrano, životnu sredinu čini čitava biosfera.

Biosfera je „prastari termodinamički otvoren, autoregulativan sistem živih bića i nežive prirode, ona akumulira i preraspodeljuje ogromne resurse materije i određuje sastav i dinamiku zemljine površine, atmosfere i hidrosfere. Ova plastičnost omogućuje čoveku da, prema svojim potrebama, menja različite komponente biosfere. Ali, ove promene ne smeju izaći izvan određenih okvira, jer bi se time ugrozile složene uzajamne veze koje postoje u biosferi kao sistemu, i koje se nalaze u stanju dinamičke ravnoteže.“ [6]

“Ljudska istorija se ne može posmatrati u vakumu. Sva ljudska društva su bila, a i danas su zavisna od složenih uzajamnih fizičkih, hemijskih i bioloških procesa.” [12] Međutim, savremeno životno okruženje je svakako sasvim drugačije od životnog okruženja pre nekoliko decenija, ne samo u pogledu prirodnog okruženja već i društvenog okruženja. Te je očigledno da u uslovima globalnog društva i multinacionalnih kompanija životnu sredinu treba posmatrati kroz kontekst biosfere. Te, u tom kontekstu menadžment životne sredine se suočava sa kompleksnim globalnim ekološkim izazovima, koji su ujedno izazovi i pretnje po ekološku bezbednost: porast ljudske populacije, urbanizacija, gubitak biološke raznovrsnosti, promena klime i globalno zagrevanje, oskudice pijaće vode i njeno zagađenje uključujući kontaminaciju podzemnih voda, ispravnost hrane, “ekološke” izbeglice, iscrpljivanje prirodnih resursa, krčenje šuma, industrijska kontaminacija vazduha, zemljišta i voda.

3. ODRZIVI RAZVOJ KAO FUNKCIJA PLANIRANJA MENADŽMENTA ŽIVOTNE SREDINE

“Za čoveka, kao i za svako živo biće, životna sredina predstavlja prostor u kome on zadovoljava svoje životne potrebe i zahteve, korišćenjem raspoloživih resursa.” [2] Kroz istoriju razvoja ljudskog društva, po obrascima socijalnog razvoja, čovek je svojim delovanjem, koristeći prirodne potencijale, neprekidno proširivao materijalne i duhovne kapacitete ljudske civilizacije, na početku posmatranjem i selekcijom, zatim aktivnim delovanjem u prirodi korišćenjem njenih resursa pokušavajući da je prilagodi sebi, a potom delovanjem na prirodu nastojeći da je podredi sebi. Neminovno je da čovek u procesu života i rada menja sredinu u kojoj boravi, međutim “ta promena se odvija u dva suprotna smera:

- pod uticajem aktivne stvaralačke delatnosti čoveka ona se menja, usled čega dolazi do obrazovanja “civilizacijskog okvira”, koji se stalno usavršava, koji štiti čoveka od negativnih spoljašnjih faktora (surove klime, elementarnih nepogoda, infektivnih bolesti i sl.);
- antropogeno dejstvo i mešanje u prirodne procese – urbanizacija i funkcionisanje tehnoloških sistema koji ugrožavaju životnu sredinu, dovode do degradacije životne sredine.”[2]

Negativno dejstvo nekontrolisanog društveno-ekonomskog razvoja društva, kroz degradaciju životne sredine “direktno utiče na stvaranje humanitarnih problema” [3] koji direktno ili indirektno ugrožavaju ekološku bezbednost.

Degradacija životne sredine definiše se kao neodrživi razvoj društva, a svaki društveno - ekonomski sistem ima dva osnovna cilja: opstanak i rast, odnosno razvoj. “Mnogi su pokušali da definišu održivost. Jednostavno rečeno, održivost jeste sposobnost sistema da se održava i obnavlja u stalnom procesu razvoja.” [3] Koncept održivosti društveno – ekonomskog razvoja društva prošao je kroz sledeće razvojne faze:

- sedamdesetih (1970+) godina – koncept kontrole zagađivanja životne sredine po svakom činiocu životne sredine nezavisno (činioci životne sredine su : vazduh, voda, zemljište, biljni i životinjski svet)
- osamdesetih godina (1980+) – koncept integracije procesa i praćenje zagađivanja životne sredine celovito preko svih činilaca životne sredine: vazduh, voda, zemljište, biljni i životinjski svet;
- devedesetih (1990+) godina – koncept planiranja celog postrojenja (pored ispuštanja zagađujućih materija u vazduh, vodu i zemljište, biljni i životinjski svet, posmatraju se i balansi energije i otpada)
- dvehiljaditih (2000+) koncept industrijske ekologije (pored ispuštanja zagađujućih materija u vazduh, vodu i zemljište, biljni i životinjski svet i balansi energije i otpada, posmatraju se balansi materijala – sirovina – resursa)
- teži se (2010 +/-) konceptu održivog razvoja koji pored koncepta industrijske ekologije uključuje i protok kapitala (uključujući i prirodna bogatstva) i radne snage, kao i socijalnu komponentu.” [11]

Održivi razvoj predstavlja generalno usmerenje, a ne neprikosnovenu listu zadataka. Održivi razvoj teži da stvori ekonomsku sigurnost uz socijalnu pravednost i ekološku ravnotežu. Ekološka ravnoteža se ostvaruje kroz stalan proces očuvanja ekosistema i njihovih funkcija, dok se socijalna pravednost ogleda kroz sposobnost zajednice da obezbedi dobrobit svim svojim članovima, a ekonomska sigurnost se posmatra kroz sposobnost privredno – ekonomskog sistema da obezbedi sve ljudske potrebe.

“Suprotno od održivosti je neodrživost sistema, u najjednostavnijem smislu, neodrživost sistema znači stanje u kome: Svi uzimaju, a niko ne vraća. U ovoj situaciji neže biti ničega, odnosno sistemi koji posluju na ovaj način su osuđeni na propast. Neodrživi razvoj može biti i u sferi biznisa, odnosno poslovnih organizacija. Održivost sistema u prirodnom, ali i u društvenom poretku je moguća, ako zadovoljava interese različitih subjekata. Sistemi u svim sferama su životne sredine su održivi ako zadovoljavaju potrebe sadašnjih generacija u eksploataciji prirodnih bogatstava, ali i potrebe budućih generacija.” [13]

Budućnost je neizvesna, međutim planiranjem društveno-ekonomskog razvoja društva i pojedinačnog razvoja svake kompanije, kroz koncept održivog razvoja, ide se u pravcu izvesnosti, koja u značajnoj meri doprinosi ostvarivanju ekološke bezbednosti. Interakcija društvenih sistema i sistema biosfere, u kom svi pojedinci imaju ravnopravan i racionalan pristup prirodnim dobrima, koja proističu iz biosfere predstavljaju uslov za ostvarivanje ekološke bezbednosti i održivosti.

4. KONTROLA EKOLOŠKOG OTISKA KAO FUNKCIJA ORGANIZOVANJA MENADŽMENTA ŽIVOTNE SREDINE

Najrazvijenija i najmoćnija vrsta u biosferi je čovek koji svojim različitim aktivnostima ima i najveći utjecaj na biosferu. Danas se svi delovi biosfere nalaze nadohvat ljudskih aktivnosti, i prema tome, pod njegovim su direktnim uticajem. Savremeno društvo narušilo je prirodnu ravnotežu u biosferi usled paradigme stalnog materijalnog rasta i potrošnje prirodnih resursa. U kasnim osamdesetim godinama XX veka ukupan ljudski uticaj na biosferu počeo je da prelazi kapacitet samoregulacije biosfere.

Svetska populacija trenutno premašuje sedam milijardi ljudi, a pretpostavke su da do 2050. godine broj stanovnika na planeti Zemlji može dostići i devet milijardi. Sve veći broj

ljudske populacije uz dalji razvoj socijalne ekonomije sa tendencijom ka boljem i kvalitetnijem životu, uz poboljšanje životnog standarda svakako dovodi do potrošnje više energije i biokapaciteta biosfere. Činjenica je da ljudska ekonomija u potpunosti zavisna od biosfere i prirodnih resursa koji su ograničeni, te se savremene ljudske potrebe zadovoljavaju prirodnim resursima čije su regenerativne sposobnosti dovedene u pitanje.

Koncept ekološkog otiska predstavlja polaznu osnovu za poređenje ljudskih potreba i prirodnih potencijala biosfere. To je mera biološki produktivnog prostora kopna, vode i vazduha potrebna savremenom društvu da zadovolji dnevne potrebe za hranom, vodom i vazduhom. Ekološki otisak podrazumeva i teritorijalni prostor savremenog života i rada, potrebu za energijom, prevozom, savremenim proizvodima životnog standarda. Na osnovu proračuna ekološkog otiska određuje se trošenje prirodnih resursa i predviđaju savremene aktivnosti društva u cilju smanjenja ekološkog otiska i ostvarivanja bezbednosti biosfere.

„Ekološki otisak stvara bazu činjenica koje čine veze između ekologije i privrede i ukazuju na pravac koji je potreban za ekološku održivost. Iako je metodologija proračuna ekološkog otiska predmet razmatranja i preciziranja, podaci o ekološkom otisku upućuju na promene. Strategija smanjenja ekološkog otiska treba da se poveže sa nizom drugih postojećih dokumenata, kao što su : održivi razvoj zajednice, borba protiv klimatskih promena kroz lokalnu ekološku politiku (dogovori, ugovori, sporazumi) i regionalne strategije. Rezultati proračuna ekološkog otiska mogu biti uključeni u proces projektovanja i planiranja u ranoj fazi. To može mnogo pomoći u procesu donošenja odluka u kreiranju objekata i usluga koje se pružaju u cilju redukovanja ekološkog otiska.“ [8]

Na osnovu proračuna ekološkog otiska koji sveobuhvatno, koncizno, primenljivo i verodostojno izražava ljudski uticaj na biosferu može se uticati na interakcija društvenih sistema i sistema biosfere, u pravcu ostvarivanja ekološke bezbednosti gde svi pojedinci imaju ravnopravan i razuman pristup dobrima koja proističu iz biosfere, a to je osnova ekološke bezbednosti .

5. UPRAVLJANJE PRIRODNIM RESURSIMA

Savremene društvene okolnosti na početku XXI veka daju mogućnosti sagledavanja sadašnjeg stanja životne sredine uz mogućnost projekcije budućih ekoloških problema. Kao fundamentalni problem globalnog društva javlja se neusaglašenost između društvenih potreba i prirodnih resursa. Prirodni resursi su resursi prirode koji su na raspolaganju društvu kao što su: vazduh, voda, zemljište, minerali, sunčeva svetlost, flora, fauna i dr. Sa aspekta privredno–ekonomskog razvoja društva prirodni resursi se dele na dve velike grupe: prirodne resurse koji su obnovljivi i prirodne resurse koji su neobnovljivi. Karakteristika obnovljivih prirodnih resursa (vazduh, voda, sunce, šume i dr.) da se oni mogu obnovljati u kratkom vremenskom periodu, dok neobnovljivi prirodni resursi ne mogu da se obnavljaju u kratkom vremenskom periodu (nafta, uglj, prirodni gas, minerali i dr.) budući da su potrebni milioni godina da bi se oni formirali, odnosno obnovili.

Usled povećanja ljudske populacije, industrijalizacije i urbanizacije potražnja za prirodnim resursima raste, a tenzije u društvu nastale usled nezadovoljenja osnovnih životnih potreba nastale zbog iscrpljivanja prirodnih resursa mogu da dovedu do akcija u vidu nasilja i sukoba. Promena motivacija za sukobe dovodi do situacija da „vojni sukob može da bude podstaknut očajničkom potrebom za prirodnim resursima, kao što su energija, hrana i voda, mnogo više nego što su sukobi zbog ideologije, religije ili nacionalnog ponosa.“ [14] Usled toga se neminovno javlja potreba za racionalnim

upravljanjem prirodnim resursima, a energetska bezbednost se nameće kao jedno od osnovnih socijalnih pitanja sadašnje i buduće privredne proizvodnje i razvoja društva.

U eri jeftinih fosilnih goriva i nemaru prema problemima zagađenja životne sredine došlo je do klimatskih promena u vidu globalnog zagrevanja. „Globalno zagrevanje često se opisuje kao najveći tržišni neuspeh u istoriji.“ [5] Trenutno se savremeno društvo suočava sa tri vrste kriza: ekonomskom krizom, krizom bezbednosti i klimatskom krizom. „Sve tri pomenute krize – kriza bezbednosti, ekonomska kriza, te klimatska kriza – izolovane, deluju nerešivo. Ipak, pomnijim posmatranjem možemo uočiti zajedničku nit koja se provlači kroz njih, sa mnogo ironije u svojoj jednostavnosti: naša opasna, preterana zavisnost od goriva zasnovanog na ugljeniku, u samom je jezgru sva tri izazova.“ [5] U neformalnim zakonima ekologije, koje je definisao Beri Komoner (Barry Commoner) prvi zakon glasi: „Sve je povezano sa svim ostalim“ „Društveni problemi pogoršavaju probleme životne sredine, a problemi životne sredine intenziviraju društvene probleme.“ [3]

Antropogene promene u životnoj sredini u vidu klimatskih promena, koje su posledica neracionalnog korišćenja prirodnih potencijala prirode, imaju kako direktne tako i indirektno posledice po ekološku bezbednost i menadžment životne, a predmetom ekološkog menadžmenta javljaju se ekonomski mehanizmi korišćenja prirodnih resursa.

6. ZAKLJUČNA RAZMATRANJA

Jedna od osnovnih potreba savremenog čoveka, odnosno savremenog društva je izvesnost u pogledu sudbine najvažnijih dobara i vrednosti sa kojima pojedinac, preduzeće, privredni sistem, država ili globalna međunarodna zajednica raspolažu ili streme, a nema sumnje da je to u savremenim uslovima bezbednost biosfere (životnog okruženja). Kao što su za funkcionisanje svakog čoveka, kao ljudske jedinice, neophodni osnovni prirodni resursi, isto tako su za funkcionisanje svakog preduzeća odnosno privrednog sistema neophodni prirodni potencijali biosfere. Upravo zbog toga svako uspešno preduzeće i njegov menadžment posebnu pažnju treba da usmeri na bezbednost biosfere jer to je put ka uspehu (opstanku i prosperitetu).

Nesporna je činjenica da ljudska ekonomija u potpunosti zavisi od biosfere i prirodnih resursa. Međutim, u savremenim društveno – ekonomskim uslovima života i rada prirodni resursi se neodrživo iscrpuju, a u biosferi se remete prirodni ciklusi kruženja materije, te se tim direktno ugrožava ekološka bezbednost. Menadžment životne sredine javlja se kao način rada (modus operandi) u ostvarivanju ekološke bezbednosti. Zato se u savremenim društveno – ekonomskim okolnostima interakcija između ekološke bezbednosti i menadžmenta životne sredine nameće kao imperativ, budući da u velikoj meri i uspeh poslovanja preduzeća zavisi od stanja životne sredine.

REFERENCE

1. Alderfer, C. P., Existence, relatedness and growth, Free press, New York, 1972.
2. Anđelković B., Krstić, I. Tehnološki procesi i životna sredina, Jugoslovenski savez društva inženjera i tehničara zaštite, Niš, 2002.
3. Čajka Z, Jovanović Održivi marketing menadžment, Nučno stručno društvo za zaštitu životne sredine Srbije ECOLOGICA, Beograd, 2014.

4. Dragišić Z. Bezbednosni menadžment, Službeni glasnik & Fakultet bezbednosti, Beograd, 2007.
5. Gor, A.: Naš izbor- putevi rešavanja klimatske krize, Geopoetika, 2010.
6. Janković, M. Razvoj ekološke misli u Srbiji, Centar za socioekološka istraživanja i dokumentaciju, Beograd, 1995.
7. Kovačević, S. Osnovi bezbednosti i odbrane – odabrana predavanja, Viša škola unutrašnjih poslova, Beograd, 1996.
8. Knežević-Lukić N., Ljuština A. *Contemporarily approach in ecological security by ecological footprint analysis*, in Thematic proceedings of international significance – Archibald Reiss Days, Academy of Criminalistic and Police Studies, Belgrade, 2012. pp. 721-736
9. Ljuština A, Ekološka bezbednost, Kriminalističko-policijska akademija, Beograd, 2012.
10. Maslow, A. H., Motivation and personality (Third ed.). Harper & Row, New York, 1970.
11. Mihajlov, A. Održivi razvoj i životna sredina ka Evropi u 95+ koraka, Privredna komora Srbije i Ambasadori životne sredine, Beograd, 2005.
12. Ponting K. Ekološka istorija sveta- životna sredina i propast velikih civilizacija, (preveo Simic D.) Odiseja, Beograd, 2009.
13. Radosavljević M., Anđelković M., Radosavljević D. Korporativno upravljanje održivim razvojem, ECOLOGICA 20 (2013) str. 85-91
14. Švorc P, Tajni izveštaj Pentagona o klimi – scenario nagle klimatske promene i njene implikacije po bezbednost Zemlje(preeveo Miletić M.), Službeni glasnik, Beograd 2008.

INNOVATIONS IN BANKING SERVICES

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Abstract: Globalization, deregulation, development of information technology and communication affect the future course of development of financial markets and introduce innovations that make it easy, easy and straight forward way of doing business in developed markets. Banking services industry in recent decades is going through many changes as rarely any other segment. Changes in lifestyle users, the need for increasing speed and performance lead to a deterioration of relations between the user and the bank's standard servicing channels. New technologies allow the bank to meet the increasingly sophisticated needs of customers and to achieve better cooperation with them. Using new technology the bank needs to understand the specific needs and to deliver complete financial solutions that give them all necessary information and opportunities for comfortable operation.

Keywords: modern technology, customers, banking, financial solution

INOVACIJE U OBLASTI BANKARSKIH USLUGA

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Abstrakt: Globalizacija, deregulacija, razvoj informacionih tehnologije i komunikacija, utiču na dalji tok razvoja finansijskih tržišta i uvode inovacije koje olakšavaju, ubrzavaju i pojednostavljaju način poslovanja na razvijenim tržištima. Industrija bankarskih usluga zadnjih decenija prolazi kroz veliki broj promena kao retko koji drugi segment. Promene životnog stila korisnika, potreba za sve većom brzinom i boljim performansama dovode do pogoršanja odnosa između korisnika i standardnih bančnih kanala usluživanja. Nove tehnologije omogućavaju da banka zadovolji sve sofisticiranije potrebe korisnika i da ostvari bolju saradnju sa njima. Koristeći nove tehnologije banka treba da razume specifične potrebe korisnika i da im isporuči kompletna finansijska rešenja koja im daju sve potrebne informacije i mogućnosti za komotan rad

Ključne reči: savremena tehnologija, korisnici, bankarske usluge, finansijska rešenja

1. UVOD

Isporuka bankarske usluge potrošačima uključuje odluke o tome gde, kada i kako. Brz rast Interneta znači da marketing strategija usluga mora uzeti u obzir pitanja mesta, sajber prostora i vremena, posvećujući najmanje isto toliko pažnje brzini, redosledu i elektronskom pristupu koliko tradicionalnom pojmu fizičke lokacije. Bankarski proizvod i načini njegove distribucije i isporuke često su blisko povezani. U slučaju usluga u kojima je uključena obrada od strane ljudi, priroda sistema isporuke ima snažan uticaj na iskustvo potrošača.

Priroda usluge istovremeno utiče na strategije distribucije, ali je i oblikuje. Kroz sistem isporuke dobavljač pruža uslugu potrošaču. Kod zrelih usluga poboljšanja mogu biti u obliku inkrementalnih unapređenja radi povećanja efikasnosti ili privlačnosti sistema isporuke. Pritisak takozvane ekonomije iskustva se često sastoji u uvećanju iskustva vezanih za procese isporuke nasuprot poboljšanja osnovnog proizvoda. U dobro osmišljenim uslugama koje karakteriše visok nivo kontakta, potrošači su često tako aktivno uključeni u isporuku usluge da su proces i ishod neodvojivo povezani. Nasuprot tome, u uslugama koje karakteriše nizak nivo kontakta, potrošači mogu biti fizički udaljeni od pružalaca usluge i interesovati se za sistem isporuke samo do nivoa na kojem oni dobijaju tu uslugu brzo, tamo i gde to žele.

2. SAVREMENI PLATNI SISTEMI BAZIRANI NA DIGITALNOM NOVCU

Koncept digitalnog novca izazvao je, u početku, veliku pažnju stručne javnosti. Uprkos tome, digitalni novac nije doživeo neki značajniji uspeh na tržištu. Trenutno se gotovo sve transakcije preko Interneta obavljaju upotrebom kreditnih i debitnih kartica. One su široko rasprostranjene i prihvaćene od strane većine trgovaca. Ipak, plastične kartice ne predstavljaju idealno rešenje za savremeni "digitalni" svet. One su osmišljene za transakcije u realnom svetu. Uprkos nedavnim pokušajima da se njihova bezbednost podigne na znatno viši nivo uvođenjem kartica sa implementiranim mikročipom, one su još uvek podložne zloupotrebi. Sistemi bazirani na platnim karticama i dalje su veoma skupi, kako za operatere tako i za trgovce, zbog ogromne količine prateće papirne dokumentacije. Kreditne/debitne kartice ne omogućavaju direktne transakcije između dveju osoba. Pored toga, struktura provizija u sistemima baziranim na kreditnim/debitnim karticama je takva da se oni ne mogu efikasno koristiti za sitne transakcije.

S druge strane, digitalni novac ima brojne prednosti nad sistemima baziranim na plastičnim karticama. Bezbednost je lakše postići u onlajn režimu, uz pomoć specijalizovanih servera za enkripciju, nego u oflajn režimu, kada službenici rukuju poverljivim informacijama u čitljivom obliku. Digitalni novac mora, u što je moguće većoj meri, preslikati osobine realnog novca, pre svega njegovu multifunkcionalnost. Sistemi digitalnog novca prve generacije bili su, međutim, jednofunkcionalni. Na primer, prvi Mondex uređaji bili su namenjeni obavljanju sitnih transakcija u realnom svetu dok je E-Cash, npr. bio namenjen isključivo transakcijama na Internetu. Pored toga, zbog glomaznog i skupog hardvera, ovi sistemi naišli su na otpor potrošača koji su bili zadovoljni svojim plastičnim karticama. Potrebno je, međutim, razviti sistem koji je bezbedan, ugodan i troškovno-efikasan kako za makro tako i za mikro-transakcije. Sistemi bazirani na smart karticama su decentralizovani višenamenski sistemi koji omogućavaju i direktne transakcije između dva korisnika. Oni su decentralizovani zbog toga što komercijalna organizacija koja obezbeđuje hardver neće, nakon toga, posredovati u

transakcijama. To znači da ne postoji potreba za skupom papirnom dokumentacijom. Ovi sistemi su u početku bili osmišljeni za direktne transakcije između dva korisnika, da bi kasnije počeli da se koriste na Internetu. Prvi sloj zaštite od zloupotrebe predstavlja mikročip koji je implementiran u karticu. Ipak, verovatno će morati da se uvede neka vrsta preventivne kontrole transakcija u cilju sprečavanja zloupotreba većih razmera. Digitalne valute se, zapravo, mogu okarakterisati terminom "pseudo-keš" zbog toga što se ne nalaze u slobodnom optičaju poput realnih banknota i kovanog novca, već se njihova cirkulacija odvija preko posrednika.

Transakcije su naizgled decentralizovane i mogu se obavljati direktno između dva korisnika; u svim transakcijama se, međutim, kao posrednik javlja operator sistema. Da bi se sistem zaštitio od tzv. "dvostrukog trošenja", trgovac svaku primljenu digitalnu novčanicu vraća operateru koji je poništava da bi se sprečilo njeno dalje korišćenje. Trgovcu se zatim izdaje novčanica iste vrednosti ali sa drugim serijskim brojem. Sistemi koji funkcionišu po ovom principu nazivaju se notacionim sistemima. Problemi sa kojima se susreću platni sistemi bazirani na digitalnom novcu su brojni, a sudbina digitalnog novca zavisiće od njihovog efikasnog rešavanja. Izvesno je da će se u doglednoj budućnosti najveći broj elektronskih transakcija obavljati putem kreditnih i debitnih kartica. Međutim, kako se Internet bude širio, nedostaci mreža baziranih na kreditnim i debitnim karticama postajace sve očigledniji njihovim korisnicima. U isto vreme, tehnološki razvoj će uticati na povećanje bezbednosti i snižavanje troškova odgovarajućeg digitalnog medijuma. Kada se to bude desilo, treba očekivati šire prihvatanje digitalnog medijuma kojim će se prevazići pomenuti problemi. Ovaj proces će verovatno biti postepen, budući da se nekoliko različitih tehnologija trenutno bori za prevlast u ovoj oblasti. Slična situacija postojala je i kod video-rikordera i DVD uređaja, ali se u slučaju digitalnog medijuma očekuje brži rasplet događaja zbog brzog razvoja Interneta i odgovarajućih tehnologija. Konvergencija Interneta, televizije i telefonije formiraće ogromno digitalno tržište. Organizacije koje ovo ne shvate na vreme naći će se u šoku sličnom onome u kome se našla muzička industrija pojavom Napstera i MP3 formata. Javiće se potreba za pogodnim medijumom za fleksibilna, sitna plaćanja. Sistemi bazirani na elektronskim novčanicima (e-purse) na mikročipu, kao što je belgijski Proton, mogu da koriste podatke sa kreditne ili identifikacione kartice neke osobe, što predstavlja efikasno oslanjanje na postojeće sisteme radi snižavanja troškova. Ovakvi sistemi bili bi upotrebljivi za oflajn transakcije, kao i za mikro-transakcije. Nagli rast pripejd mobilnih korisnika proširuje potencijal razvoja "debitnih" sistema. Debitni sistemi su se pokazali veoma privlačnim onima koji nemaju pristup kreditnim sistemima. Oni omogućavaju naglu ekspanziju mreža. Debitni sistemi su atraktivni i zbog ograničene odgovornosti - maksimalni gubitak ograničen je na iznos koji je programiran na kartici. Sistemi druge generacije su uglavnom multifunkcionalni i predstavljaju kombinaciju sistema koji se mogu koristiti kako u realnom tako i u elektronskom svetu. Hardver je dizajniran za upotrebu u m-commercu i odlikuje se malim dimenzijama i visokom portabilnošću. Njegova cena toliko naglo pada da kompanije koje posluju kreditnim/debitnim karticama već nude svojim potrošačima besplatne čitače smart kartica koji su idealni za upotrebu preko Interneta. Razvoj sistema baziranih na digitalnom novcu može biti podstaknut i ekspanzijom digitalnih čekova koji omogućavaju direktne transakcije između korisnika. U tom slučaju će novi sistemi enkripcije biti od kritične važnosti. Digitalni sertifikati i digitalni potpisi rešavaju problem elektronskog identiteta. Digitalni sertifikati razvijeni su sa ciljem da se potrošači uvere u autentičnost nekog Veb sajta kako bi mogli proslediti podatke sa kreditne kartice (ili druge lične podatke) bez straha od njihove zloupotrebe. Digitalni potpis je elektronski ekvivalent svojeručnog potpisa i jedinstven je za svakog

korisnika. Njime se proverava identitet i adresa, a može se koristiti za potvrdu validnosti digitalnih čekova i drugih platnih instrukcija. Veoma je bitno to što primalac digitalno potpisane instrukcije može sa sigurnošću da utvrdi da li je instrukcija bila falsifikovana tokom transmisije. Jeftini čitači otiska prstiju mogu obezbediti još jedan oblik identifikacije na Internetu. I dalje ostaje sporno pitanje da li će digitalne novčanice biti uspešno razvijene. Kao što je ranije napomenuto, čak i ako bude razvijena neka vrsta digitalnih novčanica, lakoća umnožavanja digitalnih sadržaja uticaće na to da sistemi bazirani na ovakvim novčanicama budu notacioni sistemi.

Nedostatak anonimnosti će odvratiti kriminalce i sivu ekonomiju od upotrebe ovakvih sistema, ali za većinu korisnika ovo ne bi trebalo da predstavlja problem. Najvećem broju njih dovoljna je i pseudo-anonimnost koja se može postići u notacionom sistemu.

3. DIGITALNI NOVČANIK

Digitalni novčanik je softver za onlajn trgovinu i trebalo bi da predstavlja sajber ekvivalent realnom novčaniku. Vezan je za realne platne kartice i to mu je mana. Uobičajeni novčanik, koji se može nazvati "analogni novčanik", se obično nalazi u džepu pantalona ili u tašni. Analogni novčanici su prilično univerzalni: svaka kultura ima neki model za čuvanje i nošenje vrednosti i određenu formu koja služi za ličnu identifikaciju. U novčaniku se obično nalazi kartica za identifikaciju (ID, lična karta), gotovina, kartice za telefon, kreditne kartice i kartice zaduženja, stari recepti i telefonski imenik, slike dragih ljudi i druge vrlo različite stvari. Digitalni novčanik teži da po funkcionalnosti liči na neki analogni novčanik. Najvažnije funkcije digitalnog novčanika su: da potvrdi identitet korisnika putem digitalnih sertifikata ili drugih šifrovanih metoda, čuva i prenese novčanu vrednost, osigura proces plaćanja od kupca do prodavca. Idealno gledajući, putem Interneta kupac bi mogao otići na bilo koji Veb sajt, upotrebiti svoj digitalni novčanik i samo jednim klikom, potvrditi svoj identitet i platiti nešto što želi da kupi, koristeći bilo koji od sistema plaćanja. Pri tome bi sačuvao zapis o transakciji, koji bi dalje bio dostupan za pregled i razmatranje. Glavna prednost digitalnog novčanika je udobnost koju on pruža korisniku prilikom kupovine i manji troškovi transakcija, jer se narudžbina može izvršiti vrlo brzo. Sa digitalnim novčanikom ne moraju se više ispunjavati razni formulari, kako bi se nešto kupilo onlajn. Umesto toga, samo se klikne na digitalni novčanik i softver digitalnog novčanika daje informacije o plaćanju i isporuci. Digitalni novčanik ne samo da ubrzava proces naručivanja, već potencijalno smanjuje rizik od prevare i korišćenja ukradene kreditne kartice. Prodavci takođe imaju korist od digitalnih novčanika: manje troškove, proširene marketing i brending mogućnosti, mogućnost lakšeg zadržavanja kupaca i pretvaranja posetilaca sajta u kupce, i veću sigurnost (manji broj prevara). Finansijske institucije koje izdaju digitalni novčanike, imaju takođe svoju korist u vidu provizije za obradu svake transakcije. Ovo je koncept, mada on još uvek ne odgovara realnosti. Postoje mnoga pitanja koja za sada nemaju odgovor, kao što su: ko će snabdevati digitalni novčanik, ko poseduje digitalni novčanik i informacije koje se u njemu čuvaju (vezano je za privatnost), gde će se držati digitalni novčanik (na desktopu ili na udaljenom serveru) i kojim standardima će digitalni novčanik biti definisan, tako da može biti opšte prihvaćen. Trenutno se razlikujemo dve osnovne kategorije digitalnih novčanika:

- Client-based digitalni novčanik (digitalni novčanik smešten na desktopu klijenta)
- Server-based digitalni novčanik (digitalni novčanik smešten na udaljenom serveru)

Digitalni novčanik, smešten kod klijenta, kao što su Gator.com ili Digitalni MasterCard novčanik, su softverske aplikacije koje korisnici instaliraju na svojim računarima. Ovi novčanici nude korisnicima pogodnost automatskog ispunjavanja formulara u onlajn prodavnici. Prodavci instaliraju softver na svojim serverima, pomoću kog primaju informacije koje im šalje digitalni novčanik.

Ovakav proizvod/ usluga vidno smanjuje troškove transakcija i troškove sticanja novih klijenata i zadržavanja već postojećih. Ovi novčanici ne zahtevaju da korisnici instaliraju specijalan softver. Mogu se dinamički ažurirati, što je vrlo važno kada se promeni prodajni formular. Ažuriranje digitalnog novčanika smeštenog kod klijenta je znatno teže, jer je za njegovo ažuriranje neophodno da klijent preuzme novu verziju prodajnog formulara. Sistem digitalnih novčanika čija je baza server, koji se najbrže razvija, je Sistem Microsoftovih pasoša. Pasoš je rezultat pojavljivanja Microsoftove NET platforme i NET strategije. Pasoš nudi korisnicima uslugu samo jedne prijave (Single Sign-In, SSI), kao i opciju Ekspres kupovine (Express Purchase, EP). Korišćenjem SSI usluge, korisnik se može prijaviti za kupovinu na nekom Veb sajtu, samo jednim klikom na Logovanje pasoša (Passport logo). Ova opcija se nalazi na svakom Veb sajtu koji je učesnik ovog sistema. Isto tako, korišćenjem EP opcije (ekspres kupovina), se sa samo jednim klikom, mehanizmi plaćanja koje kupac preferira, saopštavaju kupovnoj kartici prodavca. Sa pasošem više nema potrebe da se na svakom Veb sajtu ispunjava formular za kupovinu. Pasoš je jedinstven među digitalnim novčanicima, jer iz procesa plaćanja izostavlja digitalne sertifikate. Ranije šeme digitalnih novčanika su se zasnivale na digitalnim sertifikatima, koji su služili za proveru autentičnosti transakcije između prodavca i klijenta. Korisnik dobija Pasoš, otvaranjem e-mail računa na MSN.com, ili Hotmail.com, registrovanjem na Veb sajtu nekog prodavca ili registrovanjem na www.passport.com. Za dobijanje jedinstvenog prijavnog profila, neophodno je da navede Prijavno ime i Lozinku (password), kao i opšte informacije. Razmena ovih informacija je šifrovana putem SSL-a. Korisnik ima opciju da kreira Profil novčanika. Profil sadrži informacije o plaćanju kreditnom karticom ili drugim platnim mehanizmom, koji se može upotrebiti na Veb sajtu prodavca, koji podržava opciju EP (Ekspres kupovinu). Čim se profili kreiraju, korisniku se izdaje 64-bitni Jedinstveni Identifikator Pasoša (PUID - Passport Unique Identifier). PUID je akreditivna potvrda identiteta, koja se šalje prodavcu, kada se vlasnik pasoša prijavi na njegovom Veb sajtu. Sajтови koji učestvuju u ovom sistemu nikad ne primaju stvarnu Lozinku korisnika pasoša. Kada registrovani korisnik klikne na Logovanje pasoša, na sajtu se otvara strana za Prijavu pasoša, gde korisnik unosi svoje Prijavno ime i Lozinku (istu koju je dobijao prilikom registracije za dobijanje pasoša). Prijava se preusmerava na server Microsoft-ovih pasoša, radi provere autentičnosti korisnika. Pasoš potvrđuje identitet korisnika i upisuje "kolačić" - "cookie" na korisnikov browser, koji sadrži šifrovanu potvrdu identiteta i informaciju iz profila Pasoša. Menadžer Pasoša, na sajtu koji učestvuje, dešifruje ove informacije. Menadžer Pasoša, zatim tajno smešta korisnikov identitet i informacije o profilu na "kolačić", koji je na korisnikovom brauzeru, i neprestano ih upoređuje, dok korisnik pregleda njegov sajt. Usluga Ekspres plaćanja funkcioniše veoma slično.

Biznis plan prodavaca novčanika smeštenih na serveru, je da svoj proizvod prodaju direktno onlajn prodavcima i velikim finansijskim posrednicima, kao što su Visa, MasterCard i DiscoverCard, kao i da razvijaju usluge plaćanja korišćenjem poznatih marki i zaštitnih znakova, što će korisnicima ulivati dodatno poverenje i smanjiti njihov strah od zloupotrebe kartica. Prodavci ovih novčanika ukazuju na činjenicu da se preko 60% pokušaja onlajn kupovine kreditnom karticom završava neuspehom, pre nego što se popuni narudžbenica. Razlozi su obično sledeći: korisnik se u procesu popunjavanja narudžbenice

zbuni, ili se proces naručivanja prekida, jer se korisnik boji da ispuni deo narudžbenice koji se odnosi na informacije o njegovoj kreditnoj kartici. Prodavci novčanika razvijaju partnerske odnose sa vodećim asocijacijama kreditnih kartica, kao što su Visa i MasterCard, i bankama koje izdaju kreditne kartice, Wells Fargo, Citibank i Chase, a sve u cilju brzog pronalaženja rešenja za otklanjanje straha od zloupotrebe kartica i problem zbuñivanja korisnika prilikom popunjavanja formulara.

Sistem Microsoftovog Pasoša je trenutno besplatan i za kupce i za prodavce. Microsoft obećava da informacije o ličnom identitetu korisnika neće nikad prodavati, ni firmama za marketing, ni firmama za reklamu. Očigledno je da će korist na bazi tehnologije digitalnog novčanika, biti uočljivija tek kada bude široko rasprostranjena i korišćena. Tek u takvim uslovima će ova tehnologija biti korisna za svakoga. Korisnici pružaju otpor ažuriranju platnog sistema, oslanjajući se na ustaljeni način plaćanja kreditnom karticom, prevashodno zbog prednosti ovog platnog mehanizma koje smo napred već naveli. Korisnici nemaju poverenja u digitalni novčanik čija je baza udaljeni server. Strah zbog ostavljanja ličnih podataka negde na udaljenom serveru i dalje je prisutan. Vrlo je neizvesno da li će Microsoft uspeti da prevaziđe ovu prepreku. Kupci i dalje daju prednost manuelnom ispunjavanju formulara u odnosu na tehnologiju digitalnog novčanika. Digitalni novčanici ukidaju korisnicima ono što je za njih najveća korist, a koju imaju kod postojećeg sistema onlajn plaćanja kreditnom karticom: mogućnost odlaganja novčane transakcije i/ili odbijanje plaćanja u slučaju da roba nije isporučena, ili isporučena roba nije zadovoljavajućeg kvaliteta. Korisnici digitalnog novčanika veoma teško mogu da odbiju ili opovrgnu transakciju, jer ove transakcije podležu višestepenoj proveru identiteta i autentičnosti. Za prodavce su SET standardi previše komplikovani i skupi za implementaciju, iako polako prihvataju tehnologiju, koju im nude prodavci digitalnih novčanika (koriste njihovu infrastrukturu). Onlajn prodavci još uvek eksperimentišu sa nekim uslugama koje pruža digitalni novčanik, a koje korisnici još uvek nerado koriste. Pokušaji da se razvije standard za digitalne novčanike su uveliko propali. Konzorcijum koji su formirali Dell, AOL, American Express, Sun Microsystems, Brodia, MasterCard, IBM i Microsoft za razvoj standarda nazvanog Modelovanje jezika elektronske trgovine (ECML- Electronic Commerce Modeling Language) napravio je mali kolektivni napredak, jer se Microsoft-ov Pasoš zaista povinovao ovom standardu. Druge grupe koje su konkurencija u razvijanju standarda, kao što su OTP (Open Trading Protocol - Protokol slobodne trgovine) i OBI (Open Buying on the Internet - Slobodna kupovina na Internetu) takođe su ostvarile mali napredak. Prodavci na Internetu usvajaju različite, konfliktne platforme, koje su od vrlo male koristi za njihove kupce. Zbog različitih platformi, kupci bi za efikasnu onlajn kupovinu na Internetu, morali imati više različitih digitalnih novčanika, pa je sasvim jasno da će biti potreban čitav niz godina, da vizija upotrebe digitalnog novčanika bude ostvarena i opšte prihvaćena. Mnoge kompanije koje su koristile digitalne novčanike čija je baza korisnik, su doživele jednu od sledećih sudbina: nestale su sa tržišta, kupile su ih kompanije koje prodaju digitalne novčanike ili su ih kupile softverske firme specijalizovane za softver namenjen uslugama plaćanja. Na primer, DigiCash, jedna od prvih kompanija koja je koristila digitalni novčanik čija je baza korisnik, je povukla svoje proizvode sa tržišta, ali je njena marka (brand) iskorišćena za prodaju čitavog niza digitalnih novčanika prodavcima. Dokle god je tehnologija digitalnih novčanika ugrađena u tehnologiju platforme, bilo u operativni sistem ili u korisnički brauzer, ovakvi standardi neće zaživeti, i od ove tehnologije neće biti veće koristi.

4. MIKRO PLAĆANJA - ELEKTRONSKA TRGOVINA

Mikro-plaćanja (pa čak i piko-plaćanja) su termini koji se sve češće pominju na Internetu. Mikro-plaćanja su elektronska plaćanja male vrednosti, koja su specijalno dizajnirana za elektronsku trgovinu na Internetu, pre svega za trgovinu nematerijalnim dobrima (npr. za 301 distribuciju softvera, filmova, muzike, fotografija, elektronskih magazina i sl.).

Mikro-plaćanja sada čine graničnu oblast elektronskog plaćanja i predmet su interesovanja i rasprava među protagonistima i analitičarima elektronske trgovine. Ova oblast je predmet ubrzanog istraživanja i razvoja mada je, do sada, izgrađen samo mali broj funkcionalnih sistema. U digitalnom svetu dolazi do dematerijalizacije i samog medijuma na kome se nematerijalna dobra isporučuju, tako da nematerijalna dobra poprimaju oblik digitalnih tokova koji, kako se tvrdi, mogu da se vrednuju na sličan način kao i električna energija ili voda. U Japanu je, s tim u vezi, formiran koncept "superdistribucije", koji se odnosi na distribuciju nematerijalnih dobara u elektronskom obliku⁴. Najpoznatiji među njima su Millicent (sistem koji je razvila DEC), CyberCoin (firme CyberCash), NetBill (sistem razvijen na Carnegie Mellon univerzitetu) i Clickshare (sistem koji je razvila istoimena firma iz Masacusetsa). Uprkos velikom interesovanju i intenzivnom razvoju ovih sistema, postoje i izvesni problemi koji će, verovatno, biti od presudnog značaja za sudbinu ovih sistema. Za bezbednost sistema od suštinskog značaja je enkripcija. Enkripcija putem javnog ključa zahteva obimne proračune i opravdana je u slučaju transfera većih vrednosti, ali se postavlja pitanje svrsishodnosti njene primene na transakcije male vrednosti. Drugi problem je ekonomičnost mikro-plaćanja. Jedan od glavnih razloga zbog kojeg se kreditne kartice ne koriste za mikro-plaćanja jeste problematičnost obrade i alokacije provizija za plaćanja ispod 20 dolara. Ove provizije, koje obično iznose 2-3% od plaćenog iznosa, raspodeljuju se između 3 ili 4 učesnika. Gotovo svako ko se bavi uslugama elektronskog plaćanja preko Interneta izjavljuje svoju nameru da ponudi mikro-plaćanja, bilo kao deo svoje postojeće ponude ili kao novi proizvod. Jedan od novijih sistema za mikroplaćanja je Clickshare, koji je razvila firma Clickshare Service Corp. iz Clickshare predstavlja rešenje za elektronsku trgovinu preko Interneta koje omogućava korisnicima da, nakon registracije, obavljaju jednostavnu kupovinu digitalnih sadržaja (MP3 muzike, filmova, tekstova, softvera i sl.) preko Interneta. Troškovi kupovina akumuliraju se na računu kod nekog agenta od poverenja (recimo kod banke, emitenta kreditne kartice, Internet provajdera i sl.). Clickshare omogućava registraciju, autentizaciju, personalizaciju, kontrolu pristupa, merenje posećenosti i kupovinu. On funkcioniše na sajtovima onih vlasnika koji žele saradnju u oblasti prodaje digitalnih sadržaja na bazi pretplate ili na tzv. "pay-per-click" osnovi. Softver koji vrši obradu transakcija izvršava se na serverima firme Clickshare i serverima njenih partnera. To znači da, za razliku od drugih sličnih sistema, Clickshare ne zahteva instaliranje "digitalnog novčanika" na računaru korisnika, niti otvaranje računa. Clickshare omogućava izvršavanje transakcija ispod 5 centi.

Clickshare servis je kombinacija Veb server softvera (za koji Clickshare Service Corp. ili druge ovlašćene firme daju besplatnu licencu) i mrežnih servera (koji su vlasništvo kompanije Clickshare ili poseduju njenu licencu) koji vrše autentikaciju korisnika na većem broju nezavisnih Internet sajtova i akumuliraju transakcije i podatke o pristupu bez prosljeđivanja informacija o kreditnim karticama ili imenima potrošača preko otvorene mreže. Clickshare omogućava korisniku da na Veb serveru agenta od poverenja (tj. banke, Internet provajdera ili neke druge firme u koju korisnik ima poverenje) kreira jednu datoteku koja sadrži njegovo ime, adresu, broj računa i druge podatke. U svakoj narednoj kupovini putem Clickshare sistema, korisnik može svakom Veb sajtu prilikom iniciranja transakcije kupovine da "ponudi" pristup ovoj datoteci.

Trgovački sajtovi koji koriste Clickshare tehnologiju mogu pristupiti pomenutoj datoteci i dešifrovati informacije o korisniku, čime se ukida potreba korisnikove registracije na datom sajtu.

Nakon provere informacija o korisniku, na raspolaganju je veći broj akcija koje se mogu preduzeti:

1. prodaja informacija (mikro-plaćanja);
2. praćenje korisnikovog kretanja u cilju prikupljanja demografskih podataka neophodnih za reklamiranje (merenje posećenosti);
3. isporuka informacija koje su prilagođene korisnikovim specifičnim zahtevima (personalizacija) i
4. odobrenje ili odbijanje pristupa specifičnim Veb resursima ili bazama podataka (kontrola pristupa).

Umesto formiranja ogromne centralne baze podataka, privatnost potrošača u Clickshare sistemu štiti se na taj način što se osetljivi podaci o imenu i broju računa korisnika skladište u nekoj lokalnoj bazi podataka (koju održava agent od poverenja koga je korisnik izabrao). Ovo je tzv. "reverse-cookie" pristup, koji pruža veću garanciju tačnosti podataka o korisniku.

4.1. MOBILNO PLAĆANJE

Servisi mobilnih plaćanja su još uvek u fazi razvoja. Za sada još uvek nema najboljeg rešenja koje bi zadovoljilo kritičnu masu korisnika i koje bi se nametnulo kao standard na tržištu. Mobilno plaćanje predstavlja najkritičniji deo m-commerca u vreme kada se mobilni uređaji sve više koriste kao transakcioni agenti. Razvoj mobilnog plaćanje će se nastaviti sve dok se ne iskristališe jedno ili dva rešenja koja će se nametnuti kao standard na tržištu. Tek tada se može očekivati da korisnici prihvate mobilno plaćanje kao alternativu uobičajenim metodama plaćanja. Za sada imamo nekoliko obećavajućih eksperimenata u ovoj oblasti. Mobilni keš predstavlja način punjenja mobilnih telefona "kešom" najčešće pomoću smart kartica. Koncept je još uvek u eksperimentalnoj fazi i još uvek nema jedinstvenog procesa koji bi se nametnuo kao standard u ovoj oblasti. Postoji nekoliko inicijativa uključujući Visu i Barclays iz Velike Britanije. Obe kompanije su pustile u probni rad sistem zasnovan na debitnim smart karticama koji omogućavaju plaćanje i primanje keša putem bežične mreže. Različita rešenja treće strane omogućavaju da se ovaj problem prevaziđe, ali ona mogu da stvore nepotrebne troškove za firmu i kasnije probleme prilikom puštanja softvera u rad koji se tiču prilagođavanja sa njihovom aplikacijom. Sa druge strane finansijske institucije koje misle da su u mogućnosti da dostignu potreban stepen sigurnosti, a da izbegnu probleme koje donosi sistem spoljne nabavke moraju da sagledaju sve relevantne činjenice u vezi zaštite softvera. Danas banke širom sveta nude širok raspon bankarskih usluga putem svojih mobilnih kanala. U Singapuru, korisnici mogu da proveravaju stanje na svom bankovnom računu, vrše transfer novca sa računa na račun i vrše plaćanja. Oni takođe mogu da vide poslednje uplate, proveravaju kursnu listu ili vide vrednosti deonice na tržištu. Banka takođe koristi mobilne tehnologije da prenese važne finansijske informacije do svojih korisnika.

U SAD, Charls Swab nudi kompletnu trgovinu deonicama, počev od vrednosti akcija do ponude i verifikacije trgovine preko mobilnih uređaja. Takođe nudi glasovnu analizu eksperata za trgovinu deonicama. MeritaNorthBanken iz Skandinavije nudi sistem trgovine baziran na WAP tehnologiji koji omogućava plaćanje kod preko 700 virtualnih trgovaca.

Trgovci su registrovani u bančinom sistemu i plaćanje se obavlja direktno sa bankovnog računa korisnika, proces plaćanja se obavlja tako što korisnik unese svoju šifru, broj računa, iznos i broj transakcije. Neke banke koriste mogućnosti mobilnih telefona i uvode plaćanje pomoću kreditnih ili debitnih kartica.

Samo banka ima pristup relevantnim podacima koji opisuju korisnikovo ponašanje, kao što su kupovna moć, kreditna sposobnost, modeli transakcija. Ove informacije koje su često fragmentisane i nepotpune mogu se, ukoliko se lepo obrade, iskoristiti da objasne korisnikovo ponašanje i da se razumeju njegove potrebe. Banke su takođe u tesnoj vezi sa korporacijama i sa poslovnim partnerima. Njima treba ponuditi usluge m-bankarstva. Po istraživanjima Artura D Litla 75% klijenata finansijskih institucija je u mogućnosti da koristi rešenja m-bankarstva. Međutim, ista istraživanja pokazuju da nije dovoljno ponuditi samo mogućnosti izvršenja jednostavnih transakcija. Znači da ponuda većine banaka koja se svodi samo na jednostavne finansijske transakcije ne predstavlja značajan uspeh. Ponuda kompletnih finansijskih rešenja doprinosi stvaranju jedinstvenog imidža banke.

5. ZAKLJUČAK

Potreba automatizovanja transakcija izvan nacionalnih granica dovela je do stvaranja jednog međunarodnog međubankarskog platnog sistema na veliko. Naime, početkom sedamdesetih godina u Briselu je osnovan SWIFT, a nešto kasnije IBOS i FNA. Time je, za izvesno vreme, rešen problem automatizovanja transakcija u bankarstvu na veliko. Pitanje automatizovanja transakcija u bankarstvu na malo dugo je ostalo po strani zbog toga što je vrednost prosečne transakcije relativno mala. Zbog visokih cena neophodne opreme i infrastrukture za formiranje platnih sistema na malo, troškovi po jednoj transakciji bili bi previsoki u odnosu na vrednost same transakcije. Prava revolucija u oblasti bankarstva na malo međutim, tek predstoji. Ova revolucija bazirana je na ideji da se za automatizovanje transakcija u bankarstvu na malo ne formira nova infrastruktura, već da se iskoristi postojeće javne računarske mreže. U ovoj oblasti trenutno dominiraju velike i male informatičke i softverske firme koje mogu uspešno da konkurišu velikim bankama, pogotovo kada se uzme u obzir da one do sada nisu imale nikakva ulaganja u skupu infrastrukturu ogranaka i filijala, te da su marginalni troškovi korišćenja javnih računarskih mreža izuzetno mali. Stvoren je čitav niz novih i revolucionarnih proizvoda i usluga u bankarstvu na malo.

REFERENCE

- [1] Drašković M., *Kompjuterska nauka*, treće dopunjeno i izmenjeno izdanje, Beograd: Evropski univerzitet za menadžment, 2002
- [2] Hembel G. *Bank Management*, John Willey & Sons, Njujork, 1999
- [3] Krsmanović, S. *Informacioni sistemi u mrežnom okruženju*, Beograd, Univerzitet Braća Karić, 2001
- [4] Seity, J. i dr. *Internet Banking-an Overview*, *Journal of internet banking and commerce*, Vol.3. No 1, jun 2003

[5] Pyun, C. Internet Banking in the US, Japan and Europe, *Multinational Business Review*, jesen 2002

[6] Radovanović P - Tehnologizacija banarstva, VEŠ, Leskovac, 2005.

[7] Rose S. Hudgins S. Bankarski menadžment i finansijske usluge, Data status, Beograd, 2005

[8] www.ebrd.org

[9] www.raifeisenbank.rs

THE ROLE OF QUALITY IN CONCEPT OF VALUE CHAIN IN TOURISM

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Abstract: The paper is devoted to the value obtaining and generated across the chain. This is a new approach that is used nowadays by many managerial strategies. As the management of tourist businesses is connected with the entire destination offer, the strategic management of a single enterprise is conducted in the development context of that concrete destination. The values that a tourist enterprise generates are measured by the amount of purchases (product and services) that the consumers are ready to pay for. The enterprise is profitable if it exceed the total expenses that are needed for management of all activities in the chain. Porter's value chain's the most recognized model for analysis of ways of creating additional value for consumers and thus of achieving their support. Although the value chain includes primary and secondary activities in an enterprise, the value chain is managed on the system level and not on the level of it's separate parts. Today's creation value must be multidirectional, and not linear, in order to be competitive, to successfully research the possibilities, threats, and risk management and to simultaneously generate new ways of creating values for consumers.

Keywords: quality, strategic management, primary and secondary activities, value chain

ULOGA KVALITETA U KONCEPTU LANCA VREDNOSTI U TURIZMU THE ROLE OF QUALITY IN CONCEPT OF VALUE CHAIN IN TOURISM

Jovana Gligić – Dumonjić, Anja Gligić – Savić

Abstrakt: Rad se bavi proučavanjem vrednosti dobijene i generisane duž lanca. To je nov pristup koji danas koriste mnoge upravljačke strategije. Kako je poslovanje preduzeća u turizmu u sprezi sa čitavom ponudom na destinaciji to se strategijsko upravljanje pojedinačnim preduzećem obavlja u kontekstu razvoja konkretne destinacije. Vrijednost koju stvara preduzeće u turizmu mjeri se količinom kupovina koju su potrošači spremni da plate za njegove proizvode i usluge. Preduzeće je profitabilno ukoliko premaši ukupne troškove koji su neophodni za obavljanje svih aktivnosti u lancu. Porterov lanac vrijednosti je najpoznatiji model za analizu načina kako da se kreira dodatna vrijednost za potrošače i time stekne njihova naklonost. Iako lanac vrijednosti obuhvata primarne i sekundarne aktivnosti u preduzeću, upravljanje lancem vrijednosti obavlja se na nivou sistema, a ne u njegovim separatnim dijelovima. Današnja vrijednost kreacija mora biti multidirekciona, a ne linearna, kako bi bila konkurentna, uspješno istražila mogućnosti, prijetnje i upravljanje rizicima i istovremeno generisala nove načine za stvaranje vrijednosti za potrošače.

Ključne reči: kvalitet, strategijski menadžment, primarne i sekundarne aktivnosti, lanac vrijednosti;

1. UVOD

U strategijskom menadžmentu kvalitet predstavlja najznačajniju komponentu za primjenu lanca vrijednosti kao bitnog pravca kreiranja upravljačkih strategija svakog, pa tako i turističkog preduzeća. Sam lanac vrijednosti je, u stvari, vrlo zahvalan koncept poslovnog upravljanja koji je, prije svih, predstavio Majkl Porter još 1995 godine¹. Lanac vrijednosti je osnov za kreiranje generičkih strategija. Dakle, vrijednosni lanac karakterišu generičke aktivnosti dodavanja vrijednosti jednog preduzeća kroz primarne i prateće aktivnosti. Pri tome su troškovi pojedinačnih aktivnosti u lancu posebno identifikovani. Tada okvir vrijednosti lanca postaje u primjenom moćan analitički alat u cjelokupnom procesu strateškog planiranju. Osnovni cilj je maksimiranje vrijednosti proizvoda i usluga uz minimiziranje ukupnih troškova, što dalje predstavlja osnov strateškog pozicioniranja (kvalitet, kontinuitet, konkurentnost). To znači da je u pitanju model primjenljiv u strategijskom menadžmentu, koji opisuje seriju aktivnosti koje povezuju dobavljačku stranu svake kompanije (sirovine, materijal, unutrašnju logistiku i proces kreiranja proizvodnje i pružanja usluga) sa stranom tražnje (spoljnom logistikom, marketingom i plasmanom proizvoda i usluga). Narastajuća uloga kvaliteta kao dio upravljačke strategije u strategijskom menadžmentu u savremenom poslovanju biće presudna u žestokoj tržišnoj utakmici.

2.SAVREMENI KONCEPT VREDNOSNOG SISTEMA

U cilju objašnjavanja neophodne potrebe odvajanja koncepta vrijednosnog lanca od troškova koji nastaju samim procesom njegovog nastanka, Porter navodi primer dijamantskog rezača, čiji su troškovi sječenja, svakako, niži od dodatne vrijednosti koju ova aktivnost donosi krajnjem proizvodu². Integralni koncept se može koristiti u okviru preduzeća, može biti proširen na čitav nabavljački lanac i distributivnu mrežu. Dostava miksa proizvoda i usluga krajnjem potrošaču mobilise različite faktore, od kojih svaki upravlja svojim sopstvenim lancem. Međutim, industrijski široko sinhronizovane interakcije ovakvih lokalnih vrijednosnih lanaca stvaraju jedan sveobuhvatniji lanac vrijednosti, koji ponekad prerasta i u globalni. Ovaj veliki, međusobno povezani sistem vrijednosnih lanaca naziva se "vrijednosnim sistemom". Na taj način ovaj vrijednosni sistem uključuje vrijednosne lance kompanija i to: nabavljača i svih njihovih stejkholdera unazad; samu kompaniju, kompanije iz distributivnih kanala; i kompanije koje predstavljaju kupce, koji uključuju i sve naredne njihove kupce u lancu. Dakle, predstavlja umrežen, vrlo kompleksan model koji implementira strateški (top) menadžment u preduzeću na sve turbulentnijem turističkom tržištu. S druge strane utiče na podizanje kvaliteta turističkog proizvoda i usluga što u cilju maksimiranja profita predstavlja primarni motiv poslovanja turističkog preduzeća. Potom treba imati u vidu da lanac vrijednosti predstavlja koncept koji dezagregira preduzeće u njegove strategijski relevantne aktivnosti da bi se razumjelo ponašanje troškova i okvir potencijalnog izvora za diferenciranje³. Upravo je dobijanje vrijednosti generisane duž lanca predstavlja nov

¹ Porter, M., *Competitive Advantage: Creating and Sustaining Superior Performance*, The Free Press, New York, 1985, str.33.

² On zaključuje: "kao što je grubi, neobrađeni dijamant manje vredan od sečenog i obrađenog".

³ Milisavljević, M., Maričić, B., Gligorijević, M., *Osnovi marketinga*, CID, Ekonomski fakultet, Beograd, 2009., str.164.

pristup koji se koristi u primjeni upravljačkih strategija⁴. Podrobnije analiziranje vrijednosnog lanca omogućava menadžerima da preformulišu svoje interne i eksterne procese da bi podigli nivo efikasnosti i efektivnosti. U tradicionalnom vrijednosnom lancu informacije dobijene, npr. od roba, iz proizvodnje ili logistike, tretiraju se kao podrška sistemu, koju menadžeri češće koriste kao pomoć u monitoringu i kontroli ovih procesa, a ređe kao izvor stvaranja nove vrijednosti za potrošače⁵. Međutim, iako su mnogi upravljački sistemi, u savremenim uslovima, zasnovani na Porterovom vrijednosnom lancu, postoje brojne primjedbe i kritike ovog vrijednosnog sistema, kako iz akademski redova, tako i od eksperata iz prakse. Na primjer, "SCOR", US DOD, koji je inoviran u DCOR i VRM samo su neki od brojnih upravljačkih sistema koji su podudarni sa Porterovim vrijednosnim lancem. Rasprave idu u pravcu da model lanca vrijednosti ne može biti "panaceja" za rješavanje svih ekonomskih problema. Suština kritika odnosi se na potrebu promjena ovog linearnog modela u vertikalne, horizontalne, čak i dijagonalne koncepte. Zagovornici smatraju da je prošlo vrijeme kada je, u dvadesetom vijeku, ovaj tradicionalni menadžerski model, mogao uspješno rješavati poslovne situacije "duž zemaljskih telekomunikacija i automobilske industrije", s obzirom na to da su današnje inovacije kreirane kroz različite oblike i veličine i prilično neočekivane. Stoga pojedini eksperti argumentuju da današnja vrijednosna kreacija mora biti multidirekionalna, a ne linearna, da treba da istraži mogućnosti i prijetnje i da uspješno upravlja rizicima, ispostavlajući dodatni uticaj na potrošačku tražnju i generišući nove načine za kreiranje vrijednosti za potrošače⁶. Na primjer, izvesne kompanije svoje inovacije kritičnih komponenti u nabavci dobro zaštićuju, te tako obezbjeđuju sebi značajan rast tržišnog učešća. To iskustvo koriste mnoge savremene kompanije u turističkoj djelatnosti, mada ta strategija ima niz specifičnosti u radno intezivnim granama što predstavlja turizam. Međutim, adaptabilnost turističkih preduzeća tržišnim turbulencijama predstavlja nov kvalitet.

3.NIVO KVALITETA PREDUZEĆA U TURIZMU

Najveću pažnju, na nivou strateških analiza preduzeća, svakako zaslužuje interna analiza elemenata poslovanja. Dakle, od angažovanih inputa, njihove sposobnosti za stvaranje ekonomske rente, svih jakih i slabih strana u poslovanju, koje na kraju lanca vrijednosti integrišu i isporučuju dodatnu vrijednost potrošaču, zavisi strateški izbor koncepta koji će najbolje da doprinese ne samo valorizaciji raspoloživih resursa preduzeća nego i satisfakciji potrošača odnosno sadašnjih i potencijalnih turista.

U kontekstu posmatranja konkurentnosti, na tržištu, jednog turističkog preduzeća neophodno je imati u vidu više faktora koji pojedinačno ostvaruju određene troškove, stvarajući time osnov za diferencijaciju. Lanac vrijednosti obuhvata devet strateških relevantnih aktivnosti koje kreiraju vrijednost i troškove u određenom poslu. U pitanju je

⁴ Na primer, proizvođač može da traži od dela svojih nabavljača da budu locirani u blizini fabrike da bi smanjio transportne troškove. Tako istražujući informacije duž vrednosnog lanca, kompanije mogu da zaobiđu posrednika, kreirajući novi poslovni model ili dizajnirajući poboljšanja u sopstvenom vrednosnom sistemu.

⁵ Kim, Ch.W., "Enhancing the Role of Tourism SMEs in Global Value chain, A Case Analysis on Travel Agencies and Tour Operators in Korea, OECD, 2005.

⁶ Pil, F.K., Holweg, M., "Evolving from value chain to value grid", MIT Sloan Management Review, 2006, str.72-80.

pet primarnih aktivnosti i četiri aktivnosti podrške⁷. Turističko preduzeće stvara vrijednost za svoje potrošače koja se mjeri količinom kupovina koji su ovi spremni da plate za proizvode i usluge preduzeća. S druge strane, treba imati u vidu da je preduzeće profitabilno u ovom lancu ukoliko premaši ukupne troškove koji su potrebni za obavljanje svih aktivnosti u lancu. Prednost na tržištu najčešće obezbjeđuje kreiranjem strateški važne aktivnosti po nižim troškovima, ili pak, bolje od konkurencije. Ukupne aktivnosti u vrijednosnom lancu doprinose lancu potrošača i na taj način stvaraju dodatnu odnosno uvećanu vrijednost.

Primarne aktivnosti odnose se na poslove uzlazne logistike, znači poslove prijema, skladištenja i raspodjele ulaznih materijala na turističke proizvode i usluge:

- na proizvodnju, znači obavljaju se izvjesne operacije kako bi se finalizovao proizvod;
- na izlaznu logistiku, znači prevoz finalnih proizvoda odnosno inputa;
- marketing i prodaju i usluge, znači servisiranje (predstavljanje) proizvoda;

U aktivnosti podrške spadaju nabavka, razvoj tehnologije, menadžment ljudskih resursa i infrastruktura preduzeća, kao što su finansije, planiranje i generalni menadžment. Naravno da uspjeh turističkog preduzeća ne zavisi samo od pojedinačnih performansi sektora u preduzeću, već i od njihove međusobne koordinacije. Svaka od aktivnosti u turističkom preduzeću, bez obzira o kojoj vrsti poslovanja se radi, npr. organizovanju putovanja, podrazumijeva da se određeni ulazni imputi (smještaj, prevoz, itd.) troše, kao i radna snaga (turoperatora ili turističkih agencija), da se troše određene tehnologije (npr. CRS, GDS ili Internet); da se zapošljavaju određene fiksne službe (finansija, planiranja ili generalni menadžment) koje, isto tako, proizvode određene troškove. Strategija lanca vrijednosti, međutim, podrazumijeva način na koji preduzeće obavlja pojedine aktivnosti i kako organizuje čitav lanac vrijednosti da bi postiglo konkurentsku prednost. Aktivnosti koje znače konkurentsku prednost u ostvarivanju lanca vrijednosti variraju po značaju u različitim dijelovima turističke industrije. Tako je u slučaju velikih organizatora putovanja krucijalna aktivnost nabavka imputa smještaja i prevoza na veliko, što im u startu daje bolju poziciju u odnosu na manja i srednja preduzeća u formiranju turističkog proizvoda i usluga, a pogotovo u poređenju sa individualnom prodajom ovih elemenata.

Međutim, ako su u pitanju kategorije turoperatora približno iste snage (gdje postoji pretpostavka da će ulazne impute za formiranje proizvoda nabaviti po približno istim cijenama, onda su, najčešće, opredeljujuća aktivnost kanali prodaje i s tim u vezi s tim organizovana promocija, a tek onda aktivnosti vezane za uspostavljanje cenovne politike. S druge strane, ako se radi o jakoj mreži turističkih agencija koji imaju geografski dobru pokrivenost i dobru lokaciju, koriste savremenu tehnologiju, kako u sistemu prodaje, tako i u promociji, onda će ostvareni prihodi, svakako, premašiti plaćenu agencijsku proviziju, što će značiti konkurentsku prednost u lancu vrijednosti. Pri tome, treba imati u vidu da kompanije često stiču konkurentsku prednost u zavisnosti od načina na koji obave određenu aktivnost⁸. Međutim, kompanija predstavlja više od skupa sopstvenih aktivnosti. Moguć je nastanak dodatnih troškova, obično od strane onih koji utiču na posao kompanije, ali su sami van njenog sistema.

⁷ Kotler, Ph., Marketing Management: Analysis, Planning, Implementation and Control, 8th ed., Prentice Hall International, New Jersey, 1994., str.43.

⁸ Na primer, veliki nemački koncern TUI prvi se odvažio i počeo internacionalno da posluje, prelazeći granice drugih evropskih zemalja i time stekao konkurentsku prednost u odnosu na ostale, posebno nemačke i britanske organizatore putovanja.

Na primjer, kad je u pitanju proces pružanja usluga na terenu, ukoliko domicilni agent, "hendler", ne reši moguće nesporazume i prigovore gostiju na licu mjesta, to može biti izvor njihovog nezadovoljstva i može značajno da poljulja konkurentnost organizatora putovanja, posebno imajući u vidu karakteristike većine turističkih usluga koje su "neopipljive" i obično vezane za doživljaj gosta. Stoga je neophodno pažljivo upravljanje eventualnim "odlivanjima", jer se upravlja lancem vrijednosti u preduzeću obavlja na nivou sistema, a ne u njegovim separatnim delovima⁹. Međutim, kako je poslovanje preduzeća u turizmu u sprezi sa čitavom ponudom na destinaciji, to organizovanje lanca vrijednosti u preduzeću ne može da se posmatra izolovano od njegove uloge u lancu vrijednosti čitave destinacije.

4. KVALITET NIVOVA TURISTIČKIH DESTINACIJA

Turistički proizvod koji nudi određena turistička destinacija, različiti segmenti turističke tražnje vide na različite načine. S druge strane, oni koji upravljaju određenom destinacijom imaju na raspolaganju proizvodni miks ili asortiman¹⁰. Razumijevanje načina na koji jedna industrija stvara vrijednost ključ je za razumijevanje uloge svakog igrača u industriji pojedinačno, kao i primjene njihove pozicije u zavisnosti od promjena pravila igre¹¹. Koncept lanca vrijednosti destinacije koristi se za dublju analizu turističkog lanca vrijednosti, odnosno usklađivanje internih i eksternih inputa na destinaciji radi postizanja konkurentne prednosti. Lanac vrijednosti upućuje da se konkurentna prednost stiče, u velikoj mjeri, zavisno od načina upravljanja svakom pojedinačnom aktivnošću i njihovom međusobnom interakcijom. U ovom konceptu osnovni cilj je smanjenje troškova u svakoj aktivnosti, ne samo u turističkom preduzeću, već i kod njegovih dobavljača na destinaciji, kao i distributera. Na taj način ostvaruje se konkurentna prednost, a za potrošače ostvaruje dodatna vrijednost. Turistička preduzeća na destinaciji treba međusobno da koordiniraju svoje aktivnosti, da sarađuju, da usklade sopstvene i destinacijske strateške interese radi formiranja proizvoda destinacije¹². Dakle, tržišno orijentisana turistička preduzeća moraju sama da odluče gde će u svijetu da obavljaju pojedine svoje aktivnosti u lancu vrijednosti. Taj koncept se naziva konfiguracijom, za razliku od koordinacije, koja govori o stepenu povezanosti određenih aktivnosti u pojedinim zemljama i njihove prilagođenosti lokalnim uslovima na destinaciji¹³.

Tako u primarne aktivnosti turističkog lanca vrijednosti spadaju: transport, usluge na destinaciji, prodaja na veliko/pakovanje paket-aranžmana, marketing i prodaja, prodaja na malo i servisiranje potrošača. Međutim, svaka od ovih aktivnosti kreira sopstvenu vrijednost, obavljajući različite poslove.

Prateće aktivnosti u turističkom lancu iste su vrijednosti kao i kod drugih grana i obuhvataju: infrastrukturu preduzeća, razvoj radne snage, razvoj proizvoda i usluga, razvoj tehnologije i nabavku roba i usluga. Kao odgovor na širenje globalizacije i sve veću konkurenciju, preduzeća se, najprije u okviru svoje grane na destinaciji, horizontalno ili vertikalno, u cilju povećanja tržišnog učešća. Pojedina turistička preduzeća nastoje da pokriju što je moguće više aktivnosti na terenu, da bi se ostvarila što veća kontrola u lancu

⁹ U ovome su najdalje otišle japanske kompanije, koje imaju posebne sektore koji se bave menadžmentom "odlivanja" u kompaniji.

¹⁰ Petrović, P., **Menadžment kvaliteta i monitoring integrisanog turističkog proizvoda, DQM 2011, str.148-157.**

¹¹ Poon, A., *Turism, Technology and Competitive Strategies*, CABI Publishing, New York, 1998., str.208.

¹² Đurašević, S., "Koncept lanca vrednosti u turizmu", *Hotellink*, Visoka hotelijerska škola, Beograd, br.12, 2008., str.11-21.

¹³ Porter, M., navedeni rad, str.123.

vrijednosti. Granice između privrednih grana se gube, djelatnosti se miješaju, a kontrola nad aktivnostima postaje sve važnija.

U takvim uslovima dolazi do redefinisivanja odnosa među učesnicima, kao na određenoj destinaciji tako i u turizmu uopšte. Turizam mijenja lanac vrijednosti u dvije oblasti:

- veći udio u lancu vrijednosti imaju oni igrači koji prikupljaju i distribuiraju informacije (oni koji određuju rute putovanja, koji se bave marketingom i odnosima sa javnošću, turistički vodiči, savjetnici, kupci avio-sedišta i hotelskih kapaciteta, predstavnici na destinaciji, distributeri i dr.);

- učesnici koji su bliži turističkim potrošačima (turističke agencije, hoteli i svi drugi dobavljači na terenu);

S druge strane, mnogi eksperti smatraju da je distribucija najvažnija aktivnost u turističkom lancu. Bez odgovarajućeg avio-prevoza i kanala prodaje, koji će proizvod izneti na tržište, najbolje destinacije na svetu teško bi opstale. Dva ključna faktora distribucije vrlo su bitna za atraktivnost turističke destinacije: avio-prevoz, nacionalne turističke organizacije i agencija za promociju na tržištu. Međutim, da bi se obezbijedila koordinacija aktivnosti na destinaciji sa kanalima prodaje, sama konkretna destinacija treba da obezbijedi:

- odgovarajući pristup destinaciji,
- transformaciju uloge nacionalne turističke organizacije sa emitivnim tržištima,
- fokusiranje na razvoj proizvoda kod kuće;

Osim toga, značajan doprinos turističkom lancu vrijednosti daju turoperatori. Imajući u vidu neophodnu koheziju i međusobnu interakciju učesnika u pružanju turističkih usluga na destinaciji, njihova pozicija između dobavljača, principala i sa strane tražnje turističkih agencija i potrošača, daje im prednost u odnosu na ove dve grupacije. Turoperator može da podrži ostale članove, isto tako, kao što može da izazove konflikt iz više razloga. Turoperatori i turističke agencije kroz programe putovanja uvek promovišu i plasiraju destinaciju, što i proizilazi iz sadržaja usluga u njihovim paket aranžmanima¹⁴. Pozitivne i negativne reakcije turoperatora na ostale članove u lancu vrijednosti date su u sljedećoj tabeli.

Tabela br.1 Zahtjevi članova kanala i tehnike u rješavanju konflikta

Podrška turoperatora	Konflikt koji izazivaju turoperatori
Veliki turoperatori pružaju osjećaj sigurnosti i finansijske dosljednosti dijeleći svoja ekspertiska znanja sa tržištem	Nizak nivo privrženosti destinaciji i nedostatak lojalnosti Pritisak turoperatora za dobijanje nižih cena
Usmjeravaju mala i srednja preduzeća prema produktivnim investicijama i kreiraju međusobno korisnu sinergiju	"Prinuda" u pregovaranju Nedostatak faktora čovjek u kontaktima i višeg nivoa uključenosti
Manji turoperatori nude bolje odnose kroz lični kontakt i komunikaciju i međusobno uvažavanje i poštovanje	Odsustvo lokalnog "incoming" agenta kao rezultat uvođenja "incoming" agenta kroz vertikalnu integraciju sa principalom, koji radi u skladu sa strategijom svoje osnivačke kompanije

Izvor: Buhalis, D., Marketing the competitive destination of the future, Tourism Management, br.21, (1): 97-116, 2006, str.177.

¹⁴ Čačić, K., Poslovanje preduzeća u turizmu, Ekonomski fakultet, Beograd, 1998, str.400.

Sagledavajući lanac vrijednosti na destinaciji potrebno je imati u vidu da destinacija funkcionira na principu podjele rada, što, u većini slučajeva uključuje mnogo nezavisnih subjekata, te je neophodno uspostaviti saradnju unutar mreže. U savremenim privredama unutar mreže javlja se posrednik "katalizator", koji povezuje aktivnosti na području marketinga, dok tržišni mehanizam podstiče na takmičenje i saradnju. Pri tome veći obim ponude garantuje sigurnost, fleksibilnost i takmičenje umesto međuzavisnosti, stalnosti i saradnji. Osim toga povećava se mogućnost sticanja novih znanja i uvoz inovacija. Potom, savremeni informacioni sistemi unapređuju komunikaciju među saradnicima u mreži, doprinose stvaranju međusobnog povjerenja i omogućavaju direktan pristup tržištima putem informacione tehnologije. Sistem turističke saradnje tako nastupa prije globalizacije, deregulacije i primjene novih tehnologija. Zahvaljujući fleksibilnosti, mreže su superiornije nego strogi hijerarhijski sistemi i uspješnije sprovode marketinške aktivnosti. Brz razvoj i promene na turističkim tržištima zahtevaju veću fleksibilnost u radu organizacija na destinaciji, uz jačanje saradnje javnog i privatnog sektora, s obzirom da javne strukture teže nalaze brze odgovore na nove izazove.

5. ZAKLJUČAK

Kvalitet odnosno moderan pristup upravljanja destinacijskim lancem vrijednosti, kao bitnog dijela strategijskog menadžmenta, jače je orijentisan na potencijalne potrošače, nudeći destinaciju kao jedinstven skup različitih proizvoda. Jedan od izazova nacionalne turističke organizacije je upravo stvaranje nacionalne turističke mreže, koja je omogućena primjenom nove, informacione i komunikacione tehnologije. Ta mreža omogućava destinacijskom menadžmentu fleksibilnost i prepoznavanje specifičnih zahtjeva različitih tržišta i tržišnih segmenata. Koncept lanca vrijednosti destinacije koristi se za dublju analizu turističkog lanca vrijednosti, odnosno usklađivanje internih i eksternih inputa na destinaciji radi postizanja konkurentne prednosti. Zato turistička preduzeća na destinaciji treba međusobno da koordiniraju svoje aktivnosti, da sarađuju i usklade sopstvene i destinacijske strateške interese. Promjene na globalnom nivou posredno u prvi plan stavljaju potrošača. Stoga postaje normalna pojava da se proizvođači okreću ne samo potrebama kupaca, već traže od njih saradnju u svim fazama razvoja proizvoda. Zato misija savremenog preduzeća u turizmu mora biti kreiranje i isporuka vrijednosti potrošačima, gdje sve aktivnosti u vrijednosnom lancu doprinose lancu potrošača i tako stvaraju dodatnu vrijednost.

REFERENCE:

1. Armstrong, M.A., 2001, *Handbook of Human Resource Management Practice* (8th edition), Kogan Page, London, 2001.
2. Buhalis, D., 2006, Marketing the competitive destination of the future, *Tourism Management*, br.21 (1): 97-116;
3. Čačić, K., 1998, *Poslovanje preduzeća u turizmu*, Ekonomski fakultet, Beograd.
4. Đurašević, S., "Koncept lanca vrednosti u turizmu", *Hotellink*, Visoka hotelijerska škola, Beograd, br.12, 2008., str.11-21.

5. Kim, Ch.W., "Enhancing the Role of Tourism SMEs in Global Value chain, A Case Analysis on Travel Agencies and Tour Operators in Korea, OECD, 2005.
6. Milisavljević, M., Maričić, B., Gligorijević, M., Osnovi marketinga, CID, Ekonomski fakultet, Beograd, 2005., str.164.
7. Petrović, P., 2006, Preduzetnički menadžment u ugostiteljstvu, PMF-Departman za geografiju, turizam i hotelijerstvo, Novi Sad.
8. Petrović, P., Menadžment kvaliteta i monitoring integrisanog turističkog proizvoda, DQM 2011, str. 148-157.
9. Pil, F.K., Holweg, M., "Evolving from value chain to value grid", MIT Sloan Management Review, 2006, str.72-80.
10. Porter, M., Competitive Advantage: Creating and Sustaining Superior Performance, The Free Press, New York, 1985.

PHENOLIC RIPENESS GRAPE AS A SOURCE OF COMPETITIVE ADVANTAGE IN THE WINE MARKET

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Abstract: Viticulture and Enology become one of the major proponents of the development of certain regions of Serbia. Higher growth of wine consumption contributes to the complexity of operating conditions in the wine market. Archaic production and transaction marketing cannot guarantee a successful time of sale. As the globalized market, as imperative in wine is becoming a strategic marketing wine. Marketing-oriented wineries monitors market trends and creating products so that the consumer who values quality products, i.e. wine, the decision on repeated purchase of the same. Therefore, the winery must be experimentally oriented, to control the quality of ripening grapes, vinification process through the glass of wine. By improving the physic-chemical, sensory and biological properties of wine, experimental and marketing-oriented wineries managed to meet the requirements of the target market and become competitive. In accordance with the new rules set by the regulations of the European Union, the wines in Serbia ("RS Official Journal", no. 41/2009 and 93/2012) are classified into wines with and without geographic origin. Further categorization of wines with geographical indications is done according to quality, method of production and type of wine-growing area on a regional, high-quality and premium, made from grapes of one or more varieties of *Vitis vinifera* L. grapes. This paper will be followed phenolic ripeness of one indigenous grape variety - Vranac, and examined its phenolic composition at different stages of ripening. There shall be established a correlation between phenolic composition and biochemical activity of grapes. The aim of this research is to produce high quality wine with better organoleptic and biological properties, which would have a competitive advantage in the global wine market.

Keywords: Vranac grape, phenolic ripeness, antioxidant capacity, quality wine, competitive advantage.

FENOLNA ZRELOST GROŽĐA KAO POTENCIJALNI IZVOR KONKURENTNE PREDNOSTI NA TRŽIŠTU VINA

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Abstrakt: Vinogradarstvo i vinarstvo postaju jedan od glavnih nosilaca razvoja pojedinih regiona Srbije. Veći rast proizvodnje vina od potrošnje doprinosi usložnjavanju uslovima poslovanja na tržištu vina. Arhaična orijentacija u proizvodnji i transakcijski marketing ne mogu garantovati uspešan put prodaje. Kako se tržište globalizuje, kao imperativ u

vinarstvu postaje strateški marketing vina. Marketinški orijentirana vinarija prati tržišne trendove i stvara proizvode, tako da je potrošač taj koji vrednuje kvalitet proizvoda tj vina, odlukom o ponovljenoj kupovini istog. Zbog toga vinarije moraju biti i eksperimentalno orijentisane, tako da kontrolišu kvalitet od vremena zrenja grožđa, preko procesa vinifikacije do čaše vina. Poboljšanjem fiziko-hemijskih, senzornih i bioloških svojstava vina, eksperimentalne i marketinški orijentisane vinarije bi uspele da ispune zahteve ciljnog tržišta i postanu konkurentne. U saglasnosti sa novim pravilima koje propisuju regulative Evropske Unije, vina u Srbiji ("Sl.glasnik RS", br. 41/2009 i 93/2012) se klasifikuju u vina sa i bez geografskog porekla. Dalja kategorizacija vina sa geografskim poreklom se vrši prema kvalitetu, načinu proizvodnje i vrsti vinogradarskog područja na regionalna, kvalitetna i vrhunjska, proizvedena od grožđa jedne ili više sorti *Vitis vinifera* L. grožđa. U ovom radu biće praćena tzv. fenolna zrelost autohtone sorte grožđa Vranac, odnosno ispitivan njegov fenolni sastav u različitim fazama zrenja grožđa. Biće uspostavljena korelacija između fenolnog sastava i biohemijskog delovanja grožđa. Cilj ovog istraživanja je proizvodnja visoko kvalitetnog vina sa boljim senzornim i biološkim osobinama, koje bi imalo konkurentnu prednost na svetskom tržištu vina.

Ključne reči: Vranac grožđe, fenolna zrelost, antioksidativni kapacitet, kvalitet vina, konkurentna prednost.

1. UVOD

Još je grčki filozof Plutarh (50 do 125 godina pre naše ere) konstatovao da je vino "od sveg pića najkorisnije, od svih lekova najukusnije i od sve hrane najprijatnije", a Luj Paster je karakterisao vino kao "najzdravije i najhigijenskiše od svih pića".

Vino nastaje kao proizvod alkoholnog vrenja šećera šire od svežeg grožđa vinskih sorti vinove loze (*Vitis vinifera*). Karakteriše se posebnim hemijskim sastavom i senzornim karakteristikama koje ga svrstavaju u najkultivisanije sredstvo za uživanje.

U vinu se pored alkohola nalazi i niz drugih sastojaka: organske kiseline, mineralne materije, vitamini, fenolna jedinjenja, tanini koje veoma povoljno deluju na organizam i u velikoj meri ublažavaju dejstvo alkohola.

Poznato je nutritivno delovanje vina. Tako na primer, jedan litar vina omogućuje ljudskom organizmu energiju kao i jedan litar mleka, 10 jaja, ili pola kilograma raženog hleba. Ali treba se podsetiti poznate reči Paraclusa: "Dosis facit venenum" – što znači da samo od količine zavisi da li će neka materija biti otrov ili ne.

Zadnjih godina intenzivnije se proučava biološko delovanje vina. Poznato je da vinska kiselina deluje diuretički i stimuliše rad bubrega. S druge strane, crvena (crna) vina su bogatija u pogledu sadržaja fosfora i gvožđa i preporučuju se kod anemije. Odavno je dokazano da vino uništava izazivače nekih zaraznih bolesti (tifusa i kolere).

Fenolna jedinjenja koja se nalaze u vinu (proantocijanidoli, kvercetin i resveratrol) imaju veoma visok antioksidativni potencijal i pomažu imunosistemu i se preporučuju protiv dijabetesa, Alchajmerove bolesti, infarkta srca i krvnih sudova, kao antioksidativni, antiinflamatorni, antikancerogeni, antimikrobni, antiviralni agensi itd [1-5].

Kvalitet vina pre svega zavisi od kvaliteta grožđa. Kvalitet grožđa je uslovljen sortom, loznom podlogom, klimom, zemljištem, fitosanitarnim stanjem, prinosom, momentom i načinom berbe (agroeoloških uslova), kao i kvalitetom tehnološkog postupka prerade grožđa [6,7].

Vreme berbe je od izuzetnog značaja za kvalitet budućeg vina, odnosno grožđe može biti obrano pre tehnološke zrelosti (sa 13 do 15% šećera) i posle tehnološke zrelosti u prezrelom stanju (sa 24 do 26% šećera) i da da vino slabijeg kvaliteta u poređenju sa vinom od grožđa ubranog u tehnološkoj zrelosti sa 20 do 22%.

Takođe, fiziko-hemijski sastav i senzorne karakteristike nastalog vina zavise od tehnološkog procesa prerade grožđa, uslovi pod kojima se izvodi alkoholna fermentacija, kao i čuvanja i nege vina. Tako na primer, zna se da relativno visoke temperature u toku čuvanja vina mogu negativno da utiču na njegov kvalitet usled razgradnje estara.

Na osnovu jednogodišnje analize fenolne zrelosti sorte grožđa Frankovka, dr Stanka Herjaves i njeni saradnici iz Hrvatske su utvrdili da dužim sazrevanjem u soku grožđa stagnira stvaranje antocijana, a povećava se sadržaj ostalih flavonoida (katehina), što utiče na miris i ukus dobijenog vina. Kao optimalni uslovi za dobijanje kvalitetnog vina iz grožđe Frankovka, pored defolijacije i produžene maceracije su utvrdili da je potrebna berba grožđa u fazi fenolne zrelosti [8].

Da bi smo odredili fenolnu zrelost autohtone sorte grožđa Vranac, kao i njegovog uticaja na kvalitet Vranac vina, u ovom radu biće prikazani rezultati spektrofotometrijskog praćenja sadržaja fenolnih jedinjenja i antioksidativnog kapaciteta ekstrakata pojedinih delova grožđa Vranac (semenke, pokožice i pulpe) iz Nišavsko-Južnomoravskog vinogradarskog rejona u periodu zrenja.

2. EKSPERIMENTALNI DEO

2.1. MATERIJAL, REAGENSI I OPREMA

Analizirani su uzorci autohtone sorte Vranac grožđa iz Nišavsko-Južnomoravskog vinogradarskog rejona, proizvedenih 2009 godine. Grožđe je sakupljeno u više fazi zrenja, u periodu od 8.09. do 3.10. 2009 godine. Izvršeno je razdvajanje i posebno analizirana pokožica, semenska i pulpa grozda.

Za analizu su upotrebljeni reagensi visoke čistoće, proizvedeni od Merck (Nemačka) i to: 2,2'-diphenyl-1-picrylhydrazyl slobodni radikal (DPPH), metanol, etanol, acetone, hlorovodonična i trifluorosirćetna kiselina (TFA), kvercetin, malvidin-3-glukozid, kafena i galna kiselina.

Za analizu je upotrebljen UV/VIS spektrofotometrijski aparat tipa Agilent 8453, pH metar iz „Hanna Tustruments“, Abeov refraktometar i titrimetar tip 1957/1 - HT.

2.2. EKSTRAKCIONI POSTUPAK

5 g uzorka pokožice, semenke i pulpe grozda su ekstrahovani sa 100 mL smeše rastvarača: metanol/acetone/voda/TFA u odnosu 30/42/28/0,05 u toku 30 min na magnetnoj mešaćici i nakon toga centrifugirani sa 4000 rpm u toku 10 min. Postupak je ponovljen tri puta.

2.3. SPEKTROFOTOMETRIJSKO ODREĐIVANJE FENOLNIH JEDINJENJA

Fenolna jedinjenja su spektrofotometrijski određeni po modifikovanoj Mazza metodi [4,9]. Absorbancija na 280 nm je korišćena za određivanje ukupni fenola i dobijene vrednosti su proračunati kao ekvivalent galne kiseline, na 320 nm su određeni ukupni estri

vinske kiseline i izražene kao ekvivalent kafene kiseline i na 360 nm su određeni ukupni flavonoli i predstavljeni kao ekvivalent kvercetina.

Ukupni antocijani u pokožici su spektrofotometrijski određeni po di Stefano metodi na apsorbanca od 540 nm i izraženi kao ekvivalent malvidin-3-glukozida [10].

2.4. SPEKTROFOTOMETRIJSKO ODREĐIVANJE ANTIOKSIDATIVNOG KAPACITETA

Antioksidativni kapacitet je određen primenom DPPH slobodnoradikalnog agensa ranije datog postupka i smanjenje absorbance je praćeno na 517 nm [4]. Izračunavanje je urađeno po jednačini:

$$(\%) = 100 - \text{DPPH. } (\%) = 100 - [(A_U - A_B) \times 100 / A_K]$$

A_U – absorbanca uzorka na 517 nm; A_B – blank apsorbanca na 517 nm i A_K – absorbanca kontrole na 517 nm.

3. REZULTATI I DISKUSIJA

Sazrevanje grožđa je fiziološko-biohemijski proces u kome se šećeri i organske kiseline, sintetišu, transformišu, premeštaju, akumuliraju i razgrađuju. Posle pune zrelosti grožđa – zaustavljanja procesa akumuliranja šećera i razlaganja organskih kiselina, promene na grožđu su fizičke prirode. Grožđe se po pravilu bere kada dostigne punu zrelost, jer tada najjače dolaze do izražaja sortna svojstva i tada grožđe ima najpovoljniji hemijski sastav. Za praktično određivanje zrelosti grožđa i momenta berbe, najčešće se koristi udeo šećera i organskih kiselina u grožđanom soku i njihov međusobni odnos. Postoji više načina da se utvrdi zrelost grožđa i odredi vreme berbe, a svi su svrstani u tri kategorije:

- *Organoleptički metod određivanja zrelosti grožđa* koji se zasniva na subjektivnoj oceni većeg broja pojava i stanja na čokotu i grožđu. Realnost procene zavisi od iskustva osobe koja vrši procenu;
- *Fizički metod utvrđivanja zrelosti grožđa* predstavlja određivanje udela šećera u grožđanom soku primenom instrumenata: reflektometra ili širometra. Određivanje reflektometrom zasniva se na fizičkoj zakonomernosti nejednakog prelamanja svetlosti pri prolasku kroz tečnosti različite gustine, dok širomerom, na merenju gustine, odnosno specifične težine grožđanog soka;
- *Hemijski metod utvrđivanja zrelosti grožđa* smatra se da je jedini način za tačno određivanje *indeksa tehnološke zrelosti* grožđa koji je pogodan za proizvodnju vina određenog tipa. To je odnos između sadržaja šećera i titriljivog aciditeta u grožđanom soku (g/L). U praksi znači da se grožđe vinskih sorti bere kada nakupi 22-24% šećera i 6-7% ukupnih kiselina. Tehnološka zrelost najčešće se poklapa sa *punom zrelošću*, koja se ostvaruje kada se u bobici prestane povećavati sadržaj šećera, a ukupna kiselost opadati. Kada se ovaj odnos u bobicama više ne menja, smatra se da je grožđe dostiglo tzv. *fiziološku zrelost*.

Međutim, za vinogradare je značajniji trenutak kada je grožđe postiglo takve fizičko-hemijske osobine što omogućava preradu i dobijanje proizvoda željenog kvaliteta. Tako na

primer, za dobijanje kvalitetnog suvog crnog vina neophodan je veći stepen zrelosti grožđa, čak prezrelog grožđa koji sadrži niži stepen ukupnih kiselina u poređenju sa grožđem od koga se proizvodi belo vino.

Za sorte crnog (crvenog) grožđa od kojih se dobijaju kvalitetna i vrhunska vina je bitna takozvana *fenolna zrelost* grožđa, odnosno količina fenolnih materija u bobici. Fenolne materije doprinose boji, mirisu i bukeu vina naročito muskatnih sorti pa je veoma značajno da se odredi njihov sadržaj pre odluke o vremenu berbe grožđa.

Fenolnom zrelošću grožđa smatra se optimalan stepen sposobnosti fenolnih jedinjenja da iz kožice i semenke pređu u sok grožđa. Da bi odredio sadržaj polifenola crnoga (crvenoga) grožđa, potrebno je izvršiti određena ispitivanja.

Analiza podrazumeva ispitivanje odnosa između ukupne površine kožice i pulpe grožđa, odnosno soka, kao i određivanje fenolnih jedinjenja u grožđu. Na osnovu ovih podataka se određuje fenolna zrelost, koja zajedno sa tehnološkom zrelošću diktra vreme berbe, za svaku sortu grožđa.

Rezultati fizikohemijskih promena ispitivanih uzoraka Vranac grožđa iz Nišavsko-Južnomoravskog vinogradarskog rejona, u periodu od 8.09. do 3.10. 2009 godine tj u danima zrenja (veraison) je dat u Tabeli 1. Na osnovu ovih rezultata određen je indeks tehnološke zrelosti grožđa.

Fenolna jedinjenja, naročito antocijani koji su glavni nosioci boje nalaze se u pokožici bobice, dok tanini u pokožici i semenkama, su jako bitni za kvalitet crnih vina. Tokom dozrevanja tanini iz pokožice polimerizuju i stvaraju velike molecule, menjajući ukus crnog vina od tvrdog, gorkog, astrigentnog u mekaniji i nežniji. Može se reći da tokom dozrevanja grožđa smanjuje se ekstraktibilnost tanina iz semenke i time se menja ukus vina.

Spektrofotometrijski rezultati ispitivanja sadržaja fenolnih jedinjenja u Vranac grožđa (pokožici, semenkama i pulpi) u istom periodu zrenja su prikazani u Tabeli 2 i na Slici 1.

Tabela 1. Fizikohemijske promene u uzoraka groždanih bobica za vreme zrenja grožđa

Dani zrenja	Masa 100 bobica (g)	pH	Ukupne rastvorljive materije (⁰ Brix)	Koncentracija šećera (g/L)	Potencijalni alkohol (vol%)	Ukupne kiseline (g/L)	Indeks tehno-loške zrelosti
0	215	3,03	11,5	113,9	6,325	32,44	0,354
10	217	3,04	12,0	116,7	6,808	31,82	0,377
20	226	3,15	16,0	152,4	9,028	15,21	1,052
30	238	3,21	20,0	198,5	11,242	9,76	1,315
40	201	3,32	23,0	232,7	13,191	5,10	4,509
50	178	3,35	24,0	237,9	13,468	4,95	4,848

Utvrđeno je da krajem septembra i početkom oktobra su dobijene najveće koncentracije ukupnih fenola, estara vinske kiseline i flavonola u ekstraktima semenke, pokožice i pulpe ispitivanih uzoraka Vranac grožđa. Takođe, praćenje koncentracije ukupnih antocijana u pokožici grožđa je pokazala da se najveće vrednosti dobijaju u sličnom vremenskom periodu.

Na osnovu dobijenih rezultata može se zaključiti o fenolnoj zrelosti grožđa i odrediti vreme branja sa ciljem dobijanja visoko kvalitetnog vina sa oznakom geografskog porekla koje ima visok sadržaj biohemijskih aktivnih fenolnih jedinjenja.

Smatra se da razlika između tehnološke i fenolne zrelosti može da iznosi najviše 15 dana. Da bi se postiglo što bolje poklapanje između tehnološke i fenolne zrelosti, pored

spomenuta ispitivanja potrebno je izvesti selekciju sorte, dobar izbor položaja za vinograd, analizu tla i pratiti ostale agroekološke uslove. Po pravilu, neusaglašenost između ova dva indeksa zrelosti ima samo u vrelinim zonama.

Takođe, u vreme zrenja praćena je i promena antioksidativnog kapaciteta ispitivanih ekstrakata grožđa (Tabela 2 i Slika 1). Analiza je pokazala da semenke grožđa imaju najveću antioksidativnu aktivnost (82,34%) i to u istom periodu zrenja kada je koncentracija fenolnih jedinjenja najveća.

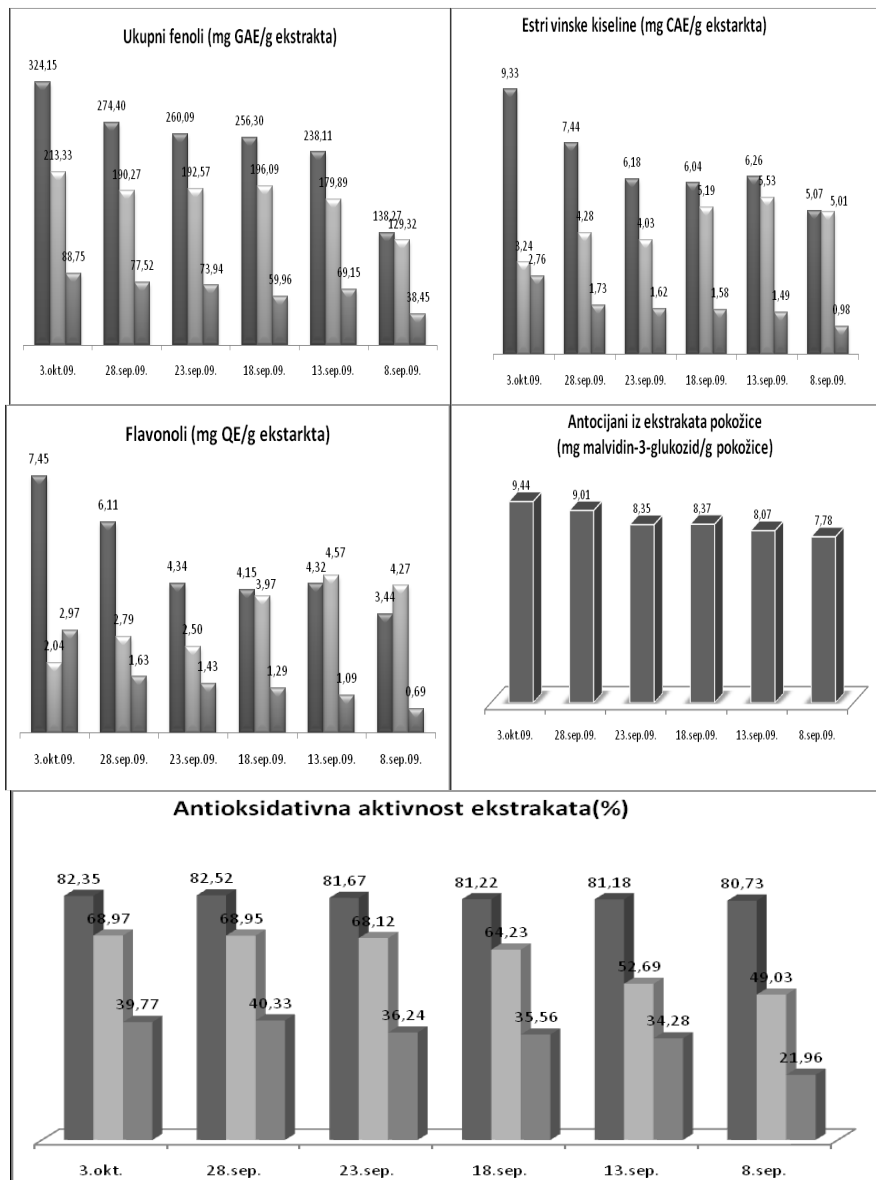
Ispitivanjem linearne zavisnosti između ovih parametara utvrđeno je da postoji odlična korelacija, odnosno proračunate vrednosti za konstatu korelacija (R^2) su sledeće:

$R^2 = 0,986$ (između ukupnih antocijana i antioksidativne aktivnosti) >

$R^2 = 0,952$ (između ukupnih fenola i antioksidativne aktivnosti) >

$R^2 = 0,947$ (između ukupnih flavonola i antioksidativne aktivnosti) >

$R^2 = 0,835$ (između ukupnih estara vinske kiseline i antioksidativne aktivnosti).



Slika 1. Promene u sadržaju fenolnih jedinjenja i antioksidativne aktivnosti ekstrakata grožđa Vranac u toku zrenja

Tabela 2. Promene sadržaja fenolnih jedinjenja i antioksidativnog kapaciteta u ekstraktima grožđa tokom zrenja

Vreme sakupljanja	Ukupni fenoli (mg GAE/g)		
	Semenke grožđa	Pokožice grožđa	Pulpa grožđa
08.09.09.	138,27 ± 0,07	129,32 ± 5,07	38,46 ± 4,41
13.09.09.	238,10 ± 1,01	179,89 ± 4,41	69,16 ± 4,80
18.09.09.	256,30 ± 2,82	196,09 ± 2,55	59,96 ± 0,32
23.09.09.	260,08 ± 0,81	192,57 ± 0,38	73,94 ± 2,53
28.09.09.	274,40 ± 1,10	190,27 ± 5,71	77,52 ± 0,80
03.10.09.	324,15 ± 1,30	213,33 ± 4,61	88,76 ± 0,41
	Ukupni estri vinske kiseline (g CAE/kg)		
	Semenke grožđa	Pokožice grožđa	Pulpa grožđa
08.09.09.	5,06 ± 0,03	5,01 ± 0,06	0,98 ± 0,02
13.09.09.	6,25 ± 0,20	5,53 ± 0,36	1,49 ± 0,10
18.09.09.	6,04 ± 0,35	5,19 ± 0,20	1,58 ± 0,09
23.09.09.	6,18 ± 0,33	4,03 ± 0,16	1,62 ± 0,05
28.09.09.	7,44 ± 0,57	4,28 ± 0,08	1,73 ± 0,06
03.10.09.	9,33 ± 0,40	3,25 ± 0,19	2,77 ± 0,20
	Flavonoli (mg QE/g)		
	Semenke grožđa	Pokožice grožđa	Pulpa grožđa
08.09.09.	3,43 ± 0,03	4,27 ± 0,02	0,69 ± 0,01
13.09.09.	4,32 ± 0,13	4,57 ± 0,36	1,09 ± 0,12
18.09.09.	4,15 ± 0,38	3,97 ± 0,16	1,29 ± 0,10
23.09.09.	4,34 ± 0,12	2,51 ± 0,13	1,43 ± 0,07
28.09.09.	6,11 ± 0,57	2,79 ± 0,07	1,63 ± 0,08
03.10.09.	7,44 ± 0,52	2,04 ± 0,17	2,97 ± 0,31
	Antocijani (mg MVG/g)		
	Semenke grožđa	Pokožice grožđa	Pulpa grožđa
08.09.09.	-	9,44 ± 0,51	-
13.09.09.	-	9,01 ± 0,01	-
18.09.09.	-	8,35 ± 0,60	-
23.09.09.	-	8,37 ± 0,12	-
28.09.09.	-	8,07 ± 0,29	-
03.10.09.	-	7,78 ± 0,01	-
	Antioksidativni kapacitet (%)		
	Semenke grožđa	Pokožice grožđa	Pulpa grožđa
08.09.09.	80,73	49,04	21,96
13.09.09.	81,18	52,69	34,28
18.09.09.	81,22	64,23	35,57
23.09.09.	81,67	68,12	36,24
28.09.09.	82,52	68,95	40,33
03.10.09.	82,34	68,97	39,78

Republika Srbija se smatra kao jedan od glavnih proizvođača grožđa i vina u zemljama Zapadnog Balkana. Statistički podatci (Ministarstvo poljoprivrede, vodoprivrede i šumarstva Republike Srbije) ukazuju da u 2012 godini u Srbiji pod površinom sa vinovom lozom je bilo 30 000 hektara od kojih je proizvedeno oko 1 700 000 hektolitara vina.

U saglasnosti sa novim pravilima koje propisuju regulative Evropske Unije, vina u Srbiji ("Sl.glasnik RS", br. 41/2009 i 93/2012) se klasifikuju u vina sa i bez geografskog porekla. Dalja kategorizacija vina sa geografskim poreklom se vrši prema kvalitetu, načinu proizvodnje i vrsti vinogradarskog područja na regionalna, kvalitetna i vrhunška, proizvedena od grožđa jedne ili više sorti *Vitis vinifera* L. grožđa. Oznaka „G.I.“ - "Geografska Indikacija" označava vino koje ima oznaku kvalitetne kategorije za regionalno vino, oznaka „K.P.K.“ - „Kontrolisano Poreklo i Kvalitet“ označava kvalitetno vino koje ima kontrolisano geografsko poreklo i oznaka „K.G.P.K.“ - „Kontrolisano i Garantovano Geografsko Poreklo i Kvalitet“ predstavlja vino sa oznakom kvalitetne kategorije za vrhunsko vino sa kontrolisanim geografskim poreklom i kvalitetom. U Tabeli 3 su dati podatci iz zadnje tri godine koji pokazuju proizvodnju vina sa oznakom kategorije na osnovu geografskog porekla:

Tabela 3. Količina vina u litrima sa oznakom geografskog porekla proizvedena u toku 2010, 2011 do 20.09.2013 u Srbiji

Oznaka kvaliteta vina	Količina vina u 2010 god.	Količina vina u 2011 godini.	Količina vina do 20.09. 2013 god.
„G.I.“	2 043 813	802 147	14 790
„K.P.K.“	121 215	282 287	30 972
„K.G.P.K.“	27 500	260 513	44 442
Ukupno	2 192 528	1 344 947	90 204

Posledni podatci iz Ministarstva poljoprivrede, vodoprivrede i šumarstva Republike Srbije ukazuju da u proizvodnoj 2013/14 godini je registrovan 41 proizvođač iz Srbije sa ukupno 123 različitih kvalitetnih vina koja imaju oznaku geografskog porekla, kao što je prikazano u Tabeli 4:

Tabela 4. Registrovani proizvođači vina sa oznakom geografskog porekla po vinogradarskim rejonima Srbije za 2013/14 godinu .

Vinogradarski rejon	Registrovani proizvođač	Broj vina sa oznakom geografskom porekla
Timočki rejon	4	9
Nišavsko-Južnomoravski rejon	3	8
Zapadno moravski rejon	13	21
Šumadijsko-Velikomoravski rejon	4	16
Pocerski rejon	1	4
Sremski rejon	8	25
Banatski rejon	2	15
Subotičko-horgoška peščara	4	17
Oaze Vojvodine	1	4
Ukupno	41	123

4. ZAKLJUČAK

Na osnovu dobijenih rezultata može se zaključiti da je autohtona sorta grožđa Vranac veoma bogata biohemijskim značajnim fenolnim jedinjenjima koji imaju izraženu antioksidativnu aktivnost. Pravilan izbor vreme berbe grožđa koje se koristi za dobijanje visoko kvalitetnih vina je utvrđivanje fenolne zrelosti, pored tehnološke zrelosti grožđa. Kontrolom kvaliteta, odnosno praćenjem fiziko-hemijskih, senzornih i bioloških svojstava vina marketinški orijentisane vinarije bi uspele da ispune zahteve ciljnog tržišta i postanu konkurentne na svetskom tržištu vina.

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REFERENCE

1. S. John, Y. Jianmel, E.P. Joseph, K. Yukio. *Journal of Medical Food* (2003) 291-299.
2. N. Gokturk Baydar, G. Ozkan, O. Sagdic. *Food Control* 15 (2004) 335-339.
3. M. Mustali, A. Dohadwala, V. Joseph. *The Journal of Nutrition* 139 (2009) 1788-1793.
4. A. Radovanović, B. Radovanović, B. Jovančičević. *Food Chemistry*, 117 (2009) 326-333.
5. F. Shahidi, P.K. Wanasundara. *Critical Review of Food Science and Nutrition* 32 (1992) 67-103.
6. J. Lachman, M. Šulc, K. Faitova, V. Pivec. *International Journal of Wine Research* 1 (2009) 101-121.
7. C. Xu, Y. Zhang, L. Zhu, Y. Huang, J. Lu. *Journal of Agriculture and Food Chemistry*, 59 (2011) 1078-1086.
8. S. Herjaves, www.mps.hr
9. G. Mazza, L. Fukumoto, P. Delaquis, B. Girard, B. Ewert. *Journal of Agricultural and Food Chemistry*, 47 (1990) 4009-4017.
10. R. Di Stefano, R., M.C. Cravero, N. Gentilini. *L'Enotecnico*, 5 (1989) 83-89.
11. Ministarstvo poljoprivrede, šumarstva i vodoprivrede Republike Srbije. www.stips.minpolj.gov.rs

SWQI AS AN INDICATOR OF ENVIRONMENTAL PROBLEMS ALONG THE RIVER TOPLICA

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Abstract: We tested wastewater quality at the discharge point, prior to its mixing with the waters of the recipient river Toplica and after the final mixing, by using the Serbian Water Quality Index (SWQI), as an indicator of the presence of environmental problems, and in accordance with the Regulation on the Method and the Minimum Number of Wastewater Quality Testing [2]. The aim of this paper is to evaluate the state of water quality of the Toplica at the given measuring points by means of the SWQI method and by use of data funds from JKP (Public Utility Company "Prokuplje") of Serbia for 2013. The examination of the state of water quality of the river Toplica covered three measuring points: one wastewater sample and two surface water samples of the river Toplica, 100 m before and 300 m after wastewater discharge from the sewer in Prokuplje. SWQI values for the river Toplica along the measuring flow range from 46 to 60 SWQI, which corresponds to a descriptive indicator of "bad water" and, accordingly, indicates a significant environmental problem.

Keywords: SWQI water quality index, the river Toplica.

SWQI KAO INDIKATOR EKOLOŠKOG PROBLEMA DUŽ TOKA REKE TOPLICE

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Abstrakt: Kvalitet otpadnih voda ispitan je na izlivu pre njihovog mešanja sa vodama recipijenta reke Toplice i nakon njihovog mešanja, primenom Serbian Water Quality Index (SWQI), kao indikatora prisutnog ekološkog problema i u skladu sa Pravilnikom o načinu i minimalnom broju ispitivanja kvaliteta otpadnih voda [2]. Cilj rada je da se metodom SWQI, oceni stanje kvaliteta vode reke Toplice na mernim mestima, korišćenjem fonda podataka JKP (Javno Komunalno Preduzeće) Srbije za 2013. godinu. Istraživanjem stanja kvaliteta vode reke Toplice obuhvaćena su tri merna mesta i to jednog uzorka otpadne vode i dva uzorka površinskih voda reke Toplice, 100 m pre i 300 m nakon ispuštanja otpadne vode iz kanalizacionog kolektora u Prokuplju. Vrednosti SWQI pokazuju da je kvalitet vode reke Toplice duž ovog merno toka, u rasponu od 46-60 SWQI, što odgovara opisnom indikatoru „loša voda“ i na osnovu ovoga podaci govore o prisustvu značajnog ekološkog problema.

Ključne reči: SWQI indeks kvaliteta vode, reka Toplica.

1. UVOD

Toplica je oblast u južnoj Srbiji koja obuhvata dolinu istoimene reke dužine 136 kilometra. Njenu zapadnu granicu formira planinski masiv Kopaonika koji je odvaja od Donjeg Ibra, Gornjeg Laba i Malog Kosova. Severnu granicu oblasti čine Veliki i Mali Jastrebac, iza kojih se pružaju oblasti Župe, Rasine i Aleksinačkog Pomoravlja. Na istoku Toplice se nalazi dolina Južne Morave kod Niša, dok njene južne granice čine planine Vidojevica i Pasjača. Cela oblast, kao i reka koja kroz nju protiče, dobili su naziv po velikom broju izvora tople mineralne vode, tzv. toplica ili banja (Prolom, Lukovska, Kuršumlijska), koje su poznate još od rimskog doba, a svaki od njih daje vodi različitu temperaturu i hemijski sastav. Ulazeći u grad Prokuplje, reka najpre obilazi brdo Hisar gotovo u punom krugu, pa zatim teče sredinom grada.



Slika 1. Sliv reke Toplice u Prokuplju

Obilazeći Hisar, Toplica jednim delom teče uzbrdo, a ova prirodna pojava, koja se stručno zove epigenija, ne postoji nigde drugde u Evropi.

2. EKSPERIMENTALNI DEO

Površinske vode su složeni višekomponentni sistemi čije izučavanje zavisi od primene i usvajanja činjenica, principa i metoda hemije, fizike, geologije, hidrologije, meteorologije, matematike i drugih nauka, da bi se rešili problemi koji su u osnovi ekološke prirode. Specifičnost i kompleksnost hemijskog sastava površinskih voda i pokazatelja kvaliteta kao posledica u njoj rastvorenih mineralnih i organskih materija, gasova, koloida, suspendovanih čestica i mikroorganizama, dospelih u vodi prirodnim ili veštačkim procesima, naglašavaju značaj primene indeksnih metoda za njihovo ocenjivanje iznalaženjem zajedničkog faktora koji obuhvata kvalitet kao celinu.

Kontrola kvaliteta površinskih voda našom regulativom podrazumeva primenu Uredbe o kategorizaciji vodotoka i Uredbe o klasifikaciji voda u Republici Srbiji [2]. Svi vodotoci su razvrstani u četiri kategorije, odnosno definisane su zahtevane klase kvaliteta vode na određenim potezima vodotoka. Površinska voda je zatim razvrstana prema graničnim vrednostima pokazatelja kvaliteta u I, II, III i IV klasu. Kategorizacija se vrši na osnovu sledećih pokazatelja: suspendovane materije, ukupni suvi ostatak, pH, rastvoreni kiseonik,






BPK₅, stepen saprobnosti po Libmanu, stepen biološke produktivnosti, najveći broj koliformnih klica, vidljive otpadne materije, primetna boja i primetan miris [3].

Ovom Uredbom nije dat postupak kako da se na osnovu pojedinačno kategorisanih jedanaest pokazatelja kvaliteta odredila zajednička klasa koju treba uporediti sa propisanom. Daljim unapređenjem regulative, donešena je Uredba kojom su vodotoci takođe razvrstani u četiri kategorije, ali je kvalitativna kategorizacija proširena novim pokazateljima (zasićenje kiseonikom % O₂, HPK, toksične materije i stepen radioaktivnosti). Međutim, kao i u kod prethodne Uredbe nije dat postupak određivanja sumarne klase kvaliteta na osnovu klase svakog pojedinačnog pokazatelja kvaliteta. Zakonom nije precizno definisan postupak konačne procene ukupne klase kvaliteta vodotoka što ostavlja mesta za mnoge prouzvoljne procene.

U agenciji za zaštitu životne sredine Ministarstva životne sredine i prostornog planiranja Republike Srbije razvijen je indikator životne sredine za oblast voda namenjen izveštavanju javnosti i stručnjaka o stanju kvaliteta voda. Indikator se zasniva na metodi Water Quality Index (*Development of a Water Quality Index, Scottish Development Department, Engineering Division, Edinburgh* [4]), prema kojoj deset odabranih parametara (zasićenost kiseonikom, koliformne bakterije, BPK₅, pH vrednost, oksidi azota, fosfati, suspendovne materije, amonijum jon, temperatura i provodljivost) svojim svojstvima reprezentuju osobine površinskih voda svodeći ih na jedan indeksni broj. Udeo svakog od deset odabranih parametara na ukupni kvalitet vode nema isti relativni značaj, zato je svaki od njih dobio svoju težinu i broj bodova prema udelu u ugrožavanju kvaliteta. Sumiranjem proizvoda ($q_i \times w_i$) dobija se indeks 100 kao idealan zbir težina svih parametara. Koliko će indeksnih poena u rasponu od 0 do 100 pripasti nekoj vodi zavisi od osvojenih poena pojedinih parametara. Klasifikacioni sistem opisivanja kvaliteta površinskih voda metodom **Serbian Water Quality Index** (SWQI) predstavlja način procenjivanja kvaliteta za grupu odabranih parametara, tako da se primenom ove metode može dobiti sveobuhvatna ocena stanja kvaliteta površinskih voda.

Indikatori kvaliteta površinskih voda metodom SWQI dobijeni su komparacijom pokazatelja kvaliteta prema našoj klasifikaciji i originalnoj metodi WQI [8]. Usvojeni klasifikacioni kriterijum opisnog indikatora kvaliteta i određivanje klase površinske vode na osnovu izračunate vrednosti SWQI indeksnog broja prikazani su u tabeli 1 [6].

Tabela 1. Klasifikacija površinskih voda metodom Water Quality Index [6]

	Numerički indikator	Opisni indikator	Boja
Serbian Water Quality Index	100 - 90	Одличан	
	84 - 89	Веома добар	
	72 - 83	Добар	
	39 - 71	Лош	
	0 - 38	Веома лош	
	Nema podataka*		

* nije bilo merenja ili je nedovoljan broj parametara za izračunavanje SWQI

Srednje kvantitativne vrednosti odabranih izmerenih parametara vode reke Toplice izračunavju se na osnovu fonda podataka JKP Srbije koji su objavljeni u Hidrološkom godišnjaku - kvalitet voda 2013. godine.

Numerička vrednost indeksa kvaliteta vode izračunata je korišćenjem softverskog paketa: “Izračunajte Serbian Water Quality Index vašeg vodotoka ili jezera“- Agencije za zaštitu životne sredine Ministarstva energetike, razvoja i zaštite životne Republike Srbije. Istraživanjem stanja kvaliteta vode reke Toplice obuhvaćeno je tri mernih mesta na određenom rastojanju toka reke, slika 2.



Slika 2. Karta profila na kojima je vršeno ispitivanje kvaliteta vode reke Toplice

3. REZULTATI

Analiza kvaliteta vode reke Toplice izvršena je na osnovu stručnog nalaza Instituta za javno zdravlje iz Niša – Kvalitet voda za 2013. godinu, a vrši se sračunavanjem srednjih vrednosti parametara vode i prikazom izračunatih SWQI indeksa kvaliteta vode na na tri merna mesta: kanalizacijski kolektor u ulici Solunska - pre uliva u reku Toplicu, reka Toplica - 100m uzvodno od uliva kanalizacionog kolektora u ulici Solunskoj, reka Toplica - 300m nizvodno od uliva kanalizacionog kolektora u ulici Solunskoj u Prokuplju, što je prikazano u tabeli 2.

Tabela 2. Kvalitet vode na mernim mestima reke Toplice za 2013. godinu

Parametri (jedinica mere)	1 KO1*	2 T/U*	3 T/N*
Temperatura (°C)	18,5	17,4	17,1
pH vrednost	7,8	8,4	8,3
Amonijum jon (mg/l)	6,5	0,125	0,125
Zasicenost kiseonikom	206,2	3,6	3,6
BPK ₅ (mg O ₂ /l)	66,1	1,7	1,7
Suspendovane materije (mg/l)	104	11	11
Ukupni oksidi azota (mg/l)	1,0	3,0	2,5
Ortofosfati (mg/l)	1,31	1,31	1,31
Koliformne bakterije (MPN u 100 ml)	161	24000	24000
SWQI	46	60	60
SWQI srednja vrednost indeksa	54 loša voda IV klasa		

Kvalitet vode izražen srednjom vrednošću SWQI=54 za posmatrani jednogodišnji period odgovara IV klasi površinske vode, odnosno opisnom indikatoru „*loša voda*“. Prema nameni i stepenu čistoće kvalitet vode odgovara vodi koje se mogu upotrebljavati za navodnjavanje, a posle savremenih metoda prečišćavanja i u industriji, osim prehrambene industrije.

4. ZAKLJUČAK

Analizom je utvrđeno da su vrednosi BPK₅, sedimentne i suspendovanih materija u ovom uzorku otpadne vode više od vrednosti koje predviđa Uredba o graničnim vrednostima emisije zagađujućih materija u vodi i rokovima za njihovo dostizanje [7]. Koncentracije ostalih analiziranih parametara koje predviđa ova Uredba su u okviru propisanih vrednosti. Bakteriološkom analizom, u oba uzorka površinske vode utvrđeno je prisustvo koliformnih bakterija, tako da na osnovu ovog parametara reka Toplica i 100 m uzvodno i 300 m nizvodno od uliva otpadne vode kanizacionog kolektora pripada četvrtoj klasi.

REFERENCE

- [1] Plan za zaštitu voda od zagađivanja, Sl. glasnik, br. 6/91
- [2] Pravilnik o načinu i minimalnom broju ispitivanja kvaliteta otpadnih voda, Sl. glasnik, br. 47/83 i 13/84
- [3] Pravilnik o higijenskoj ispravnosti vode za piće, Sl. glasnik, br. 42/98 i 44/99
- [4] Uredba o utvrđivanju programa upravljanja vodama, Sl. glasnik, br. 24/2014
- [5] Uredba o kategorizaciji vodotoka i Uredbe o klasifikaciji voda u Republici Srbiji, Sl. glasnik, br. 5/68
- [6] Uredba o klasifikaciji voda, Sl. glasnik, br. 5/68
- [7] Development of a Water Quality Index, Scottish Development Department, Engineering Division, Ediniburhg, 1976.
- [8] Ljiljana Takić, Srđan Pejanović, Ivan Krstić, Ljiljana Randelović, 2010, Analysis of water quality in the accumulation lake Barje by use of WQI method, 13th DQM International Conference, ICDQM -2010, Zbornik radova, Beograd, 181-186.
- [9] <http://www.sepa.gov.rs/index>
- [10] Uredba o graničnim vrednostima emisije zagađujućih materija u vodi i rokovima za njihovo dostizanje, Sl. glasnik, br. 67/2011 i 48/2012

APPLICATION OF EIA AND SEA DIRECTIVES ON THE SYSTEM WORKING AND LIVING ENVIRONMENT

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Abstract - This paper presents the evaluation of impacts on labor and the environment as part of the preventive control hedging instrument. The estimate is based on the feasibility study and implementation of consultation with the broad participation of the public and the analysis of alternative options, in order to collect the data and predict the adverse effects of certain projects on a variety of receivers in the environment, as well as to identify and propose measures that adverse impacts may prevent, reduce or eliminate considering the feasibility of these projects.

Keywords: impact, assessment, projects, environment.

PRIMENA EIA I SEA DIREKTIVE NA SISTEM RADNE I ŽIVOTNE SREDINE

Kristina Smiljković¹

Abstrakt - U radu je prikazana procena uticaja na radnu i životnu sredinu kao deo preventivnog upravljačkog instrumenta zaštite. Procena je zasnovana na izradi studije i sprovođenju konsultacija uz široko učešće javnosti i na analizi alternativnih mogućnosti, sa ciljem da se prikupe podaci i predvide štetni uticaji određenih projekata na razne prijemnike u životnoj sredini, kao i da se utvrde i predlože mere kojima se štetni uticaji mogu sprečiti, smanjiti ili otkloniti imajući u vidu izvodljivost tih projekata.

Ključne reči: uticaj, procena, projekat, životna sredina.

1. UVOD

Procena rizika na životnu sredinu je preventivna mera zaštite zasnovana sa ciljem da se prikupe podaci i predvide štetni uticaji raznovrsnih tehnoloških sistema na život i zdravlje ljudi, floru i faunu, zemljište, vodu, vazduh, klimu i pejisaž, materijalna i kulturna dobra i uzajamno delovanje ovih činilaca. Procena uticaja na životnu sredinu vrši se iz oblasti industrije, rudarstva, energetike, saobraćaja, turizma, poljoprivrede, šumarstva, vodoprivrede, upravljanja otpadom i komunalnih delatnosti, kao i za projekte koji se planiraju na zaštićenom prirodnom dobru i u zaštićenoj okolini kulturnog dobra.

Direktiva 2011/92/EU (poznata kao "procena uticaja na životnu sredinu" - Direktiva EIA) ili za javne planove ili programe Direktiva 2001/42/EC (poznata kao "strateška procena životne sredine" - SEA Direktiva). Zajednički princip ove direktive je da se obezbede planovi, programi i projekti koji imaju značajne efekte na životnu sredinu, a to

je predmet procene životne sredine. Konsultacija sa javnošću je ključna karakteristična procedura procene rizika životne sredine.

Direktive o proceni uticaja imaju za cilj da obezbede visok nivo zaštite životne sredine i da doprinesu integraciji životne sredine u pripremu projekata, planova i programa sa ciljem da se smanji negativan uticaj na životnu sredinu. Projekti i programi saradnje koje finansira EU moraju da poštuju EIA i SEA direktive. Zbog toga su Direktive o proceni uticaja ključni alati za održivi razvoj.

2. METODOLOGIJA

Uslovi koji se odnose na predmetnu studiju ogledaju se u činjenicama da se ona radi sa ciljem da se detaljno istraže fizičke karakteristike objekta u odnosu na zemljište na kome se planira izvođenje projekta, vode koja je tu prisutna kao površinska i podzemna, i vazduha, i definišu karakteristike svih mogućih negativnih uticaja kao i potrebne mere zaštite. U smislu navedenih činjenica primenjena metodologija istraživanja problematike zaštite životne sredine koja predstavlja, po svojoj hirerarhijskoj uređenosti i sadržaju, verifikovan način dolaženja do dokumentovanih podataka.

Specifičnosti predmetnog projekta i karakteristika tehnološkog procesa proizvodnje kao i specifičnosti postojećeg stanja životne sredine na predmetnoj lokaciji uslovi su da primenjena metodologija u određenoj meri se modifikuje i prilagodi osnovnim karakteristikama planiranog projekta i tehnološkog procesa proizvodnje. Bitan deo istraživanja se odnosi na kvantifikovanje i vrednovanje postojećeg stanja. Rezultat ovih analiza je potvrda o aktuelnom stanju životne sredine na predmetnoj lokaciji.

S obzirom da je kroz analizu postojećeg stanja ustanovljeno da postoje određeni rizici u smislu uticaja na životnu sredinu, drugi deo istraživanja vezan je za konkretne pokazatelje mogućih uticaja i u tom smislu mogućeg ugrožavanja životne sredine. Iz mogućih štetnih uticaja detaljno se analiziraju oni za koje je dokazano da u konkretnim prostornim uslovima određuju međusobni odnos planirane aktivnosti i životne sredine.

Uspešnost svakog rešenja u domenu zaštite životne sredine podrazumeva svestrano sagledavanje i definisanje svih kategorija navedenih uticaja. U tom smislu se uvek kao prioritet postavlja obaveza o njihovom definisanju u odnosu na osnovne prirodne činioce. Domen osnovnih prirodnih činilaca sačinjavaju: klima, voda, vazduh, tlo, flora, fauna, pejzaž, i predstavljaju, potpuno uređen i samoregulirajući mehanizam. Na osnovu konkretnih pokazatelja moguće je izvršiti izbor adekvatnih mera zaštite životne sredine čime se ispunjava i osnovna svrha ove studije.

U završnom koraku na osnovu verifikovanih pokazatelja istraživane su mogućnosti zaštite i unapređenja životne sredine i predložene odgovarajuće mere za koje postoji opravdanost u smislu racionalnog smanjenja negativnih uticaja.

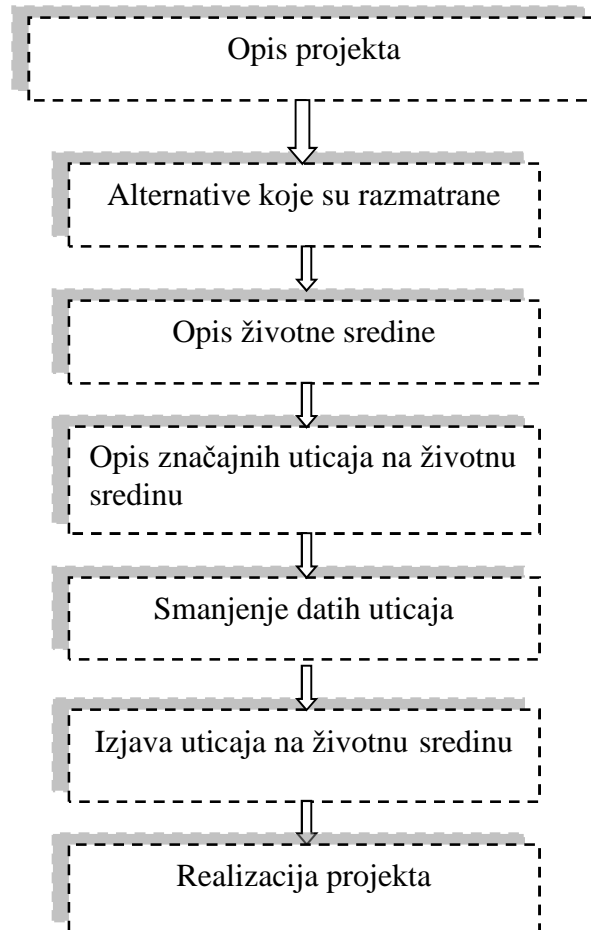
3. EIA DIREKTIVA

Procena uticaja na životnu sredinu (EIA) je procena mogućih uticaja koje predloženi projekat može imati na životnu sredinu, i koji se sastoji od ekoloških, socijalnih i ekonomskih aspekata.

Svrha procene je da se osigura da donosioci odluka razmotre uticaj na životnu sredinu prilikom odlučivanja da li ili ne da se nastavi sa projektom. Međunarodno udruženje za procenu uticaja definiše procenu uticaja na životnu sredinu kao "proces identifikacije,

predviđanja, procenu i ublažavanje biofizičkih, socijalnih, i drugih relevantnih efekata predloga razvijenih pre glavne odluke koje se preduzimaju."

EIA mora da obezbedi određene informacije i da se njih pridržava. Postoji sedam ključnih oblasti koje su potrebne:



Slika 1. Faze EIA procesa

Iako su EIA procesi sada u širokoj upotrebi, broj značajnih pitanja u vezi procesa i ishoda postoje. One uključuju: pitanja u vezi sposobnosti da predvidi budućnost tj. ponasanje ekološkog sistema, troškove i efikasnost procesa na životnu sredinu. EIA podrazumeva prikupljanje informacija o okruženju koje je relevantno za razvoj projekta i izradu procene o tome kako ovo okruženje bi se menjalo ukoliko bi se razvijalo određeni projekat.

4. SEA DIREKTIVA

SEA (strateška procena životne sredine) je postupak kojim se procenjuju uticaji predloženih strateških dokumenata (planovi, programi i politike) na radnu i životnu sredinu. Ovim postupkom omogućeno je učešće javnosti i organa nadležnih za zaštitu životne sredine u konačnom odlučivanju o politici koju predlaže određeni sektor, o planu za određeno područje ili programu razvoja za određenu oblast.

Da bi bila efikasna, strateška procena mora započeti istovremeno sa pripremom planova, programa i politika i biti integrisana u postupku primene istih. Strateška procena vrši se za

planove, programe i osnove u oblasti prostornog i urbanističkog planiranja ili korišćenja zemljišta, poljoprivrede, šumarstva, ribarstva, lovstva, energetike, industrije, saobraćaja, upravljanja otpadom, upravljanja vodama, telekomunikacija, turizma, očuvanja prirodnih staništa i divlje flore i faune, kojima se uspostavlja okvir za odobravanje budućih razvojnih projekata određenih propisima kojima se uređuje procena uticaja na životnu sredinu.

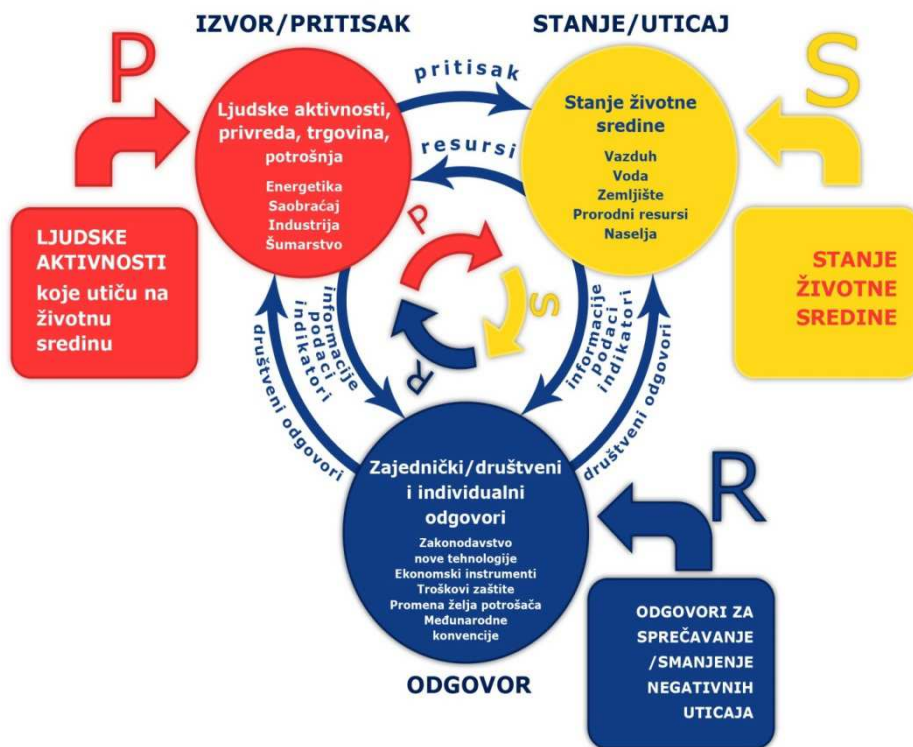
U Republici Srbiji, kao i u nekim drugim zemljama EU, nije jasno definisano kako integrisati proces Strateške procene uticaja sa procesom planiranja. Umesto procedure integrisanja procesa SPU (strateška procena uticaja), predstavljena je procedura koraka koje proces SPU mora slediti. U Republici Srbiji čak je i definicija procesa SPU orjentisana ka koracima koje bi proces trebao proći: "Strateška procena uticaja određenih planova i programa na životnu sredinu podrazumeva pripremu izveštaja o stanju životne sredine, sprovođenje postupka konsultacija, uvažavanje izveštaja i rezultata konsultacija u postupku odlučivanja i donošenja ili usvajanja određenih planova i programa, kao i pružanje informacija i podataka o donetoj odluci." Za uspešnu izradu Strateške procene uticaja izuzetno je važno kvalitetno definisati indikatore i ciljeve životne sredine. Postoje opšti i posebni ciljevi. Opšti ciljevi su vezani za planska dokumenta višeg reda i uslove koji oni diktiraju. Posebni ciljevi definišu se prema specifičnostima plana i predstavljaju konkretan iskaz opštih ciljeva dat u obliku smernica za promenu i akcija uz pomoć kojih će se te promene izvesti.

Polaznu osnovu u izboru indikatora predstavlja *Osnovni sem UN indikatora održivog razvoja* koji je zasnovan na konceptu "uzrok-posledica-odgovor".

Uzrok - ljudske aktivnosti, pojave i procesi koji utiču na životnu sredinu;

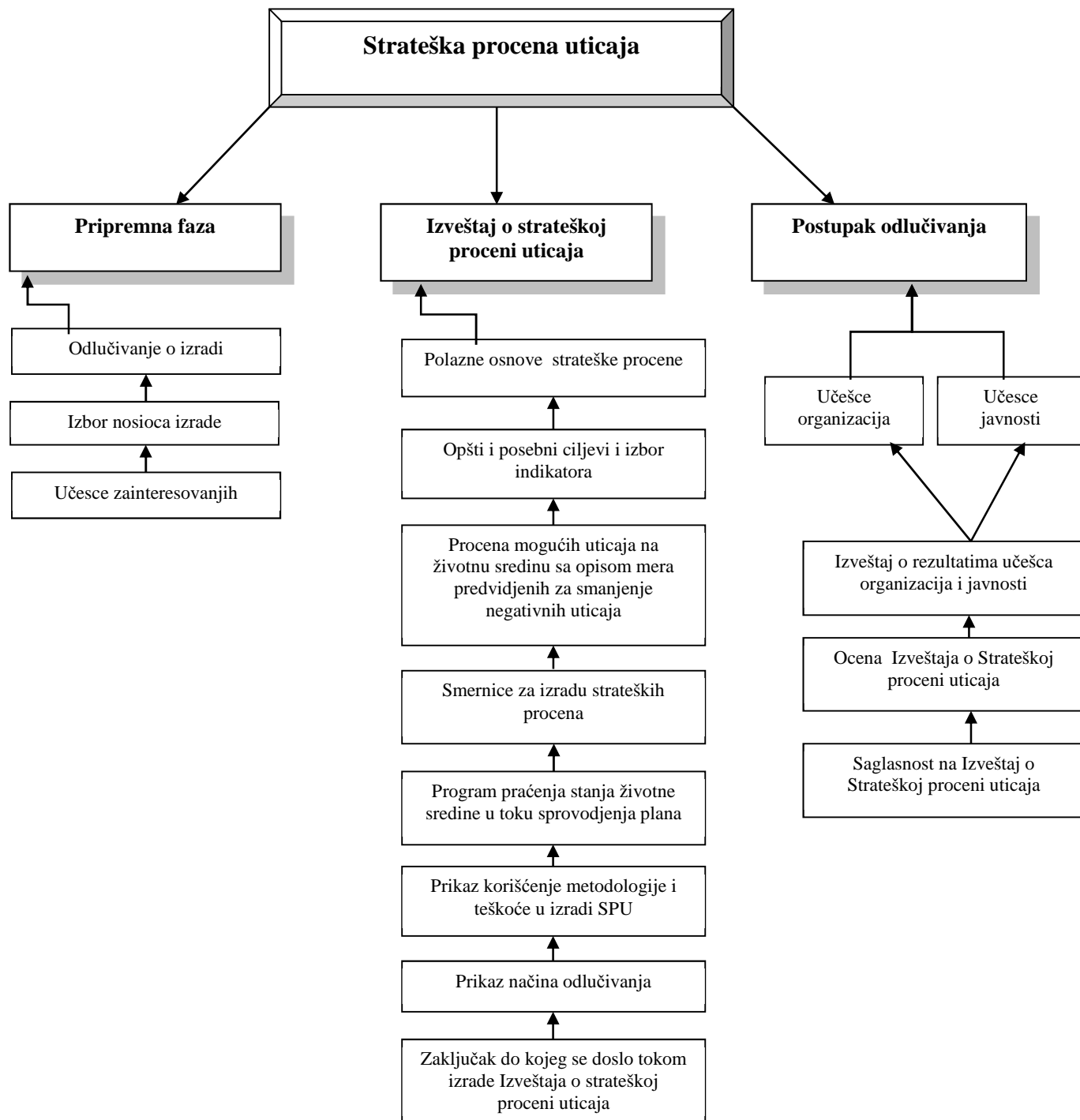
Posledica - označavaju stanje životne sredine;

Odgovor - indikatori koji definišu političke opcije i druge reakcije u cilju promena posledica po životnu sredinu;



Slika 2. Šematski prikaz Strateške procene uticaja (izvor: Pinter et al, UNEP, IISD & Ecologistics International, 1999)

Postupak strateške procene može se podeliti u tri faze: pripremna faza, izveštaj o strateškoj proceni uticaja i postupak odlučivanja.



Slika 3. Faze u postupku izrade Strateške procene uticaja

Republika Srbija je formalno usvojila SEA (strateška procena životne sredine) direktivu, ali je još uvek nije sistemski integrisala. Pored ovog nedostatka možemo navesti i formalizam, nedostatak svesti o značaju procesa SPU (strateška procena uticaja), kao i veoma često praktična neprimenjivost.

5. ZAKLJUČAK

Učešće javnosti u procesu donošenja odluka predstavlja jedno od glavnih pitanja jer podrazumeva zainteresovanost i spremnost na saradnju sa državnim organima sa zajedničkim ciljem unapređenja zajednice. Uključenost građana na polju zaštite životne sredine je ključno i sa aspekta stvaranja platforme za saradnju i okupljanje građana kao i javno zagovaranje kako bi se u kontinuitetu sprovodila politika zaštite i očuvanje životne sredine i očuvanje prirodnih vrednosti. Na kraju projekta, revizijom se procenjuju tačnost upoređivanjem stvarnog uticaja na osnovu predviđenih. Revizija se može izvršiti jednostavnijim pristupom u odnosu šta se zapravo dogodilo protiv predviđanjima u dokumentu.

REFERENCE

- [1] K. Stinchombe, R. Gibson, "Strategic Environmental Assessment as a means of pursuing sustainability: ten advantages and ten challenges", *Journal of Environmental Assessment Policy and management*, 2001, vol 3, pp 343-372
- [2] D. Filipović, S. Vukičević, *Uvođene zainteresovane javnosti u postupak strateške procene uticaja na životnu sredinu*, Asocijacija prostornih planera Srbije, Beograd, 2011
- [3] Zakon o proceni uticaja na životnu sredinu, "Službeni glasnik RS", br. 135/04 i 36/09
- [4] Zakon o strateškoj proceni uticaja na životnu sredinu, "Službeni glasnik RS", br. 135/2004 i 88/2010
- [5] Nacionalna strategija održivog razvoja, Vlada Republike Srbije, 55/05, 71/05-ispravka i 101/07, 2013.
- [6] Nacionalni program zaštite životne sredine Republike Srbije, 2010
- [7] <http://ec.europa.eu/environment/eia/eia-legalcontext.htm>
- [8] http://www.epa.ie/monitoringassessment/assessment/sea/#.Ux44_fl5Np4

DETERMINATION OF ECONOMIC GROWTH SERBIAN EXCHANGE RATE CHANGES

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Abstract: The relationship between exchange rates and levels of economic growth has always attracted interesvanje economic theory. As the level of economic growth is closely linked to the country in foreign trade (imports and exports) and foreign trade is directly dependent on the level of the exchange rate, keeping that in mind, this paper will try to accurately present the relationship between the amount of foreign exchange and foreign trade volume in Serbia. The first part contains a brief review of basic concepts, to the second section focused on the view of exchange rate changes (devaluation) of 5% to the level of importsand exports of Serbia.

Keywords: exchange rate, economic growth, devaluation, import, export

USLOVLJENOST PRIVREDNOG RASTA SRBIJE PROMENAMA DEVIZNOG KURSA

Ljiljana Stošić Mihajlović, Petronije Jevtić

Apstrakt: Veza između deviznog kursa i nivoa privrednog rasta od uvek je privlačila interesovanje ekonomske teorije. Kako je nivo privrednog rasta usko povezan sa spoljnotrgovinskim poslovanjem zemlje (uvozom i izvozom) a spoljnotrgovinsko poslovanje je u direktnoj zavisnosti od nivoa deviznog kursa, imajući to u vidu, u ovom radu ćemo pokušati da preciznije prikažemo vezu između visine deviznog kursa i obima spoljne trgovine u Srbiji. U prvom delu rada dat je kratki prikaz osnovnih pojmova, da bi se u drugom delu rada usmerili na prikaz uticaja promene deviznog kursa (devalvacije) od 5% na nivo uvoza i izvoza Srbije.

Ključne reči: devizni kurs, privredni rast, devalvacija, uvoz, izvoz.

1. UVOD

Devizni kurs je cena domaćeg novca, izražena u stranom novcu, ili cena stranog novca - izražena u domaćem novcu.[1] Devizni kurs uspostavlja vezu između nivoa cena u zemlji i inostranstvu.

Svaka strana valuta ima na domaćem deviznom tržištu svoju cenu koja se zvanično registruje, odnosno notira. Treba razlikovati direktno notiranje deviznog kursa, od indirektnog. Kod direktnog notiranja deviznog kursa jedinica strane valute izražava se u domaćoj valuti. Indirektno notiranje je posredni oblik izražavanja deviznog kursa kojim se cena jedne jedinice domaće valute izražava u stranoj valuti. U prvom slučaju, tj. kod direktnog notiranja, radi se o deviznom kursu strane valute na domaćem tržištu, a u drugom slučaju tj. kod indirektnog notiranja, reč je o deviznom kursu domaće valute na inostranom deviznom tržištu. Devizni paritet predstavlja zvanično utvrđenu vrednost nacionalnog novca izraženu u nekom šire prihvaćenom imenitelju (denominatoru): zlatu, specijalnim pravima vučenjima, nekoj stabilnijoj i važnijoj valuti i sl. Tako valutni paritet služi kao osnova oko koje, u normalnim uslovima, varira devizni kurs. Devizni kurs zavisi od formiranja ponude i tražnje deviza na deviznom tržištu, iz čega sledi - da se devizni kursevi ne moraju poklapati s njihovim monetarnim paritetom. Postoji razlika u deviznim kursovima koje utvrđuju neke zemlje i kurseva koji se formiraju pod uticajem ponude i tražnje na svetskom tržištu. Devizne kurseve mnoge zemlje utvrđuju zvanično, polazeći od interesa i ciljeva svoje ekonomske i devizne politike, pri čemu veoma često dolazi do izražaja regulisanje razmene i plaćanja sa inostranstvom. Međutim, vrednost deviza jedne zemlje na svetskom tržištu ne zavisi od zvaničnog kursa dotične zemlje, nego od njihove kupovne moći. Devizni kurs je veoma značajan za svaku privredu. Monetarne vlasti raznim instrumentima utiču na visinu deviznog kursa radi ostvarenja ciljeva ekonomske politike. Stabilnost deviznog kursa ima veoma značajan uticaj na razvoj privrede. Oblik privrednog sistema određuje i vrstu i stabilnost deviznog kursa, od centralizovane planske privrede sa fiksnim deviznim kursovima do slobodne tržišne privrede sa varijabilnim kursovima.

1.1. POJAM PRIVREDNOG RASTA

Privredni rast predstavlja povećanje nacionalne proizvodnje tokom vremena.[2] To povećanje može se izražavati za celu zemlju ili po glavi stanovnika. Pošto se broj stanovnika takođe povećava, rast proizvodnje po stanovniku predstavlja pravu meru ekonomskog napredovanja jedne zemlje. (Ako se, na primer, proizvodnja u tekućoj u odnosu na prethodnu godinu povećala za 4%, a broj stanovnika za 1%, povećanje proizvodnje po stanovniku iznosi 3%). Tokom privrednog razvoja promene u sastavu privrede su raznovrsne. One su najizraženije u promenama u proizvodnom sastavu, odnosno učešću pojedinih delatnosti (kao što je poljoprivreda i industrija) u ukupnoj proizvodnji. Privredni rast i promene sastava u privredi objašnjavaju ekonomsku sadržinu privrednog razvoja. U novije vreme sve veći značaj dobijaju njegovi društveni i ekološki činiloci. Za savremeni pristup razvoju očigledno je da se čovek stavlja u središte pažnje. Privredni razvoj ima smisla samo ako omogućava bolji život većini stanovništva. Proizvodnja u jednoj zemlji može da raste uz raznovrsne promene u sastavu privrede, a da koristi od tog razvoja imaju samo bogatiji slojevi stanovništva. Isto tako, privredni razvoj može da dovede do iscrpljivanja neki prirodnih resursa i zagađivanja životne sredine, što ne doprinosi dobrobiti ljudi.

2. TRANSMISIONI MEHANIZAM DEVIZNOG KURSA

Nakon pojačane primene fleksibilnog režima deviznog kursa raspadom Bretonvudskog međunarodnog monetarnog sistema, kanal deviznog kursa ima sve značajniju poziciju u monetarnom transmisionom mehanizmu. Transmisija deviznog kursa može biti direktna i

indirektna. Promene deviznog kursa deluju direktno na nivo cena poskupljenjem uvoznih proizvoda i to finalnih potrošačkih proizvoda i uvoznih inputa. Pored direktne transmisije devizni kurs utiče i na neto-izvoz, sastavnu komponentu agregatne tražnje, menjajući odnos cena domaćih i inostranih proizvoda. [3]

Direktni kanal podrazumeva uticaj depresijacije na poskupljenje uvoznih inputa što utiče na rast troškova proizvodnje, i gotovih uvoznih proizvoda. Poskupljenje gotovih uvoznih proizvoda, kao i rast troškova proizvodnje, utiču na rast potrošačkih cena.

Indirektni kanal uključuje delovanje depresijacije deviznog kursa na promenu kompozicije tražnje jer raste tražnja za domaćim, uvozno-supstitutivnim proizvodima i domaćim izvoznim proizvodima. Tražnja za uvozno-supstitutivnim proizvodima raste zbog viših cena uvoznih proizvoda, što će pojačati pritisak na rast cena uvozno-supstitutivnog sektora. S druge strane, pad vrednosti domaće valute (depresijacija) čini izvoz cenovno konkurentnijim na inostranom tržištu jer cena pomenutih proizvoda automatski pada izraženo u stranoj valuti. Usled indirektnih uticaja, odnosno, rasta tražnje za domaćim proizvodima (uvozno-supstitutivnim i izvoznim), inicira se rast cena i domaćih proizvoda. Pri tome, raste tražnja i za radnom snagom, što povećava i nivo nadnica. Sve skupa, direktni i indirektni kanali transmisije (depresijacije) deviznog kursa kreiraju opšti inflatorni pritisak.

Depresijacija nominalnog deviznog kursa ($\uparrow E$) direktno poskupljuje uvozne finalne ($\uparrow P_{mf}$) i uvozne input ($\uparrow P_{mi}$) proizvode i time predstavlja eksterni inflatorni impuls.

S druge strane depresijacija domaće valute povećava neto-izvoz ($\uparrow NX$), agregatnu tražnju ($\uparrow AD$), nivo outputa ($\uparrow Y$) i cena ($\uparrow P$), jer domaći proizvodi pojeftinjuju u poređenju sa inostranim proizvodima.

direktni kanal: $\uparrow E \rightarrow \uparrow P_{mf} + \uparrow P_{mi} \rightarrow \uparrow P$

indirektni kanal: $\uparrow E \rightarrow \uparrow X \text{ i } \downarrow M \rightarrow \uparrow NX \rightarrow \uparrow AD \rightarrow \uparrow Y \text{ i } \uparrow P$

Ekspanzivna monetarna politika \rightarrow smanjenje kamatne stope \rightarrow pad investiranja u domaću valutu \rightarrow pad priliva inostrane valute \rightarrow depresijacija nominalnog deviznog kursa \rightarrow povećanje neto-izvoza \rightarrow povećanje agregatne tražnje \rightarrow povećanje outputa i nivoa cena; Ekspanzivna monetarna politika \rightarrow smanjenje kamatne stope \rightarrow pad investiranja u domaću valutu \rightarrow pad priliva inostrane valute \rightarrow depresijacija nominalnog deviznog kursa \rightarrow direktno poskupljenje uvoznih inputa i finalnih uvoznih proizvoda \rightarrow povećan nivo cena. Kanal deviznog kursa uključuje i kanal kamatne stope, delovanje putem agregatne tražnje i realne ekonomske aktivnosti. Međutim, kanal prenosa se ne ostvaruje putem investicionih i potrošačkih aktivnosti već putem neto-izvoza. Variranje kamatne stope od strane centralne banke stimuliše/destimuliše investiranje u depozite denominovane u nacionalnoj valuti u poređenju sa depozitima u stranoj valuti. Naime, relativno viši nivo realne kamatne stope u nacionalnoj ekonomiji čini nacionalnu valutu privlačnom za investiranje, pa se priliv inostrane valute evidentira kao priliv kapitala sa depresijacijskim pritiscima po domaću valutu. Rast kamatne stope podrazumeva depresijaciju nominalnog deviznog kursa sa reperkusijama na pad neto-izvoza, agregatne tražnje, nivo outputa i cena.[5] Pošto je relativno viši nivo kamatne stope uzrokovao depresijaciju nominalnog deviznog kursa, jačanje domaće valute će, pored indirektnog efekta na pad agregatne tražnje, sniziti nivo cena i direktno putem pojeftinjenja uvoznih proizvoda. Promena deviznog kursa, spontana usled tržišnih snaga ili iznuđena od strane centralne banke (direktno putem intervencija na deviznom tržištu ili indirektno putem kamatne stope), se veoma brzo prenosi na nivo cena. Dakle, kanal deviznog kursa je kratkoročan, direktan i jači, u poređenju sa kanalom kamatne stope koji je dugoročan i kompleksan. Koliko će

konkretno promena deviznog kursa indukovati promenu nivoa cena (jačina kanala deviznog kursa i brzina transmisije na cene) zavisi od tri ključna faktora:

- 1) Konkurencija na tržištu uvoznih proizvoda i domaćih uvozno-supstitutivnih proizvoda;
- 2) Način formiranja cena kod prodavaca - euri ili dinari;
- 3) Smer promene kursa - reakcija cena na depresijaciju vs. apresijaciju.

Što je veća konkurencija na uvoznom tržištu i tržištu uvozno-supstitutivnih proizvoda, transmisija deviznog kursa biće manja. Naime, uvoznici i domaći proizvođači usled konkurencije će biti spremni da žrtvuju i deo marže odnosno profita kako bi opstali u konkurenciji. Obrnuto je u slučaju monopola ili oligopola, odnosno, postojanja uvoznog lobija - transmisija deviznog kursa je veća i brža. Ukoliko se cene formiraju u eurima transmisija je kompletna, a ukoliko je u dinarima transmisija ne mora biti kompletna i zavisi od ostala dva faktora, konkurencije i smera promene deviznog kursa. Obično, depresijacija deviznog kursa relativno brzo povećava opšti nivo cena, dok je u slučaju apresijacije transmisija odnosno snižavanje cena sporije, manje ili ne postoji. U tranzicionim, i šire emergentnim ekonomijama, cene pokazuju veću inerciju u slučaju apresijacije (rigidnost naniže) ali su zato veoma fleksibilne u slučaju depresijacije deviznog kursa (fleksibilnost naviše).

3. DEVIZNI KURS, EKSTERNA NERAVNOTEŽA I PRIVREDNI RAST

Normalizacija ekonomskih odnosa Srbije sa inostranstvom krajem 2000. godine bila je praćena liberalizacijom spoljne trgovine koja je naročito došla do izražaja sredinom 2001. godine. Ukidanje kontigenata i smanjenje prosečnog ponderisanog carinskog opterećenja na nivo od 10% dovelo je do dinamičnog povećanja trgovinskog deficita i spoljnog duga. Zemlja koja kontinuirano generiše deficit, akumulira dug prema ostatku sveta, te je obavezna da plaća sve više kamate svojim zajmodavcima. Deficit tekućeg računa je osnovni faktor ranjivosti srpske ekonomije i sinteza je svih promašaja ekonomske politike. Inherentno nepovoljan odnos uvoza i BDP, s jedne strane i ekspanzija privatne potrošnje, s druge strane Srbiju svrstava u red visoko zaduženih zemalja. Servisiranje spoljnog duga, opterećuje naš budući rast, pa će nam relativni položaj u budućnosti biti za onoliko lošiji za koliko smo ga, zahvaljujući forsiranju rasta kroz zaduživanje, poboljšali u prethodnom vremenskom razdoblju. Narušena spoljnoekonomska ravnoteža, visoka inflacija kao izraz unutrašnje neravnoteže i nezaposlenost kao manifestacija strukturne neravnoteže predstavljaju opravdane razloge za pozivanje na Marshal- Lernerov uslov koji je izveden iz jednačine

$$NX = X - e IM \quad (1)$$

NX - neto izvoz; X - izvoz; e - realni kurs, i IM -količina uvoza.

Na osnovu jednačine (1) proizilazi da realna depresijacija odnosno povećanje realnog kursa utiče na spoljnotrgovinski bilans putem tri kanala:

Izvoz X : porast. Realna depresijacija čini srpske proizvode relativno jeftinijim u inostranstvu, što implicira rast srpskog izvoza.

Uvoz IM : pad. Realna depresijacija čini stranu robu relativno skupljom na srpskom tržištu.

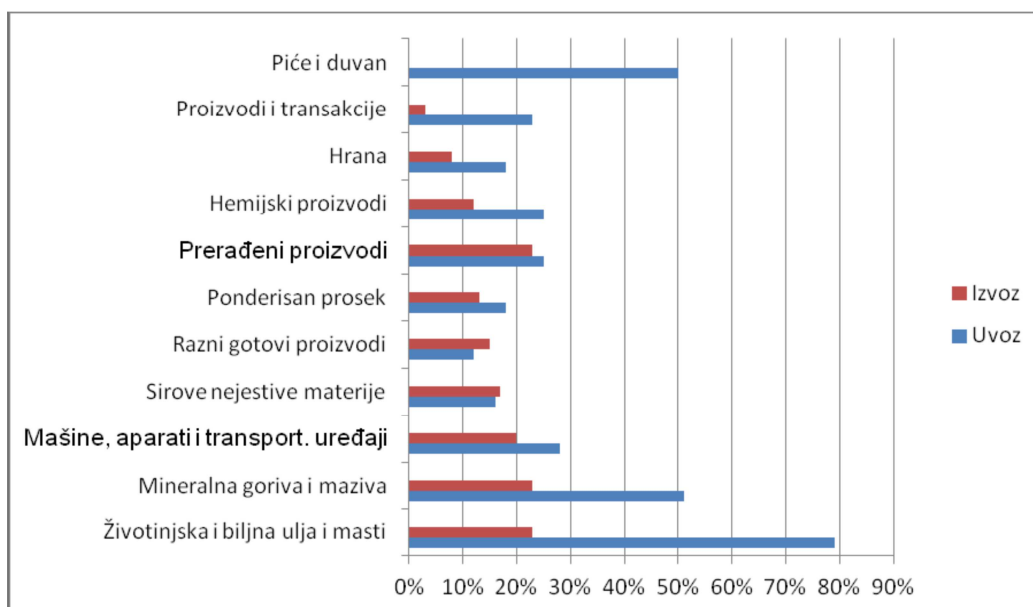
Relativna cena stranih dobara e : porast. To povećava vrednost uvoza.

Da bi se nakon izvršene depresijacije dinara poboljšao saldo spoljnotrgovinskog bilansa, potrebno je da rast izvoza (prvi kanal) i smanjenje uvoza (drugi kanal), u ukupnoj sumi kompenzira porast cena inostranih dobara (treći kanal). Uslov pod kojim realna depresijacija produkuje porast neto izvoza poznat je kao Maršal Lenerov uslov. Iz Maršal Lenerovog uslova proističe da realna depresijacija dinara može biti posebno bolna za ekonomiju sa tako krupnim eksternim deficitom. Neravnoteža platnog bilansa jasno sugeriše da je dinar teško precenjen. Naime, centralne banke ponekad intervenišu na deviznom tržištu kako bi sprečile rast ili pad vrednosti domaće valute. U poslednje dve godine NBS je pretežno prodavala evro, sa ciljem da spreči pad vrednosti dinara. Ali, rasipnička i neracionalna politika NBS vodi samo ubrzanom iscrpljivanju deviznih rezervi koje su u razdoblju od 2007. do 2009. frapantno smanjene.

Intervencijama na deviznom tržištu NBS kažnjava izvoznike jer za zarađene devize oni dobijaju manje nego što bi dobili da NBS ne interveniše. S druge strane, omogućavajući im da evro danas kupuju jeftinije, NBS subvencionise i nagrađuje uvoznike. Stoga se može zaključiti da odbrana nerealnog kursa predstavlja uzaludno trošenje deviznih rezervi i sprečavanje procesa platnobilansnog uravnoteženja.

3.1. UTICAJ REALNOG KURSA NA IZVOZNO ORJENTISANE SEKTORE

Kako bi ocenili elastičnost izvoza i uvoza na realni kurs koristili smo mesečne podatke za period od avgusta 2001. do maja 2008. godine.[6] Desezonirani uvoz i izvoz, prema grupi proizvoda po standardnoj međunarodnoj trgovinskoj klasifikaciji (SMTK), izraženi su u dinarima i deflacionirani cenama na malo (gde je baza prosek tokom 2007. godine). Kao što Grafikon 1. ukazuje, životinjska i biljna ulja i masti zabeležili su najviši međugodišnji rast izvoza. Međutim, i pored najvišeg rasta, udeo ovog sektora u ukupnom izvozu u maju 2008. godine bio je nizak i iznosio je 1,3%, dok je kod uvoza udeo ovog sektora (sa takođe najvećim rastom) iznosio 0,2%.



Slika 1. Međugodišnja stopa rasta izvoza i uvoza po SMTK (standardnoj međunarodnoj trgovinskoj klasifikaciji)

Sektorska struktura izvoza i uvoza (maj 2008. godine) ukazuje na to da su ključni sektori za ukupnu dinamiku izvoza prerađeni proizvodi (proizvodi svrstani po materijalu), mašine, aparati i transportni uređaji, razni gotovi proizvodi, hemijski proizvodi i hrana. Uvozna dinamika je pod najvećim uticajem mašina, aparata i transportnih uređaja, prerađenih proizvoda, mineralnih goriva i maziva i hemijskih proizvoda.[7]

Kako su rezultati ocene elastičnosti izvoza u odnosu na realni kurs delimično ograničeni, pokušali smo da dođemo do značajnijih rezultata o kretanju izvoza i depresijacije dinara, uz pretpostavku o depresijaciji dinara u iznosu od 5% u odnosu na dolar. Naime, osam tradicionalno izvozno orijentisanih industrijskih odseka (koji zajedno ostvaruju suficit u robnoj razmeni sa inostranstvom, smanjili su udeo u ukupnom izvozu (sa 45% u 2001. godini na 37% u 2008. godini). Kod ovih odseka očekujemo da postoji jača veza između realne deprecijacije kursa i rasta izvoznih prihoda, i obratno. Najveća ocenjena elastičnost zabeležena je kod gvožđa i čelika i obojenih metala, gde deprecijacija realnog efektivnog izvoznog kursa od 5% dovodi do povećanja izvoza od 9,27% i 7,57%, respektivno. Od statistički značajnih elastičnosti realnog kursa, najmanja je u odseku nameštaj i delovi, gde deprecijacija realnog efektivnog izvoznog kursa od 5% dovodi do povećanja izvoza za 2,87%. Imajući u vidu obim trgovine u maju 2008. godine, deprecijacija kursa imala bi najveći dugoročni uticaj na apsolutni rast izvoza gvožđa i čelika (15,94 mln. USD), pa na apsolutni rast izvoza obojenih metala (4,84 mln. USD). Najmanji dugoročni uticaj na apsolutni rast izvoza zabeležio bi odsek nameštaj i delovi, gde bi identična promena kursa dovela do povećanja izvoza od svega 0,51 mln. USD. Ipak, sve statistički značajne ocene elastičnosti izvoza na stranu tražnju prate ispravnu ekonomsku logiku - što je veća strana tražnja, to je veći prihod srpskih izvoznika. Kratkoročne tendencije imaju uticaja na sve izvozno orijentisane odseke, sem na gvožđe i čelik. Sveukupno, na osnovu podataka dobijenih za izvozno orijentisane odseke, sledi da su upravo ovi odseci u većoj meri osetljivi na promene realnog kursa, a manje osetljivi na promene svetske tražnje u poređenju sa ostalim SMTK sektorima.[8]

3.2. UTICAJ REALNOG KURSA NA UVOZ

Podsetimo se da ukoliko očekujemo da deprecijacija dinara umanji uvoz u svim industrijama, držeci se primera egzogene realne deprecijacije efektivnog uvoznog kursa od 5%, korišćenog i pri ilustraciji uticaja na izvoz, najveći bi bili dugoročni efekti na proizvode i transakcije (čiji bise uvoz u dugom roku smanjio za 30,12%), pa na piće i duvan (čiji bi se uvoz u dugom roku smanjio za 8,71%), i na mašine, aparate i transportne uređaje (čiji bi se uvoz u dugom roku smanjio za 5,06%). Sagledavajući promene u nominalnim vrednostima uvoza (prema uvozu u USD u maju 2008. godine), rangiranje sektora bi se u potpunosti okrenulo - najveći apsolutni pad uvoza u dugom roku bi ostvarili mašine, aparati i transportni uređaji (30,6 mln. USD), pa piće i duvan (1,2 mln. USD), pa proizvodi i transakcije (0,3 mln USD). Udeo specijalnih transakcija (manje od 0,1%) i pića i davana (0,7%) u ukupnom uvozu je zanemarljiv, pa deprecijacija realnog efektivnog uvoznog kursa više pogađa investicije od lične potrošnje.[9] Podsetimo se da očekujemo da povećana domaća proizvodnja smanjuje uvoz. Povećanje domaće proizvodnje od samo 1% dovelo bi u dugom roku do smanjenja uvoza prerađenih proizvoda za nešto ispod 10% i do smanjenja uvoza hemijskih proizvoda za nešto iznad 10%. Udeo ova dva sektora u ukupnom uvozu izneo je 33,7% u maju 2008. godine. Elastičnost ukupnog uvoza i domaće proizvodnje takođe je statistički značajna, ali nešto niža u poređenju sa prethodno navedenim sektorima - povećanje domaće proizvodnje od 1% dovelo bi u dugom roku do smanjenja uvoza za nešto iznad 5%. Prema podacima iz maja 2008. godine, povećanje

domaće proizvodnje od samo 1% dovelo bi u dugom roku do smanjenja ukupnog uvoza za 109,8 mln. USD. Rezultati ukazuju da je uvoz (odnosno odliv novca) najosetljiviji na kratkoročne tokove, dok u dugom roku prikazuje veoma malu osetljivost na promene realnog efektivnog uvoznog kursa i na promene domaće proizvodnje. Pored toga, za kretanje uvoza, posmatraćemo i uticaj fonda plata i penzija na uvoz. Stoga prikazujemo rezultate gde smo ocenili jednačinu koja, pored promenljivih korišćenih u dosadašnjoj analizi, sadrži indeks fonda penzija i plata (FOND).

Sledeća jednačina prikazuje rezultate: (10) $\Delta \ln M = 5,871 + 0,234 \ln GDP + 0,053 \ln REUK + 0,923 \ln FOND + 3,530 \Phi M$ (10,431)*** (2,315)** (0,946) (9,544)*** (8,499)***, gde su korišćene oznake: $\Delta \ln M$ - promena vrednosti uvoza, GDP- bruto domaći proizvod, REUK- realni efektivni uvozni kurs, FOND- nivo penzija i plata, ΦM -oznake za linearne kombinacije. Iako realni efektivni uvozni kurs i dalje nema uticaja na kretanje uvoza u dugom roku, a uvoz je ostaje najosetljiviji na kratkoročne tokove, nova ocena ukazuje i na značajan rezultat koji je vezan za fond penzija i plata. Naime, iz jednačine (10) vidimo da je elastičnost uvoza na fond penzija i plata pozitivana i statistički značajana na nivou od 1% (sa t-vrednošću od čak 9,5). Takođe, elastičnost uvoza na fond penzija i plata ima značajnu ekonomsku interpretaciju: ukoliko dođe do egzogenog povećanja fonda penzija i plata za 1%, uvoz će u dugom roku porasti za 0,923%. Tako bi, na primer, predloženo povećanje penzija za 10% (u septembru 2008. godine) koje dovodi do povećanja fonda penzija i plata za 3,3%, povećalo uvoz za 3,03% u dugom roku, odnosno 64,4 mln. USD.

4. ZAKLJUČAK

Na osnovu predhodne analize možemo zaključiti da velika promena realnog kursa dinara (deprecijacija) relativno malo može pomoći izvoznicima. Sa druge strane, uvoz u još manjoj meri zavisi od realnog kursa, kako najveći uticaj na uvoz u dugom roku ima fond penzija i plata. Stoga, smanjivanje vrednosti dinara može imati značajne negativne posledice po makroekonomsku stabilnost (rast cena, bilanse poslovnih banaka, zaduženost stanovništva i preduzeća, itd.) bez uticaja na spoljnu trgovinu, smatramo da država najefikasnije može poboljšati spoljnotrgovinska kretanja kroz umeren rast penzija i zarada u javnom sektoru. Kako država Srbija već duži niz godina ima hronični problem sa visokom inflacijom to je primarni zadatak države da smanji nivo inflacije, tj. da spusti inflaciju na nizak nivo (jednocifrena inflacija) - u suprotnom će izostati iole ozbiljniji ekonomski napredak. Ali politika stabilizacije ne sme se mešati sa politikom ekonomskog rasta.[4] Stabilizacija snižava inflaciju, ali njena dugoročna operacionalizacija usporava tempo privrednog rasta i donosi siromaštvo. Čvrsta monetarna politika koja podrazumeva precenjeni kurs domaće valute i visoke kamatne stope ne može pokrenuti nova radna mesta. Ovakva politika samo dovodi do usporavanja svakog privrednog rasta.

REFERENCE

- [1] Cvetanović, S.: "Makroekonomija", Ekonomski fakultet, Niš, 2007., ISBN 978-86-910765-0-4
- [2] Miljković, D.: "Međunarodne finansije", Ekonomski fakultet, Beograd, 2007., ISBN 86-403-0820-9
- [3] Radević, B.: "Međunarodne Finansije", Priština, 1998., ISBN 86-7549-100-X

- [4] Adamović,S.: "Ekonomski dijalozi", Službeni glasnik, Beograd, 2008.
- [5] Kitanović, D, Krstić, M.: „Uticaj deviznog kursa na privredni rast Srbije", Ekonomske teme, Niš, god. XLVII, br. 1, 2010., str. 13-26
- [6] Stošić Mihajlović, Lj.: “ Tržište troškovi i cene” VŠPSS, Vranje
- [7] [http// www.nbs.rs](http://www.nbs.rs)
- [8] [http//www.nkatic.wordpress.com./Ponavljaci monetarne politike](http://www.nkatic.wordpress.com/Ponavljaci_monetarne_politike)
- [9] [http//www.nkatic.wordpress.com. /Kako sakriti istinu o inflaciji](http://www.nkatic.wordpress.com./Kako_sakriti_istinu_o_inflaciji)
- [10] [http//www.nkatic.wordpress.com. /Mnoge firme neće preživeti](http://www.nkatic.wordpress.com./Mnoge_firme_nece_preživeti)

PUBLIC PROPERTY AS THE ECONOMIC DEVELOPMENT OF LOCAL GOVERNMENT

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Abstract: Local self-government and territorial autonomy in Serbia are probably the only unit of this type in Europe that do not have their own property although the Constitution guarantees the right to appropriate property for the realization of legally established authority.

In the recent period there have been two significant proposals of legal texts that treat the specified ownership issues, the development of which was attended by experts from the Council of Europe who gave positive reviews of the draft law.

Regulating the ownership issue at the level of territorial autonomy and local self-government, the solution to the problem of denationalization, that restitution is a prerequisite for inclusion of our country to European integration and a prerequisite for rapid local economic development.

Keywords: property, ownership, tenure, local government

JAVNA IMOVINA KAO OSNOVA EKONOMSKOG RAZVOJA JEDINICA LOKALNE SAMOUPRAVE

Zoran Antić, Svetlana Trajković, Ljiljana Mihajlović

Apstrakt: Jedinice lokalne samouprave i teritorijalne autonomije u Republici Srbiji su verovatno jedine jedinice takvog tipa u Evropi koje ne poseduju sopstvenu imovinu iako im Ustav garantuje pravo na odgovarajuću imovinu radi realizacije zakonom utvrđenih nadležnosti.

U proteklom periodu urađena su dva značajna predloga zakonskih tekstova koji tretiraju navedenu svojinsku problematiku, u čijoj izradi su učestvovali eksperti Saveta Evrope koji su dali pozitivne ocene tih predloga zakona.

Regulisanje svojinske problematike na nivou teritorijalne autonomije i lokalne samouprave, uz rešenje problema denacionalizacije, odnosno restitucije predstavlja preduslov uključenja naše države u evropske integracije i preduslov za brži lokalni ekonomski razvoj.

Ključne reči: imovina; svojina; državina; lokalna samouprava

1. UVOD

Republika Srbija bila je jedna od malobrojnih država na evropskom tlu u kojoj jedinice lokalne samouprave nemaju svoju imovinu i samim tim ne mogu sa njom ni da raspoložu.

Prethodni Ustav Republike Srbije u trećem delu - Ekonomsko uređenje i javne finansije, u čl. 86. garantuje ravnopravnost svih oblika svojine, a zajemčene su privatna, zadružna i javna svojina. Pod javnom svojinom podrazumeva se državna svojina, svojina autonomne pokrajine i svojina lokalne samouprave. Svi oblici svojine imaju jednaku pravnu zaštitu. Uslovi, način i rokovi pretvaranja postojeće društvene svojine u privatnu utvrđuju se zakonom. Uslovi i način otuđenja sredstava iz javne svojine takođe se utvrđuju zakonom. Čl. 87.st.4. Ustava RS precizira da se imovina autonomnih pokrajina i jedinica lokalne samouprave, način njenog korišćenja i raspolaganja, uređuju zakonom. Donošenjem Zakona o sredstvima u svojini Republike Srbije 1995. godine ("Službeni glasnik RS" br.53/95,3/96,54/96 i 32/97) država je izvršila podržavljenje, jednu vrstu naocionalizacije sa očiglednom namerom da se, u tom trenutku, oslabi snagu jedinica lokalne samouprave u okolnostima koje su nagoveštavale promenu na svim nivoima vlasti. Napred navedeni zakon predviđa obavezu jedinice lokalne samouprave da se za svaki akt raspolaganja mora obratiti republičkim organima (Republičkoj direkciji za imovinu).

Naime, svaki od više od 160 gradova i opština Srbije mora da dobije saglasnost Republičke direkcije za imovinu za svako otuđenje ipribavljanje imovine, kao i za sklapanje i raskid ugovora o zakupu. Nastalo je mnogo problema u praktičnoj primeni zakona, davanje saglasnosti je kasnilo, niz projekata nije realizovano i pored toga što su za njih obezbeđena finansijska sredstva. Posledice navedenog stanja su velike štete koje su trpele jedinice lokalne samouprave. Studija Ekonomskog instituta, sprovedena 2005. godine u saradnji sa SKGO i pod pokroviteljstvom USAID/SLGRP programa, pokazala je da budžeti gradova i opština Srbije trpe godišnju štetu od 103 miliona evra zbog nepostojanja imovine lokalne samouprave. Takođe i izgubljena dobit je velika i reflektuje se kroz okvirni broj od 4000 nerealizovanih novih radnih mesta godišnje. Zakon o javnoj svojini, svojini i drugim imovinskim pravima Republike Srbije, autonomne pokrajine i jedinice lokalne samouprave, ima ustavni osnov za donošenje predstavlja ustavna odredba (čl. 97. stav 1. tač. 7. Ustava RS "Sl. Glasnik RS" br. 98/2006) kojom je propisano da Republika Srbija uređuje i obezbeđuje svojinske odnose i zaštitu svih oblika svojine, a ovaj zakon upravo uređuje neke od oblika svojine.

Usvajanjem toga zakona u državnu svojinu prelaze sva sredstva koja su koristile jedinice lokalne samouprave kao društvenu svojinu, kao i stvari koje su pribavljene ili sagrađene sredstvima u društvenoj svojini i prihodi koji ostvareni po osnovu ulaganja društvenog kapitala u preduzeća i ustanove. Sredstva stečena ili koja steknu ustanove i javne službe čiji su osnivači jedinice lokalne samouprave obuhvaćena su istim zakonskim rešenjem. Sva ova imovina dobija jedinstveni naziv - javna imovina, te je na taj način izvršeno podržavljenje najvećeg dela društvene svojine. U vreme usvajanja navedenoga zakona na snazi je bio Ustav SR Jugoslavije koji je navodio državnu svojinu kao jedini i isključivi oblik svojine na sredstvima koja koriste državni organi, organi teritorijalne autonomije, jedinice lokalne samouprave i javne službe. Rešenja iz ovoga zakona obuhvataju nepokretne i pokretne stvari, odnosno sva sredstva koja su stečena, odnosno koriste ili će steći jedinice lokalne samouprave, kao i prirodna bogatstva (šume, reke, jezera, rudna blaga i dr.), dobra u opštoj upotrebi (ulice, trgovi, parkovi, javni putevi i druga dobra). Iako je u novom republičkom Ustavu stvoren osnov da lokalna samouprava upravlja sopstvenom imovinom, u skladu sa zakonom, nije iskorišćen taj momenat prilikom usvajanja novog teksta Zakona o lokalnoj samoupravi, tj. nije definisan način korišćenja

imovine lokalne samouprave. U Zakonu o lokalnoj samoupravi konstatovano je da jedinica lokalne samouprave ima svoju imovinu i da istom samostalno upravljaju organi jedinice lokalne samouprave, u skladu sa zakonom (čl.15. Zakona). Zvaničan stav Evropske komisije izražen više puta, pa tako i u martu 2004. godine, prilikom sačinjavanja Godišnjeg izveštaja o procesu stabilizacije i pridruživanja tadašnje državne zajednice Srbije i Crne Gore Evropskoj Uniji, je da je proces jačanja demokratskih institucija na lokalnom nivou i proširivanje njihove samostalnosti i kompetencija u direktnoj zavisnosti od uspostavljanja opštinske imovine. Evropska povelja o lokalnoj samoupravi ne sadrži eksplicitne stavove, ali se iz sadržine njenih odredaba podrazumeva da lokalna samouprava ne može da realizuje svoje osnovne funkcije ukoliko nema pravo svojine na sredstvima koja služe izvršavanju tih funkcija. Pored navedenoga, Kongres lokalnih i regionalnih vlasti Evrope na Desetom zasedanju održanom u Strazburu od 20. - 22. maja 2003. godine, usvojio je preporuku u kojoj je na eksplicitan način izražen stav da je pravo lokalne samouprave na svojinu prvi uslov kojim se obezbeđuje ispunjenje obaveza saglasno odredbama Evropske povelje o lokalnoj samoupravi. Dakle, Srbiji je neophodan poseban zakon kojim će regulisati pravo jedinica lokalne samouprave na sopstvenu imovinu.

„Opština samostalno upravlja opštinskom imovinom, u skladu sa zakonom.“(čl.190. st.4. Ustava RS) 3 Kongres lokalnih i regionalnih vlasti Evrope, Preporuka br. 132 (2003) o opštinskoj imovini u okviru principa sadržanih u Evropskoj povelji o lokalnoj samoupravi Eksperti Centra za javnu i lokalnu upravu PALGO predstavili su tekst Nacrta Zakona o imovini lokalne samouprave narodnim poslanicima u Narodnoj skupštini Republike Srbije 2005. godine

Osnovni cilj usvajanja ovakvog zakona je vraćanje prava svojine jedinicama lokalne samouprave na onoj imovini koja im je pripadala pre stupanja na snagu Zakona o sredstvima u svojini Republike Srbije. Time bi se izvršila svojevrсна restitucija, a teret dokazivanja prava na stvarima koja bi bila predmet te restitucije leži na jedinicama lokalne samouprave. To bi značilo da moraju da dokažu da su zaista raspolagale sa premetnim stvarima i pravima pre usvajanja Zakona o sredstvima u svojimi Republike Srbije. Regulisanje povraćaja imovine jedinicama lokalne samouprave na ovakav način onemogućilo bi jedan broj jedinica lokalne samouprave u povraćaju imovine, s obzirom da ne poseduju dokaze o pravu svojine. U nacrtu Zakona o imovini lokalne samouprave autori su se opredelili za sticanje, umesto restitucije, ceneći da će se postupak realizovati brzo i efikasno, te da će u najvećem broju slučajeva jedinicama lokalne samouprave pripasti pravo svojine na stvarima koje su im pripadale pre stupanja na snagu Zakona o lokalnoj samoupravi. Jedno od glavnih načela proklamovanih u ovom nacrtu zakona je načelo samostalnosti jedinice lokalne samouprave u vršenju imovinskih prava. Ovo načelo podrazumeva ovlašćenje jedinice lokalne samouprave da samostalno odlučuje o načinu vršenja imovinskih prava, tj. da li će da vrši ili ne pojedina imovinska prava. Ukoliko se zakon slične sadržine i usvoji, značajno pitanje u okviru njegove primene je vršenje kontrole nad gazdovanjem imovinom jedinica lokalne samouprave. Rešenja poput sadašnjeg, koje se ogleda u traženju saglasnosti određenog državnog organa za svako raspolaganje nepokretnostima je neodrživo budući da jedinicama lokalne samouprave nije ograničena ili oduzeta pravna i poslovna sposobnost. U uporednom pravu pored klasičnih sredstava represije - krivično-pravnih sankcija predviđenih za dela poput zloupotrebe službenog položaja, odnosno ovlašćenja kao i druga krivična dela, kao mehanizam kontrole najčešće se pojavljuje javnost. Značajna činjenica, koju treba imati na umu, u okviru diskusije na ovu temu, ja da je usvajanje i primena propisa sličnih predmetnom nacrtu zakona međunarodna obaveza naše države saglasno odredbama Evropske povelje o lokalnoj samoupravi. Republika Srbija ima obavezu da jedinicama lokalne samouprave

obezbedi sredstva dovoljna za njihovo funkcionisanje, te je nužno da opštinama i gradovima zaista pripada imovina koju koriste. Sva relevantna dokumenta vezana za proces stabilizacije i pridruživanja, naglašavaju nužnost rešavanja ovoga pitanja. Analizirajući rešenja u uporednom pravu evropskih država u ovoj oblasti može da se zaključi da uglavnom ne postoje posebni zakoni, nego veći broj normi, u okviru različitih propisa, kojima se reguliše ova oblast. Na napred navedeni nacrt zakona dato je pozitivno mišljenje o usaglašenosti predloženog teksta sa principima Saveta Evrope, a sam nacrt rađen je u saradnji sa ekspertima Saveta Evrope. Samim tim, usvajanje takvog zakonskog teksta predstavljalo bi veoma značajan korak u pokušajima naše države za dalje evropske integracije. Takođe, ovu problematiku tretira i nacrt Zakona o javnoj svojini, svojini i drugim imovinskim pravima Republike Srbije, autonomne pokrajine i jedinice lokalne samouprave, a ustavni osnov za donošenje predstavlja ustavna odredba (čl. 97. stav 1. tač.7. Ustava RS "Sl. Glasnik RS" br. 98/2006) kojom je propisano da Republika Srbija uređuje i obezbeđuje svojinske odnose i zaštitu svih oblika svojine, a ovaj zakon upravo uređuje neke od oblika svojine. Novi Ustav RS uvodi u pravni sistem novi oblik svojine - javnu svojinu, koja do sada nije pravno uređena, a ustavne norme, očekivano, sadrže malo odredaba odredaba o tome. U Ustavu je precizirano da država, kao i oblici teritorijalne autonomije i jedinice lokalne samouprave imaju pravo javne svojine i svojine te je neophodno zakonom urediti realizaciju navedenoga ustavnog prava, iz čega proizilazi nužnost ukidanja postojećeg svojinskog režima ustanovljenog Zakonom o sredstvima u svojini Republike Srbije. Pored toga potrebno je sinhronizovano izvršiti prenos državne svojine na određenoj imovini Republike Srbije u svojinu autonomne pokrajine i jedinica lokalne samouprave, kao neophodan uslov za uspostavljanje i vršenje svojinskih prava ovih subjekata. Ova rešenja su u skladu i sa Evropskom poveljom o lokalnoj samoupravi, koju je, kao što je već ranije navedeno, Reublika Srbija ratifikovala i time, između ostalog, preuzela i obavezu da lokalnoj samoupravi obezbedi dovoljna sredstva za obavljanje njenih funkcija. U postojećem pravnom sistemu i javna preduzeća i javne ustanove imaju identičan problem - nemogućnost da budu sopstvenici dobara koja koriste ili stiču, jer je režim državne svojine primenjen i na sva pravna lica čiji je osnivač država, pokrajina ili lokalna samouprava. Iz istih razloga neophodno je na savremen i pravno konzistentan način urediti svojinsko-pravni aspekt položaja javnih preduzeća i javnih ustanova.

I ovaj Zakona urađen je u saradnji sa Savetom Evrope, čiji su eksperti aktivno učestvovali prilikom izrade predmetnog akta, a nakon izrade dali pozitivno mišljenje o predloženom zakonu. U Evropskoj uniji, ova materija je ostala u nadležnosti država članica, te ne postoje norme na nivou Evropske unije o javnoj svojini i svojini države, odnosno teritorijalne autonomije i lokalne samouprave. Određeni mali broj smernica na nivou Evropske unije implicitno sugerije državama članicama da mreže zadrže u svojini države, odnosno teritorijalne autonomije ili lokalne samouprave. Ovakvo rešenje se predlaže i u analiziranom nacrtu zakona. Osnovni pravni instituti koji su predviđeni i uređeni ovim Zakonom su:

1. javna svojina,
2. svojina (privatna svojina) države, pokrajine i lokalne samouprave,
3. prirodna bogatstva,
4. dobra od opšteg interesa,
5. devolucija,
6. postupak devolucije, i
7. postupak raspolaganja.

Specifičnost predloženih rešenja je i postojanje privatne svojine - država, pokrajina i lokalna samouprava mogu imati i svojinu tj. privatnu svojinu. Reč je o obliku svojine koji imaju i drugi subjekti - fizička i pravna lica. U pogledu svojinskih ovlašćenja nema razlike u njihovoj sadržini, a osnovna razlika u odnosu na fizička i druga pravna lica je što za svojinu države, pokrajine i lokalne samouprave važe specijalna pravila u pogledu raspolaganja takvom imovinom. Druga bitna specifičnost ovoga zakona je pojam devolucije - odnosno osnovna ideja zakona je da gore navedenim subjektima prizna pravo svojine na svim dobrima na kojima bi oni i stekli pravo svojine da nije bilo Zakona o sredstvima u svojini RS. Ne radi se o vraćanju prava svojine jer su ova dobra pre stupanja na snagu trenutno važećeg zakonskog rešenja uglavnom bila u društvenoj svojini. Subjekti kojima su pripadala dobra u društvenoj svojini imali su sva svojinska ovlašćenja, ali se smatralo da to nije svojina (privatna svojina), već specijalan oblik svojine koji se nazivao društvena svojina. Zbog toga se u predlogu zakona pominje uspostavljanje prava svojine, a ne vraćanje. Osnovni kriterijum po kome će se vršiti devolucija je državina. U najvećem broju slučajeva dobro na kome je uspostavljeno pravo svojine RS ostalo je u državini subjekta kome je ranije i pripadalo. Sredstva nisu oduzimana, već je oduzeto pravo svojine, bez oduzimanja državine. Zbog toga se u najvećem broju slučajeva devolucija može vršiti po kriterijumu državine. Mali je broj slučajeva ustupanja dobara, pogotovo kad je reč o nepokretnostima između države, pokrajine, grada ili lokalne samouprave. Međutim, ako je državina stečena po osnovu ugovora o ustupanju na korišćenje između navedenih subjekata ili po osnovu prava korišćenja koje je stečeno po osnovu ugovora o zakupu ili nekog sličnog ugovora, takva državina nije osnov za sticanje svojine. Kriterijum potreba bio bi korektivni kriterijum devolucije na koji nas obavezuje Evropska povelja o lokalnoj samoupravi. Kriterijum potreba bi se primenjivao u slučajevima kada sredstva koja se dobiju po osnovu devolucije nisu dovoljna za izvršenje funkcija subjekta kome su pripala. Tada bi država imala obavezu da obezbedi nedostajuća sredstva radi izvršenja funkcija vlasti. Ova odredba bi se primenjivala samo izuzetno.

U pravnoj teoriji, kao i u međusobnom dijalogu predstavnika vladajuće kolalicije sporna je primena svojinskog ili državninskog kriterijuma, kao i vremenskog perioda od kada bi se određeni kriterijum primenjivao (kao u odnosima AP i Republike, gde se čelnici pokrajinske vlade zalažu za primenu svojinskog, a ne državninskog - korisničkog kriterijuma, budući da značajan broj nepokretnosti na teritoriji pokrajine koriste republički organi, ili ima više korisnika; takođe sporno je da li primeniti zatečeno stanje pre Zakona iz 1995. godine, ili rešenje iz 1988. godine za koje se AP zalaže, odnosno stanje pre ustavnih reformi). Takođe, u prelaznim i završnim odredbama zakona predlaže se vršenje konvalidacije ugovora koji se u smislu člana 8. stav 8. i člana 8a. stav 4. Zakona o sredstvima u svojini RS smatraju ništavim. Ovi ugovori osnažuju se danom stupanja na snagu ovog zakona, ako do dana stupanja na snagu ovog zakona ništavost nije utvrđena pravnosnažnom sudskom odlukom ili odlukom drugog organa, nema drugih razloga za njihovu nevažnost, a korisnik sredstva u državnoj svojini je podneo zahtev za saglasnost Republičkoj direkciji za imovinu Republike Srbije, na koji do dana stupanja na snagu ovog zakona nije odgovoreno. Ovaj predlog zakona nije isključio eventualnu restituciju u procesu denacionalizacije, ali postavlja se pitanje smislenosti prenosa svojine lokalnoj samoupravi na imovini koja već ima svoje (stare) vlasnike. Opasnost koja se krije u takvom postupanju je prenošenje budućeg tereta restitucije na ionako skromne budžete lokalnih samouprava.

2. UPRAVLJANJE SVOJINOM U OKVIRU POZITIVNIH PROPISA

Prema pozitivnim zakonskim odredbama Zakona o sredstvima u svojini Republike Srbije jedinice lokalne samouprave imaju status korisnika imovine u državnoj svojini, a to podrazumeva da lokalna samouprava ima pravo korišćenja odgovarajuće imovine, u skladu sa namenom i uslovima utvrđenim zakonom, a samim tim i obaveze čuvanja i uvećanja imovine koja je data na korišćenje. Sredstvima u državnoj svojini koja koristi lokalna samouprava raspolaže i upravlja funkcioner koji rukovodi organima jedinice lokalne samouprave, koji snosi i odgovornost za zakonitost, za savesno i namensko korišćenje tih sredstava. Odluke o davanju nepokretnosti u državnoj svojini na korišćenje ili u zakup, donošenje odluke o stavljanju hipoteke na nepokretnosti, kao sredstva obezbeđenja, i sl. donosi organ, odnosno lice koje je utvrđeno statutom jedinice lokalne samouprave, uz obaveznu saglasnost Republičke direkcije za imovinu (čl. 8. Zakona). Nepokretnosti koje su date u zakup, a u državnoj su svojini, ne mogu se davati u podzakup. Organi jedinica lokalne samouprave pribavljaju nepokretnosti na osnovu godišnjeg programa (za koji je neophodna saglasnost Vlade RS) koji utvrđuje nadležni organ jedinice lokalne samouprave određen statutom. Kada je reč o nabavci ili otuđenju opreme manje vrednosti, kao i prevoznih sredstava onda nije potrebna saglasnost Vlade, nego je dovoljna odluka nadležnog organa određenog statutom. U slučajevima nezakonitog ili korišćenja na način suprotno prirodi i nameni nepokretnosti, odnosno ako se utvrdi da navedena sredstva nisu potrebna za ostvarivanje funkcija jedinica lokalne samouprave ili radi davanja koncesija u skladu sa zakonom, Vlada može da odluči o oduzimanju nepokretnosti koju koriste lokalni organi. Svi korisnici sredstava u državnoj svojini, uključujući i organe jedinica lokalne samouprave imaju zakonsku obavezu da vode evidenciju o stanju i kretanju sredstava u državnoj svojini koju koriste i da podatke iz ove evidencije dostavljaju Republičkoj direkciji za imovinu. Kada se utvrdi da je raspolaganje i korišćenje sredstava u državnoj imovini vršeno na način suprotan zakonu primenjuju se mere prekršajne, krivične i materijalne odgovornosti.

3. ZAKLJUČAK

Iako i Ustav i Zakon o lokalnoj samoupravi ("Jedinica lokalne samouprave ima svoju imovinu i istom samostalno upravljaju organi jedinice lokalne samouprave, u skladu sa zakonom." - čl.15. Zakona) garantuju postojanje svojine jedinica lokalne samouprave, ograničenjima koja su nametnuta odredbama Zakona o sredstvima u svojini Republike Srbije izvršeno je podržavljenje te imovine, svojevrсна nacionalizacija. Svaki grad i opština Srbije mora da dobije saglasnost Republičke direkcije za imovinu za svako otuđenje i pribavljanje imovine, kao i za sklapanje i raskid ugovora o zakupu. Kao što je napred navedeno budžeti gradova i opština Srbije trpe godišnju štetu od oko 103 miliona evra zbog realnog nepostojanja imovine lokalne samouprave, a izgubljena dobit se ogleda kroz okvirni broj od 4000 nerealizovanih novih radnih mesta godišnje. Uvažavajući obaveze koje proizlaze iz ratifikovanja Evropske povelje o lokalnoj samoupravi, preporuke Kongresa lokalnih i regionalnih vlasti Saveta Evrope, kao i dokumente Evropske komisije koji se odnose na proces stabilizacije i pridruživanja, jasno je da je neophodno što pre usvojiti zakon kojim se reguliše pitanje imovine lokalne samouprave. Neodložno usvajanje zakona koji bi regulisao imovinska prava lokalne samouprave za koji su eksperti Saveta Evrope dali pravnu ocenu i pozitivno mišljenje o korespondiranju njegovog teksta sa principima Saveta Evrope, predstavljalo bi značajan korak napred u nastojanjima naše države za uključivanje u jedinstveni evropski prostor. Kada se analizira ova tematika javlja

se i dilema da li je adekvatnije ovako značajnu problematiku regulisati jednim ili sa dva zakona - način prenosa prava svojine jednim zakonom, a pravila sticanja, korišćenja i raspolaganja imovinom lokalne samouprave drugim. Eventualni drugi zakon, koji bi nužno bio vezan za prethodni, regulisao bi povraćaj imovine jedinicama lokalne samouprave i garantovao imovinska prava jedinicama lokalne samouprave, odnosno obezbedio da svojina i pravo raspolaganja nad imovinom koju koristi lokalna samouprava zaista njoj i pripadnu. Budući zakon o prenosu svojinskih prava uredio bi način prenosa sredstava, rokove i postupke, dok bi zakon o upravljanju imovinom lokalne samouprave sadržao osnovna načela, kao i spisak imovine koja se vraća, odnosno prenosi lokalnoj samoupravi. Neophodno je u potpunosti realizovati ustavno pravo jedinica lokalne samouprave na imovinu, budući da je nelogično da postoji pravni subjektivitet jedinica lokalne samouprave bez odgovarajuće sopstvene imovine. Jedinicama lokalne samouprave treba omogućiti da poseduju imovinska prava sa punim kapacitetom, odnosno sa svim vlasničkim ovlašćenjima, uključujući i pravo na otuđenje. U okviru ovoga procesa prenosa imovine jedinicama lokalne samouprave treba voditi računa da imovina koja se prenosi odgovara potrebama saglasno izvornom delokrugu poslova lokalnih organa. Takođe, sve nepokretnosti koje su izgrađene iz sredstava po osnovu samodoprinosu ili iz drugih lokalnih izvora sredstava treba obavezno da budu vraćene opštini ili gradu, na čijoj teritoriji se nalaze, a u slučaju da su neophodne radi zadovoljavanja potreba ili interesa građana šire društvene zajednice mora se za njih obezbediti adekvatno obeštećenje jedinici lokalne samouprave. Pored navedenog, trebalo bi budućim zakonskim rešenjima vratiti građevinsko zemljište jedinicama lokalne samouprave, što bi omogućilo značajne greenfield investicije na neizgrađenom građevinskom zemljištu, osim u slučajevima kada je određeno zemljište od strateškog interesa (potrebe odbrane zemlje i sl.) ili ako se na istom nalaze prirodna bogatstva koja su po veličini značajna za širu društvenu zajednicu, kao i kada se na određenom zemljištu nalaze objekti koji služe za potrebe državnih organa i javnih preduzeća od regionalnog ili državnog značaja (sistemi koji funkcionišu na području neke regije ili cele zemlje). Takođe, neophodno je što pre rešiti pitanje vojne imovine, u prvom redu velikog broja nepokretnosti u urbanim sredinama, kao i velikih i uglavnom zapuštenih kompleksa pogona nekadašnjih privrednih giganata i ustupiti ih na raspolaganje lokalnim samoupravama na čijim teritorijama se nalaze kao značajan potencijal za brownfield investicije.

REFERENCE

- [1] Bjelić, M.: "Lokalna samouprava u Republici Srbiji - stanje uređivanja i potrebe reforme", BPŠ-VŠSS, Beograd, 2010, ISBN 978-86-7169-331-8
- [2] Blažić, Đ.: "Lokalna samouprava", Podgorica, 2007.
- [3] Vlatković, M.: "Pravo lokalne samouprave", Pravni fakultet za privredu i pravosuđe, Novi Sad, 2009, ISBN 978-86-6019-004-0
- [4] Vlatković, M., Đokić, B.: "Komentar Zakona o lokalnoj samoupravi", JP "Službeni glasnik", Beograd, 2009, ISBN 978-86-519-0142-6

ORGANIZATION GUIDED BY STRATEGY

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Abstract: The organization guided by strategy is focused on the success in formulating and implementing the strategy. Support in this process is provided by Balanced Scorecard as a suitable information system for strategic management. Balanced Scorecard complements the financial measures of performance by measures of indicators of future performance and provides an understanding of value creation process by use and development of intangible resources. In modern business conditions, competitive success just depends on the ability of engagement and effectiveness of intangible resources. In addition to a balanced approach to measures of performance the Balanced Scorecard allows to define a cause-and-effect relationships within a single strategy. Strategic map comprehensively describe and specify the essential elements of strategy, logic and architecture of the link that is established between these elements in the process of value creation. Balance Scorecard is a framework that allows the discussed strategy to be operationalized, the organization is aligned with the strategy and the strategy becomes daily work and continual process. Organized guided strategy, employed the strategy is clear and constant preoccupation on the way to reaching. Reward system based on Balance Scorecard support to achieve clear objectives to organizations driven strategy to be successful and to distinguish it from the competition.

Keywords: Strategy, objectives, Balanced Scorecard, Strategic Map

ORGANIZACIJA VOĐENA STRATEGIJOM

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Apstrakt: Organizacija vođena strategijom je usmerena na uspešnost u formulisanju i implementaciji strategije. Podršku u ovom procesu pruža Usklađena lista kao pogodan sistem informacija za upravljanje strategijom. Usklađena lista dopunjava finansijska merila performansi merilima pokretača budućih performansi i omogućava razumevanje procesa kreiranja vrednosti upotrebom i razvojem nematerijalnih resursa. U savremenim uslovima poslovanja konkurentski uspeh upravo zavisi od sposobnosti angažovanja i efikasnosti upotrebe nematerijalnih resursa. Osim uravnoteženog (balansiranog) pristupa merilima performansi Usklađena lista omogućava da se definišu uzročno- posledični odnosi unutar jedne strategije. Strategijskom mapom se sveobuhvatno opisuju i specificiraju bitni elementi strategije, logika i arhitektura veza koja se uspostavlja između ovih elemenata u procesu stvaranja vrednosti. Usklađena lista je okvir koji omogućava da komunicirana strategija bude operacionalizovana, da organizacija bude prilagođena strategiji, da strategija postane svakodnevni posao i kontinuelni proces. U organizaciji vođenoj strategijom, zaposlenima je strategija jasna i stalna preokupacija na putu do cilja.

Sistem nagrađivanja na bazi Usklađene liste je podrška da se ostvare jasni ciljevi kako bi organizacija vođena strategijom bila uspešna i kako bi se razlikovala od konkurencije.

Ključne reči: Strategija, ciljevi, Usklađena lista, Balanced Scorecard, strategijska mapa.

1. UVOD

Balansirana merila od uvođenja 1992. godine kao sistemi za merenje performansi evoluirala su u glavni deo sistema da se upravlja sprovođenjem strategije. Efektivnost pristupa proizilazi iz dve jedinstvene sposobnosti: 1) sposobnosti da se jasno opiše strategija i 2) sposobnosti da se poveže strategija u menadžment sistem.

U članku pod naslovom „Balansirana merila kao strategijski sistem” [1] Kaplan i Norton dopunjuju tradicionalno korišćena finansijska merila performansi sa tri dodatna: potrošača, internih poslovnih procesa i učenja i rasta. Na taj način se po njihovom mišljenju povezuju dugoročne strategije sa kratkoročnom akcijom [2].

Usklađena lista¹⁵ kao alat strategijskog menadžmenta dovodi do određenih prilagođavanja u organizaciji preduzeća. U organizaciji koja je vođena strategijom (ili fokusirana na strategiju) osnovna ideja je da se ključni indikatori performansi (ili uspeha) nalaze u uzročno posledičnim vezama. Posmatrajući ciljeve iz različitih perspektiva, Usklađena lista uspostavlja balans između konvencionalnih merila performansi (ili finansijskih konsekvenci prošlih odluka) i tzv. „pokretača vrednosti” (ili merila budućih performansi) koja govore o načinima sticanja vrednosti kroz investicije u nematerijalnu aktivnu (baze kupaca, odnose sa dobavljačima, zaposlene, informacionu tehnologiju, inovacije i dr.).[3]

Iskustvo u primeni BSC modela je pokazalo da je značajan broj pokazatelja u okviru uspostavljene četiri perspektive uspešnosti preduzeća mogao da bude međusobno povezan i da obezbedi implementaciju strategije.

Usklađena lista govori o strategiji što potvrđuju činjenice: *prvo* da se formuliše i implementira kroz proces komuniciranja između različitih donosioca odluka; *drugo*, Usklađena lista određuje strategijski fokus uzimajući u obzir faktore okruženja tako da se svaki resurs, aktivnost i proces povezuju sa strategijom; *treće*, Usklađena lista obezbeđuje integraciju kroz novu strukturu veza između preduzeća, pojedinačnih biznisa, funkcija, pojedinaca; *četvrto*, Usklađena lista omogućava da se opiše kontekst u kome se nematerijalna aktiva postepeno transformiše stvarajući vrednost. Na ovaj način, Usklađena lista postaje efikasan način komuniciranja između zaposlenih, odnosno, način testiranja određenih ideja u realnom vremenu. [3]

Usklađena lista ciljeva stavlja strategiju u centar procesa menadžmenta i na taj način postaje „operativni sistem” strategijskog menadžmenta. Usklađena lista kao upravljački informacioni sistem strategijskog menadžmenta pomaže u formulisanju i implementaciji strategiji definisanjem startegijskih inicijativa i konkretnih zadataka izvršilaca.

Strukturiranje strategije kao hipoteze o uzročno-posledičnim aktivnostima i ishodima u okviru četiri perspektive i zaokruživanje sistema merila u skladu sa ovim obezbedilo je Usklađenoj listi ulogu sistema strategijskog menadžmenta.

Strategijska merila performansi Usklađene liste su ugaoni kamen za novi „strategijski upravljački sistem”. Merila Usklađene liste omogućavaju da se opiše i meri proces

¹⁵Često se koristi naziv balansirana lista merila. Takođe je u upotrebi i originalni naziv Balanced Scorecard ili skraćeno BSC.

kreiranja vrednosti. Taj novi okvir naziva se strategijska mapa kao logična i obuhvatna arhitektura za opis strategije. Strategije se prevode u akciju i sprovodi se komuniciranje strategije na način koji je razumljiv svim zaposlenima.

Organizacija vođena strategijom zahteva maksimalnu participaciju zaposlenih koji razumeju strategiju („njenu arhitekturu”), ključne elemente i metode njenog formulisanja. Kontinuelna preokupacija strategijom od strane zaposlenih podstaknuta je činjenicom da je Usklađena lista osnova za sistem nagrađivanja. Zaposleni razumeju strategiju i motivisani su da je formulišu i implementiraju.

2. STRATEGIJA I NJENO POZICIONIRANJE U PROCESU STRATEGIJSKOG MENADŽMENTA

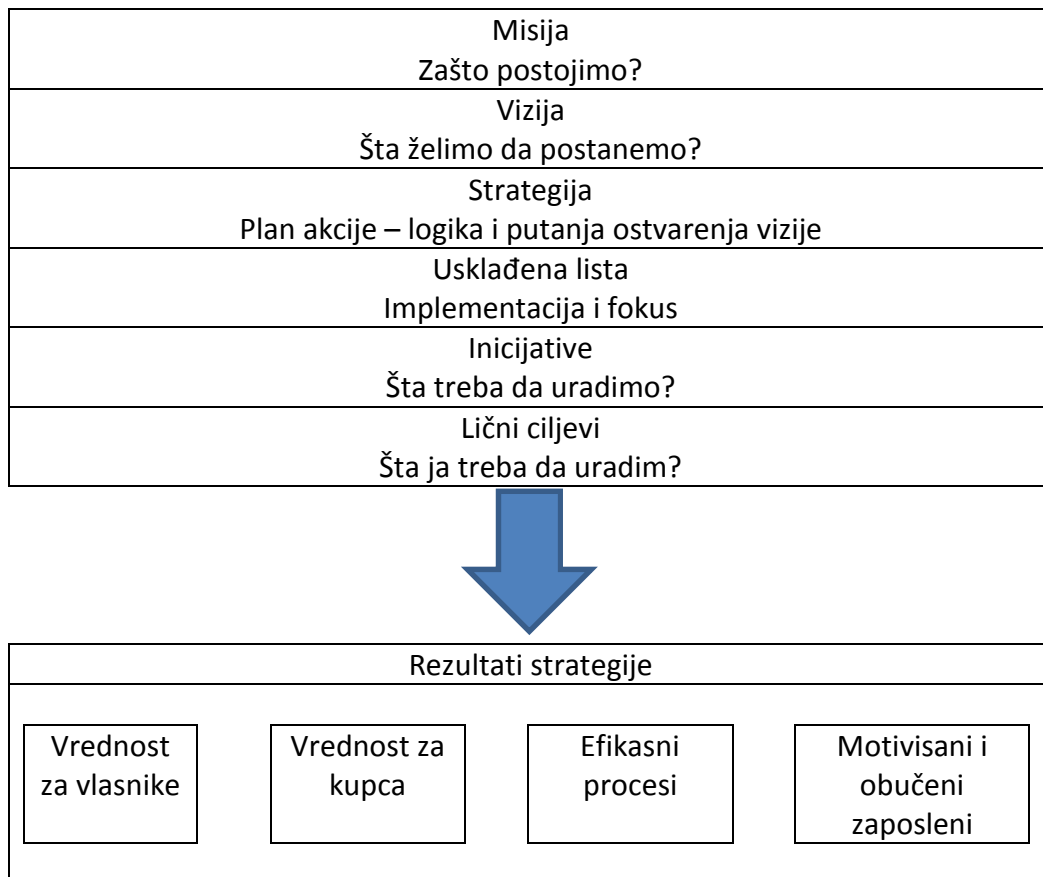
Polazeći od korena u vojnoj nauci i veštini najbolje je poslovnu strategiju definisati kao način(i) ostvarivanja ciljeva. Svaki cilj zahteva način (strategiju) da se ostvari. Ciljevi za koje nismo u stanju da stvorimo načine (strategije) za njihovo ostvarivanje nisu realni. Svaki novi cilj zahteva da se definiše strategija ili da se preispita postojeća strategija. Dobro je rečeno „da je strategija centralni integrisan, eksterno orijentisan koncept kako će preduzeće ostvariti svoje ciljeve.”[2]

Autori G.Johnson i G.Scholes definišu strategiju kao dugoročni pravac jedne organizacije. [4] Osim ove u praksi se često može čuti da je strategija osnovni način ostvarenja cilja organizacije. Potpunija definicija strategije kaže da je „strategija pravac i širina delovanja organizacije u dugom vremenskom roku, kojom se postiže prednost nad konkurencijom kroz konfiguraciju resursa u promenljivom okruženju čime se obezbeđuje ispunjenje očekivanja ključnih stejkholdera”. [5]

Prema Kaplanu i Nortonu [6] strategija je hipoteza o uzročno-posledičnim vezama između aktivnosti (vođućih indikatora) željenih ishoda (zaostajućih indikatora). Strategijska hipoteza obuhvata željene ishode (finansijske performanse iz ugla vlasnika preduzeć i tržišne performanse iz ugla potrošača) i kako do njih doći kroz postizanje izvrsnosti u internim i razvojnim aktivnostima. Ovakav pristup značajno je doprineo demistifikaciji i operacionalizaciji pojma strategije. Takođe, isti je doprineo efikasnosti procesa implementacije strategije. [5]

Sušтина menadžmenta je da se misija prevede u akcije koje su u skladu sa misijom, kao i da se to obavi na efikasan način. Dakle, strategija je jedan korak u logičkom kontinuitetu koji obezbeđuje kretanje preduzeća od misije prema konkretnim ciljevima.[3]

Razumevanje strategije zahteva adekvatno pozicioniranje u procesu strategijskog menadžmenta. Na ilustraciji prikazanoj na slici 1. strategija je pozicionirana u kontinuitetu procesa strategijskog menadžmenta.



Slika 1. Pozicioniranje strategije u procesu strategijskog menadžmenta (Izvor [3],str. 585)

Misija je početna tačka procesa. Misijom se objašnjavaju razlozi postojanja preduzeća kao i način povezivanja njegovih delova u celinu. Vizijom se projektuje slika budućnosti koja govori o pravcu kretanja i ulozi različitih interesnih grupa u ostvarivanju te projekcije. Za ostvarenje misije služi strategija, sledeći korak u kontinuitetu procesa strategijskog menadžmenta. Strategija određuje logiku i putanju ostvarenja vizije. Strategija se formuliše i vrednuje u skladu sa konkretnim stanjem i promenama realnog sveta. Glavni ciljevi strategije su: vrednost za vlasnike, vrednost za kupce, efikasni procesi (minimalni troškovi) i zadovoljni zaposleni (motivisani i obučeni). Usklađena lista kao upravljački informacioni sistem strategijskog menadžmenta pomaže u formulisanju i implementaciji strategije definisanjem strategijskih inicijativa i konkretnih zadataka svih izvršilaca.

Opstanak zahteva novu viziju i njenu transformaciju u akciju. Opstanak znači i učenje na greškama konkurenata kako bi se smanjili neuspesi u primeni strategije. U novim uslovima kritičnu kompetentnost predstavlja usklađivanje mogućnosti sa strategijom. U tom usklađivanju formulisanje ciljeva preko izbalansirane liste ima kritičnu ulogu.

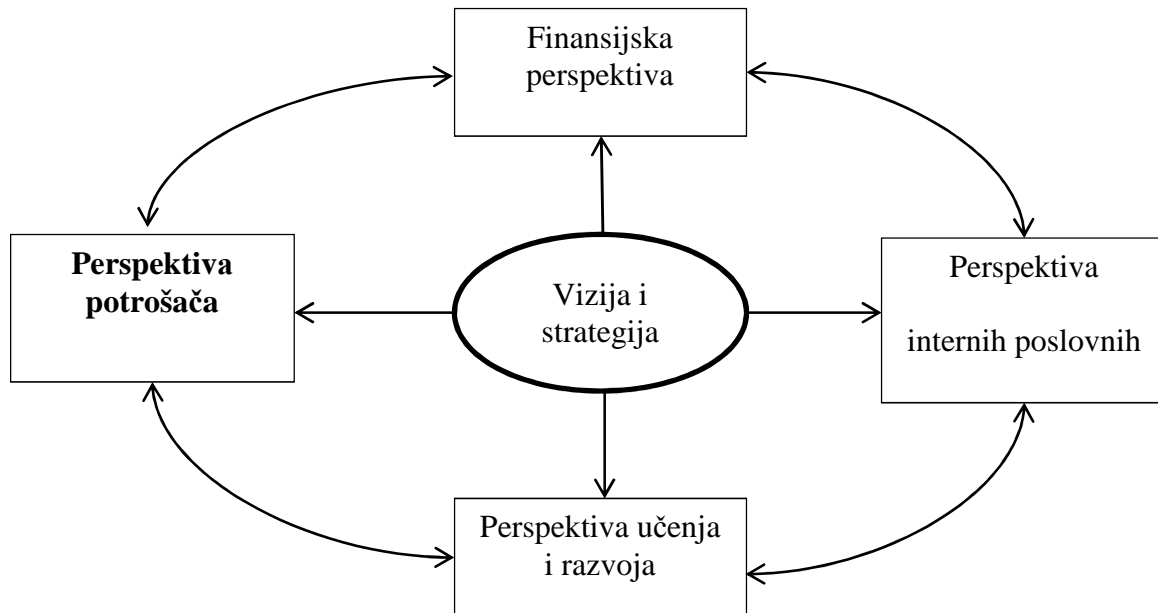
3. USKLAĐENA LISTA KAO KONCEPT ZA PREVOĐENJE STRATEGIJE U OPERATIVNE/TAKTIČKE ODLUKE

Nastanak koncepta Balanced Scorecard podstaknut je uverenjem da postojeći pristupi merenju performansi koji se zasnivaju na opštim finansijskim pokazateljima ne omogućavaju kreiranje buduće ekonomske vrednosti preduzeća.

Studija koja je obuhvatila čitav niz kompanija u SAD tokom 1990 god. imala je za cilj da razvije novi model za merenje performansi. U toku studije uočeni su inovativni sistemi za merenje uspešnosti koji su se koristili u pojedinim kompanijama, od kojih je najveću pažnju privukao „Corporate Scorecard” korišćen u „Analog Devices”. Ovaj sistem za merenje performansi je pored nekoliko tradicionalnih finansijskih pokazatelja uključivao i pokazatelje koji su se odnosili na vreme isporuke kupcima, kvalitet i vreme trajanja proizvodnog procesa i efektivnost razvoja novih proizvoda. Studija je dalje tekla u pravcu razvoja sistema pokazatelja tako da je kreiran novi model pod zaštićenim imenom Balanced Scorecard. Osnovne ideje koncepta izložene su u članku Kaplan S.Robert, Norton P.David „The Balanced Scorecard – Measures that Drive Performance”, Harvard Business Review, 1992, dok je čitav koncept, unapređen i proširen, zahvaljujući iskustvu, detaljnije izložen u knjizi „The Balanced Scorecard, Translating strategy into Action”, (Kaplan S.Robert, Norton P.David, Harvard Business School Press, Boston, Massachusetts, 1996). [7]

Organizacije danas nisu u mogućnosti da održivu konkurentsku prednost ostvare upotrebom samo materijalnih resursa. U savremenim uslovima konkurentski uspeh preduzeća zavisi pre svega od njihove sposobnosti da angažuje i efikasno upotrebi svoje nematerijalne resurse. Usklađena lista (BSC) pruža uvid u vrednost koju stvaraju nematerijalni resursi kroz prikaz ključnih aktivnosti koje stvaraju (kreiraju) vrednost.

Ciljevi i pokazatelji usklađene liste (BSC) su izvedeni iz organizacione vizije i strategije i sagledavaju organizacione performanse iz četiri perspektive: finansijske, potrošača, internih poslovnih procesa i učenja i rasta. Ove četiri perspektive čine okvir usklađene liste za prevođenje strategije u operativne/taktičke odluke.sl.2.



Slika 2. Usklađena lista kao okvir za prevođenje strategije u operativne/taktičke odluke
(Izvor [8], str.9)

Usklađena lista prevodi misiju i strategiju u merljive ciljeve i pokazatelje. Putem informacionog sistema zaposleni su upoznati sa finansijskim i nefinansijskim

pokazateljima. Svi zaposleni (i na izvršnim radnim mestima) treba da razumeju generatore dugoročnog finansijskog uspeha.

Strategija je hipoteza o mogućoj budućnosti kao i o baznim načinima za njeno ostvarenje. Provera kursa akcije koji predviđa strategija zahteva svakodnevno testiranje na operativnom i taktičkom nivou, odnosno odluke koje dovode do njene implementacije.

Kako je strategija pitanje izbora između više opcija na bazi procena stratega, sužavanje skupa mogućih ciljeva se vrši preko strategijskih inicijativa (ili tema). Strategijske inicijative primarno se ne odnose na finansijske ciljeve niti marketing ciljeve, već na procenu stratega što bi trebalo uraditi u smislu razvoja internih procesa da bi se ostvarili strategijski ciljevi. Na taj način strategijske inicijative pomažu da se postigne konsenzus oko prioriternih ciljeva i da se prevaziđu barijere između organizacionih delova preduzeća. Nakon toga ide se na sagledavanje efekata strategijskih inicijativa na marketing i finansijsku perspektivu.[3]

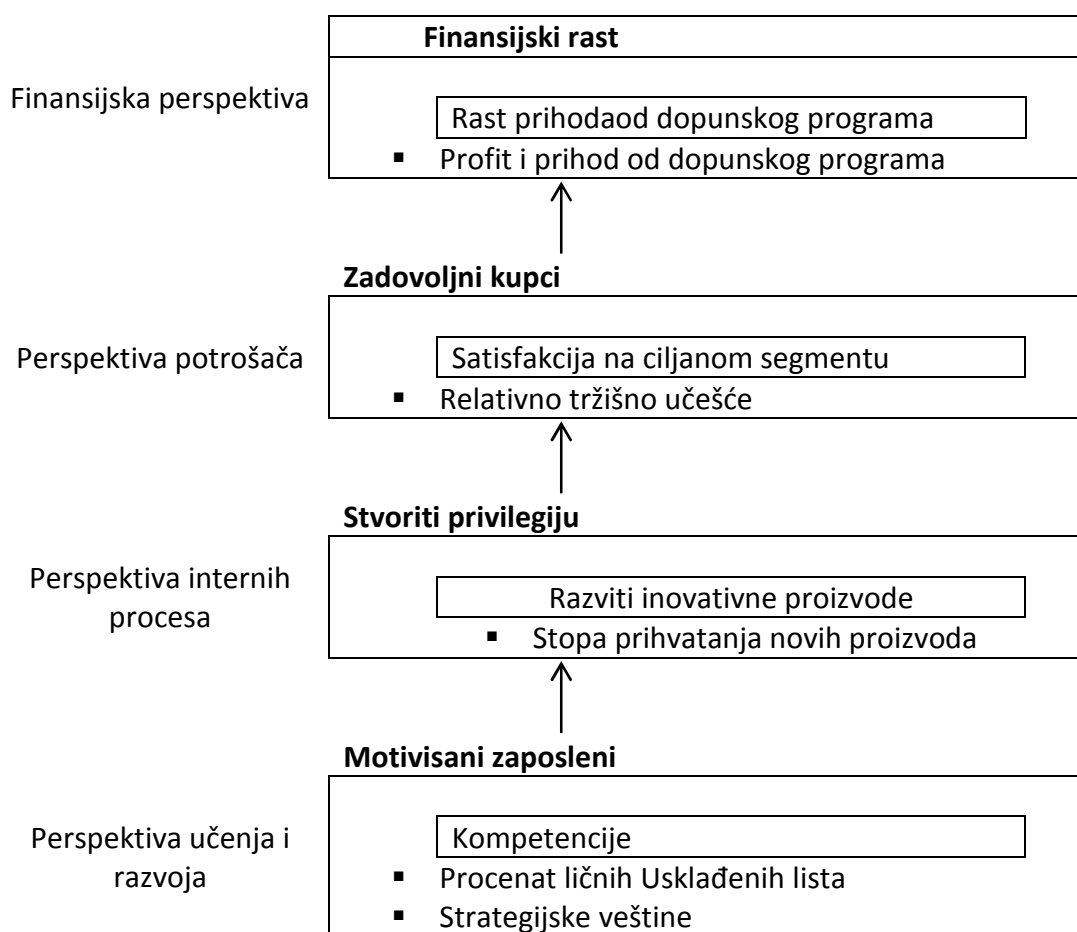
U sagledavanju efekata strategijskih inicijativa na finansijske performanse preduzeća potrebno je primeniti novi način merenja uspeha. Pomoću Usklađene liste se prati uticaj nefinansijskih indikatora performansi (nefinansijski pokretači vrednosti) na finansijske indikatore performansi (finansijske pokretače vrednosti). Na taj način se proces stvaranja vrednosti ne samo opisuje, već se i mere određene posledice. Na taj način Usklađena lista pokazuje na koji način se nematerijalna aktiva pretvara u vrednost primenom alternativnih scenarija.

Na slici 3 je prikazana hipotetička Usklađena lista na bazi koje se može dobiti uvid u odnos strategijskih inicijativa, s jedne strane, i ciljeva, zadataka i merila performansi (ili uspeha), s druge strane.

	Strategijska inicijativa	Strategijski ciljevi	Strategijska merila performansi
Finansijska perspektiva	Finansijski rast	Prinos na angažovani kapital Stepen korišćenja kapaciteta Profitabilnost Najniži troškovi u grani Profitabilan rast	ROCE Novčani tok Relativna profitna stopa Relativna stopa rasta Profitna stopa u dopunskom programu
Perspektiva potrošača (Marketing perspektiva)	Zadovoljni kupci Partnerstvo sa trgovinom	Satisfakcija na ciljnom segmentu „Win-win” sa trgovinom	Relativno tržišno učešće Rast zarade trgovine
Interna perspektiva	Stvoriti privilegiju Sigurnost i pouzdanost Konkurentnost Kvalitet Odgovornost prema okruženju	Inovativni proizvodi i usluge Performanse novih proizvoda Upravljanje zalihama Na vreme i prema specifikaciji Smanjenje štetne emisije	Stopa prihvatanja novih proizvoda ROI novih proizvoda Neplanirani zastoji Nivo zaliha Procenat reklamacije na porudžbine Broj incidenata
Učenje i razvoj	Motivisani zaposleni	Preduzetnička klima Ključna kompetentnost Pristup strategijskim informacijama	Procenat inovacija Procenat ličnih Usklađenih lista Procenat ERP korisnika

Slika 3. Hipotetička usklađena lista (Izvor [3], str.588)

Svaka Usklađena lista ima svoju mapu odnosa između pomenute četiri perspektive. Integracijom pojedinačnih mapa odnosa dobija se „strategijska mapa.” Strategijska mapa predstavlja grafičku ulustraciju uzročno – posledičnih veza između ciljeva, zadataka, merila performansi koja se mogu posmatrati iz četiri perspektive a na osnovu primenjenih strategijskih inicijativa. Način formiranja strategijske mape dat je na slici 4.



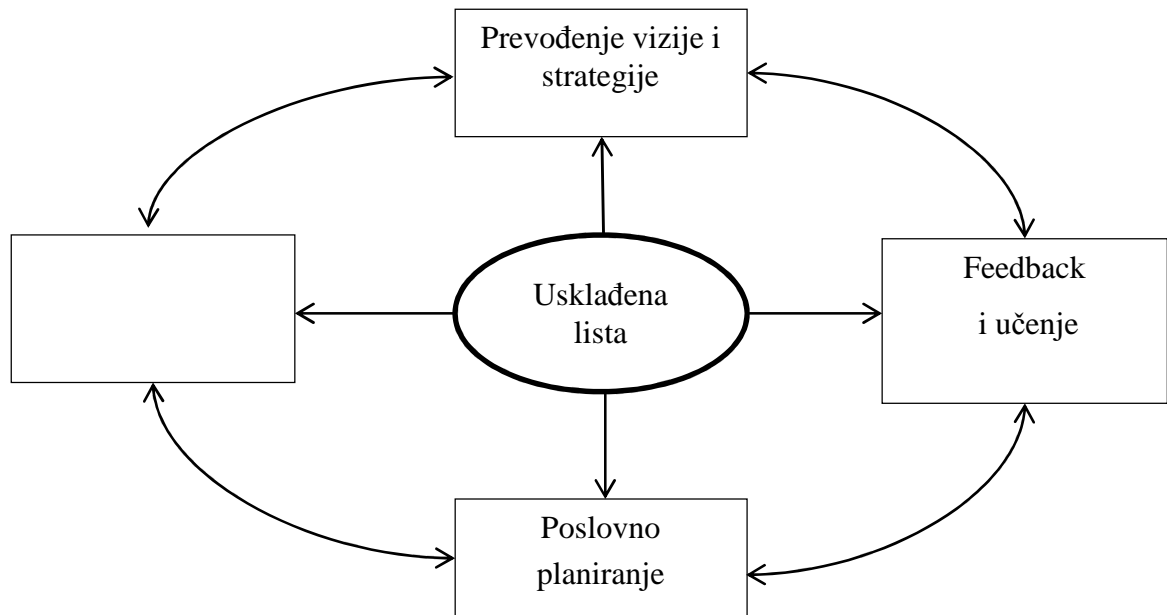
Slika 4. Način formiranja strategijske mape na bazi
Usklađene liste prezentovane na slici 3.

4. PROCESI U UPRAVLJANJU STRATEGIJOM

Autori Kaplan i Norton [1] smatraju da postoji četiri procesa u upravljanju strategijom. Prvi proces (prevođenje vizije) omogućava stvaranje širokog konsenzusa u preduzeću o viziji i strategiji. Drugi proces (komuniciranje i povezivanje) omogućava da menadžeri komuniciraju formulisano strategiju. Strateške pokazatelje preduzeća moguće je dekomponovati na pokazatelje na operativnom nivou tako da svaki zaposleni razume kako da svojim aktivnostima i zalaganjem doprinese ostvarivanju strategije preduzeća. Treći proces (poslovno planiranje) omogućava da ciljne vrednosti u okviru različitih perspektiva BSC modela (Usklađene liste) budu integrisane kako bi dovele do superiornih finansijskih performansi. Pri tome izuzetno je važno postavljanje kratkoročnih standarda radi praćenja ostvarivanja dugoročnih ciljeva. Četvrti proces (strategijski feedback i učenje) omogućava operacionalizaciju strategije, stalno preispitivanje pretpostavki na kojima je formulisana strategija organizacije, što omogućava stalno učenje i njeno unapređivanje.

Inovativne organizacije koriste sistem merila Usklađene liste da ostvare pomenute procese (četiri procesa) obezbeđujući implementaciju dugoročne strategije kao i njeno unapređivanje.

Usklađena lista koja je sada u središtu upravljačkog procesa omogućava da organizacija bude usaglašena i fokusirana na implementaciju dugoročne strategije, slika 5.



Slika 5. Usklađena lista kao strategijski okvir za delovanje i procesi u upravljanju strategijom (Izvor [6], str. 24)

Novi menadžment je dugoročan i strateški orijentisan menadžment sistem koji dovodi do stvaranja strategijski fokusiranih organizacija.

5. ORGANIZACIJA VOĐENA STRATEGIJOM I ZAPOSLENI

Organizacija vođena strategijom zahteva da su zaposleni upoznati sa strategijom i da svojim dnevnim aktivnostima doprinose njenoj implementaciji. Oni koji učestvuju u formulisanju i implementaciji strategije moraju poznavati njenu arhitekturu, ključne elemente, metode formulisanja, prioritete. Strategija je osnovna tema komunikacije među donosiocima odluka pri čemu u zavisnosti od većeg ili manjeg stepena samostalnosti u definisanju Usklađene liste komunikacija može biti holistička ili hijerarhijska.

Usklađena lista je ne samo sredstvo komunikacije već i sredstvo edukacije zaposlenih kroz primenu različitih sofisticiranih metoda.

U organizaciji koja je vođena strategijom važno je povezati sistem nagrađivanja sa ostvarenjem strategije koji stimuliše zaposlene da doprinose ostvarenju strategije.

Usklađena lista je osnova za sistem nagrađivanja. Većina sistema nagrađivanja zasnovana je na sistemu grupnog umesto pojedinačnog nagrađivanja. Kao osnova za nagrađivanje koriste se Usklađene liste poslovne jedinice ili projektnog tima kako bi se istakao značaj timskog rada u implementaciji strategije. Sistem nagrađivanja funkcioniše na bazi ključnih merila performansi.

Sistem nagrađivanja Usklađene liste takođe ističe i interese pojedinca u vezi sa njegovim doprinosom ostvarenju strategije pojačavajući njegov interes za informacijama i znanjem koje su neophodne. Menadžeri u kontinuelnom prilagođavanju strategije koriste ideje i znanje zaposlenih sa različitih nivoa u organizacionoj strukturi.

6. ZAKLJUČAK

Savremeni uslovi poslovanja zahtevaju da se pomoću strategije obavlja menadžment. Novi menadžment sistem sa Usklađenom listom u svom središtu je dugoročan i strateški orijentisan menadžment sistem.

Glavni fokusi strateškog menadžmenta su formulisanje ili vrednovanje strategije i sprovođenje strategije. Suštinu formulisanja ili vrednovanja strategije čini određivanje strateškog fokusa pomoću Usklađene liste. Usklađena lista ciljeva stavlja strategiju u centar procesa menadžmenta. Strategija se formuliše i vrednuje u skladu sa konkretnim stanjem i promenama realnog sveta. Glavni ciljevi strategije su: vrednost za vlasnike, vrednost za kupce, efikasni procesi i zadovoljni zaposleni.

Drugi fokus strateškog menadžmenta je primena Usklađene liste ciljeva, odnosno njen uticaj na oblikovanje odgovarajućih podistema u sistemu strateškog menadžmenta. Usklađena lista omogućava organizaciji da poveže menadžment proces da fokus čitave organizacije bude na primeni dugoročne strategije. Osim uravnoteženog pristupa merilima performansi koncept Usklađene liste omogućava da se definišu uzročno-posledični odnosi unutar jedne strategije. Zahvaljujući strateškim mapama (po osnovu Usklađene liste) dobija se jasna slika uzročno – posledičnih veza između pojedinih elemenata strategije. Ciljevi definisani na pravi način jasno govore o tome šta se mora učiniti kako bi organizacija bila uspešna i kako bi se razlikovala od konkurencije.

REFERENCE

- [1] Kaplan S R. and D P. Norton (1996), Using the Balanced Scorecard as a Strategic System, Harvard Business Review, January – February, p. 75, p. 77
- [2] Momčilo Milisavljević, Strateški menadžment: Analiza, izbor, promena, Ekonomski fakultet, Beograd, 2012, p. 69, p. 56
- [3] Dragan N. Đuričin, Stevo V. Janošević, Đorđe M. Kaličanin, Menadžment i strategija, Ekonomski fakultet, Beograd, 2013, p. 583, p. 583, p. 584, p. 583
- [4] Johnson, G., Scholes, K. 2002, Exploring Corporate Strategy: Text and Cases, sixth edition. Financial Times Prentice Hall., p. 4-10
- [5] Đorđe M. Kaličanin, Formulisanje i primena strategija stvaranja vrednosti, Doktorska disertacija, Ekonomski fakultet, Beograd, 2005, p.4, p.5
- [6] Kaplan R., Norton D. 2001. The Strategy – Focused organisation: How Balanced Scorecard Companies Thrive in the School Press, Boston, Massachusetts, p.76-77ž
- [7] Biljana Pešalj, Merenje performansi preduzeća: tradicionalni i savremeni sistemi, Ekonomski fakultet, Beograd, 2006, p. 143
- [8] Kaplan S. Robert, Norton P. David, The balanced Scorecard Translating Strategy into Action, Harvard Business School Press, Boston Massachusetts, 1996, p.9.

FINANCIAL MANAGEMENT AND BANKING MARKETING

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Abstract: Financial management is an essential human activity of the modern world. As such. Financial management is usually defined as the process of creating the financial conditions for achieving efikasio selected financial goals. Then, for each financial manager the same goal: making a profit, because the management is concerned and efficiency n effectiveness. In this context, every financial manager must know the five "famous" functions of financial management, including: (1) Financial Planning, (2) financial organizations, (3) the selection of financial personnel, (4) financial management and (5) financial control .

Financial communication is needed here to determine financial targets enterprises that are made financial plans to organize human and financial resources to select financial staff to achieve the set financial goals and to make the financial control in the performance of financial affairs. Communications are, therefore, of great importance in all phases of financial management as integrate all management functions .

Keywords: financial management, financial marketing , financial resources, financial management, manage, banking

FINANSIJSKI MENADŽMENT I BANKARSKI MARKETING

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Abstract: Finansijski menadžment jeste jedan od esencijalnih ljudskih aktivnosti savremenog sveta. Kao takav. finansijski menadžment se obično definiše kao proces kreiranja finansijskih uslova za efikasio postizanje odabranih finansijskih ciljeva [14]. Zatim je za svakog finansijskog menadžera cilj isti: stvaranje profita; zato se i menadžerstvo tiče efikasnosti n efektivnosti. U tom kontekstu, svaki finansijski menadžer mora da poznaje pet „čuvenih" funkcija finansijskog menadžmenta, i to: (1) Finansijsko planiranje, (2) Finansijska organizacija, (3) Izbor finansijskih kadrova, (4) Finansijsko rukovodstvo i (5) Finansijska kontrola.

Finansijske komunikacije su ovde potrebne da se odrede finansijski ciljevi preduzeća, da se načine finansijski planovi, da se organizuju ljudski i finansijski resursi, da se odaberu finansijski kadrovi za ostvarenje postavljenih finansijskih ciljeva i da se vrši finansijska kontrola u obavljanju finansijskih poslova [3]. Komunikacije su, stoga, od izuzetne važnosti u svim fazama finansijskog menadžmenta, pošto integrišu sve menadžerske funkcije.

Ključne reči: finansijski menadžment, finansijski marketing, finansijski resursi, upravljanje finansijama, menadžer, bankarstvo

1. FINANSIJSKI MENADŽMENT

U teoriji finansijskog menadžmenta već je primetno da je najveća šansa za povećanje produktivnosti u znanju u oblasti finansijskog menadžmenta, finansijskog marketinga i finansijskog inženjeringa, pri čemu se pod produktivnošću podrazumeva efektivnost i efikasnost u obavljanju finansijskog posla (zadatka) sa što manjim obimom angažovanih sredstava.

Iz tih razloga, s pravom se postavlja pitanje da li je finansijski menadžment nauka ili umetnost. U teoriji i praksi finansijsko menadžerstvo jeste umetnost, ali i organizovano znanje (nauka). U nauci o finansijskom menadžmentu, i znanje i umetnost su međusobno komplementarni, zato je i zadatak finansijskog menadžera da obezbedi finansijska ulaganja u preduzeću i da ta ulaganja transformiše kroz menadžersku funkciju i profit. Pri tome, finansijsko preduzetništvo teži stvaranju vrednosti putem odgovarajuće biznis politike inicijative i rizika [12].

U savremenim tržišnim ekonomijama upravljanje poslovnim finansijama jeste složen i atraktivan zadatak iz prostog razloga što oplodnja finansijskog kapitala po maksimalnoj stopi rentabilnosti odnosno po najviše mogućoj stopi dobiti reprezentuje centralni motiv preduzetništva. Na kriterijumu rentabilnosti u finansijskom upravljanju preduzeća faktički se bazira celokupan proces poslovnog, razvojnog i finansijskog menadžerstva [11]. Stoga je i finansijski menadžment jedan od glavnih zadataka posloводства firme (kompanije) u kreiranju i ostvarivanju politike finansijskog plasmana kapitala preduzeća i likvidnosti firme. „Menadžerska revolucija“ je izvedena onog trenutka kada je svojina nad kapitalom odvojena od kompetencija vođenja preduzeća. A to pak znači da je odvojena kompetencija vlasnika od kompetencije profesionalnih upravljača, odnosno menadžera[5]. U savremenim finansijama preduzeća finansijski menadžment jeste važan segment iz razloga što simultano odgovara bar na tri osnovna pitanja:

Koja sredstva stoje na raspolaganju firmi, kako ih formira i kako do njih dolazi. (2) Kakav je i koliki nivo fondova preduzeća i kakva je njihova struktura i (3) Kako se formiraju fondovi firme. Zadatak finansijskog menadžerstva, u tom sklopu ogleda se u usklađivanju finansijskih operacija preduzeća (tekuća likvidnost i investicije, odnosno dotok i alokacija gotovine, i transakcije realnih sredstava) i tržišta kapitala (vrediovanje preduzeća i komercijalizacija akcija). „Ako, naime, akcionarsko društvo ima za cilj maksimizaciju sredstava akcionara, onda mora preduzeće maksimirati svoju tržišnu vrednost. Tržišna vrednost zavisi od sadašnjih prinosa i sadašnje vrednosti očekivanih budućih prinosa, koji, opet, zavise, između ostalog, od faktora diskontiranja (kamatne stope) i raspodele rizika budućih prinosa [1]. Zato je i važno pitanje povezanosti profita, rizika i vremena kod finansijskog menadžmenta u oblasti (1) Finansiranja preduzeća u različitim fazama životnog ciklusa firme, (2) Optimalne strukture kapitala firme, (3) Vrednovalja preduzeća, (4) Dividende i cene akcijai prinosa, (5)Gotovinskih tokova i likvidnosti i (6) Finansijskog planiranja i kapitalskog budžetiranja.

Finansijski menadžment mora poznavati čitavu paletu finansijskih instrumenata za finansiranje novih privatnih, javnih i mešoviti preduzeća[7], kao što su kapitalni ulog (trajna nepovratna sredstva), subvencije, krediti, fondovi za razvoj, riziko kapital, lizing, zajednička ulaganja i akcije. koja bi, na osnovu profita i rizika. povećala svoju imovinu. Za nova preduzeća važan je odnos sopstvenih i tuđih sredstava, izbor između različitih finansijskih alternativa. odnos između finansijskih obaveza i preduzetničkog profita, nivo rizičnog kapitala, učešće hipotekarnih i lombardnih kredita sa realnim imovinskim pokrićem, cena kapitala i zaduživanja, izvor finansiranja rasta preduzeća. vertikalna i horizontalna finansijska struktura kapitala preduzeća u razvoju. odnos između rasta

preduzeća i njegove kapitalizacije, odnos između jound bonds (obveznice za rizične investicije, zero bonds (odbijanje kamate kao diskonta od imenske vrednosti akcija) i sale and lease back (finansiranje s najmom — prodaja imovine i najam iste imovine), formiranje finansijske infrastrukture za finansiranje rasta preduzeća (revizijska služba ili auditivno preduzeće i preduzeće za finansiranje rizičnog kapitala).

2. FINANSIJSKI MARKETING I FINANSIJSKI RESURSI

Upravljanje novčanim resursima, izbor ciljeva razvoja, ostvarivanje profitabilnih ulaganja, održavanje optimalne likvidnosti, održavanje stabilnih uslova poslovanja, držanje pod kontrolom procesa transformacije jednog u drugi novčani oblik, ali i držanje (i planiranje) novčanih i finansijskih tokova, je vrlo složen zadatak svakog preduzeća, firme (korporacije), sve do države. To se može videti i iz strukture finansijskih instrumenata sektora preduzeća, ali i sektora stanovništva (sektor države za sada ćemo ostaviti po strani) [15].

Sektor preduzeća ima sledeće instrumente: 1) Likvidni instrumenti (gotov novac, žiroračuni, sredstva u platnom prometu, udružena kratkoročna sredstva, devizna kratkoročna sredstva, kratkotrajne hartije od vrednosti, 2) Nelikvidni instrumenti (ograničeni depoziti, oročeni depoziti, dugoročne hartije od vrednosti, fondovi kod banaka, udružena dugoročna sredstva, sredstva za stambenu izgradnju, 3) Kratkoročni krediti (kratkoročni krediti kod banaka, krediti za prodaju robe, obaveze po kreditima), 4) Dugoročni krediti (investicioni krediti kod banaka, devizni krediti i sredstva, ostala dugoročna sredstva).

Sektor stanovništva ima kod banaka iste oblike likvidnih i nelikvidnih instrumenata, ali i kredita kod banaka.

Na finansijskom tržištu cirkuliše novac koji u određenom momentu poprima oblik kapitala (imovine), a u drugom likvidni oblik. To su stalni procesi transformacije i tokova. On se stalno nalazi u različitim oblicima monetarnih supstituta (prema ročnosti, obliku, držaocima, raspoloživosti). Sve su to finansijski instrumenti preko kojih se provodi i realizuje finansijski menadžment (upravljanje finansijskim resursima). Nosioci finansijskog viška vrše stalni proces transformacije svog novca u one oblike instrumenata koji su najprihvatljiviji s obzirom na likvidnost (raspoloživost), kamatu, rizik, oblik plasmana. Finansijska struktura je, stoga, razvijena ako se raspolaže s više finansijskih instrumenata, odnosno ako je privreda više monetizovana.

3. FINANSIJSKI MARKETING I FINANSIJSKI INSTRUMENTI

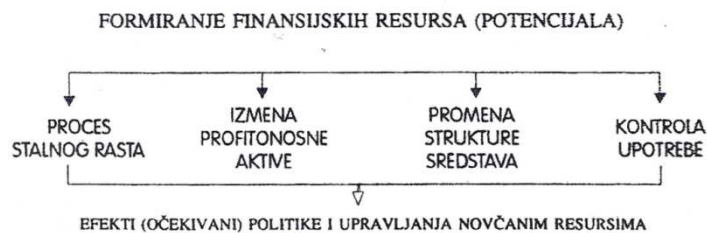
Finansijski menadžment u uslovima razvijenih finansijskih instrumenata i razvijenog finansijskog tržišta ima za zadatak da svesno i planski poveže i drži pod kontrolom (i usmerava), odnosno vrši stalnu transformaciju jednog u drugi oblik ulaganja radi ostvarenja najefikasnijeg oblika ulaganja (profita). Finansijski menadžment mora da spoji tri funkcije u svom strategijskom delovanju:

Optimalno održavanje strukture pojedinih novčanih oblika (da bi se spojio princip profitabilnih ulaganja i likvidnosti), Održavanje pod kontrolom procesa transformacije jednog u drugi oblik ulaganja (što se provodi finansijskom i poslovnom politikom), Stalni trend povećavanja ukupnih sredstava (finansijskog potencijala), uz izmenu njegove strukture u pravcu porasta profitonosnih (kamatonosnih) oblika, uz odgovarajuće

snižavanje nekamatonosnih oblika ulaganja (angažovanja sredstava). Finansijski menadžer mora veoma dobro da poznaje unutrašnje (računovodstvene, investicione, poslovne) i spoljne finansijske uslove (tržište novca i tržište kapitala). Odluke su mu (posebno dugoročne) vezane za velike neizvesnosti (rizik). Iz navedenih razloga se kod finansijskog menadžmenta redovno uspešno mora povećati: prinos (profit), vreme (dugi, srednji, kratki rok) i neizvesnost (rizik).

U takvoj filozofiji finansijskog menadžmenta danas se provodi i proces restrukturacije i sanacije (finansijskog osposobljavanja) sektora preduzeća i banaka u našoj privredi.

Finansijski marketing i menadžment mogu se u okviru finansijske politike prikazati na sledeći način:



Slika 1. Formiranje finansijskih resursa [9]

Tako interno postavljen finansijski menadžment treba povezati i sa eksternom komponentom. Strategija upravljanja ima dve dimenzije: 1) Marketing strategiju i 2) Finansijsku strategiju. Ove dve strategije povezane su i čine celinu poslovne politike, što se jasno vidi iz sledeće šeme:



Slika 2. Marketing i finansijska strategija [8]

Marketing strategija uključuje ciljeve marketinga i program marketing strategije. Marketing strategija mora da istraži odabrane segmente potrošača, „paket ponude“ roba, ciljeve potrošača i njihovo reagovanje, a zatim konkurentsku poziciju na tržištu.

Program marketing strategije uključuje istraživanje fizičkih usluga, asortimana, cene proizvoda, promociju proizvoda.

Strategija finansiranja, kao drugi bitan segment, mora da razradi, izuči i dobro komponuje ciljeve finansiranja i program finansijske strategije. Tu su uključene sve osnovne finansijske varijable, kao što su profit, likvidnost, obim prodaje, troškove, imovinu, dugovanja i primanja, cash flow i dr [6]. Povezivanjem i spretnom kombinacijom marketing i finansijske strategije uspešno se ostvaruje ukupna razvojna politika trgovine (preduzeća, grane ili oblasti).

Monetarni (finansijski) marketing i menadžment, ne mogu sadržavati slučajne i stihijske tokove. Stihijski procesi u novčanoj sferi brzo dovode do velike izmene strukture

sredstava, brzo pretvaranje u likvidne (neprofitonosne) oblike, izbegavanje dugoročnih ulaganja, pada profitabilnosti, veći rizik neizvesnosti, duboka stihijska izmena strukture finansijskih oblika - što sve vodi destruktiji finansija firme (preduzeća, banaka, države). Gubitak kontrole novčanih tokova onemogućava i kontrolu upotrebe i efekte upotrebe novčanih resursa.

Nedostatak finansijskog menadžmenta u našoj privredi doveo je do pravog rastrojstva monetarne i finansijske sfere, raspada sistema raspodele, slabe alokacije i upotrebe inače oskudnih finansijskih sredstava, uz potpuno ukočeni proces stvaranja novih finansijskih instrumenata (posebno akcija, obveznica, čekova, sertifikata, javnog duga), uz potpuno izgubijenu monetarnu kontrolu centralne banke. No, to je posebno područje.

U pravilu, finansijski menadžment implicira rešenja triju glavnih odluka, koje, zajedno, determinišu vrednost preduzeća za njegove deoničare. Vrednost dividendi za investitore mora se uravnotežiti sa oportunitetnim troškovima zadržanih ... koje su izgubljene kao sredstva finansiranja trajnog kapitala. Odluka da se investira u novi kapitalni projekat zahteva finansiranje investicija. Odluka o finansiranju utiče na rast i razvoj firme, i diversifikaciju imovine. Odluka o investiranju utiče na alokaciju kapitala i na ukupan iznos buduće efektivne imovine. Glavna je stvar sada da finansijski menadžer efikasno i racionalno poveže odluke o finansiranju, odluke o investiranju i odluke o dividendi u funkciji ostvarivanja rastuće vrednosti preduzeća.

4. FINANSIJSKI MARKETING

Finansijski marketing implicira problematiku prikupljanja (mobilizacije), koncentraciju, distribuciju i alokaciju finansijskih resursa (novčanih sredstava). Angažovanje novčanih sredstava za finansiranje proizvodno-prometnog segmenta reprodukcije bazna je pretpostavka za ostvarivanje celokupnog poslovnog ciklusa „od početka do kraja“. Stoga je finansijska funkcija važna poslovna funkcija preduzeća koja osigurava kontinuitet finansijskog alimentiranja celokupnog procesa proširene reprodukcije. Ova važnost proističe iz nepobitne činjenice da ponuda i tražnja novčanih sredstava predodređuje finansijsku ravnotežu i stabilnost privrednih subjekata u oblasti proizvodnje i prometa. U osnovi radi se o mikroekonomskoj ravnoteži i stabilnosti.

Finansijski marketing je integralni deo finansijske funkcije preduzeća. U tom kontekstu, marketing koncept je izuzetno važan za organizaciju finansijskog poslovanja preduzeća, pošto je marketinški pristup u finansijskom poslovanju imanentan robno-novčanoj privredi i tržišnoj konkurenciji. Osnovni ciljevi i zadaci finansijske funkcije reflektuju se kroz pribavljanje finansijskih sredstava za normalno i kontinuirano odvijanje poslovnog procesa preduzeća, kroz racionalno i efikasno korišćenje novčanih sredstava, i kroz kontrolu sredstava u kružnom toku novca. Iz ovih ciljeva i zadataka finansijske funkcije deriviraju se zadaci finansijskog marketinga, koji se odnose na pribavljanje finansijskih sredstava, na finansijsko upravljanje novčanim sredstvima i na usmeravanje finansijskih iz eksternih i internih izvora. U širem kontekstu, zadaci finansijskog marketinga rasprostiru se do potrebe izrade plana potrebnih sredstava, utvrđivanja rokova, namena i izvora sredstava. namenskog ulaganja u proces reprodukcije, vraćanja uloženi sredstava, naplate dospelih potraživanja, praćenje priliva i odliva novčanih sredstava, plasiranja viška priliva sredstava, iznalazjenja dopunskih izvora za rekompensaciju disrepance između većeg odliva i manjeg priliva, ispitivanja pravilnosti finansijskog poslovanja, praćenja promena na tržištu novca i kapitala. i kolebanja deviznih kurseva i kamatnih stopa, finansijske evaluacije rentabilnosti poslovanja (upotreba novca. kapitala i hartija od vrednosti). ocene promena finansijske

strukture preduzeća, usmeravanja cirkulacije finansijskih sredstava, održavanja likvidnosti i solventnosti preduzeća, ocenjivanja investicionih projekata, ocene rizika, analize dobiti itd. [13]. Iznalaženje izvora finansiranja jeste važan problem finansijskog marketinga, pošto oni mogu biti ili „poticati“ iz finansijskog okruženja, iz realizacije zaliha, poluproizvoda i gotove robe (transformacija raspoloživih sredstava u tzv. likvidna sredstva) i iz akumulacije i amortizacije. Ovaj problem je potrebno razrešiti zbog toga što je imperativno determinisati odnos između politike i finansiranja sopstvenim sredstvima i politike finansiranja tuđim sredstvima. Odnos između internih i eksternih finansijskih resursa od presudnog je značaja za stabilnost i vitalnost finansijske politike preduzeća, za politiku likvidnosti i za strategiju dugoročnog razvoja. Samofinansiranje reflektuje politiku jačanja sopstvene finansijske snage preduzeća na principu diversifikacije poslovne strukture i dimenzioniranja programirane veličine preduzeća i njegove proizvodne snage. U načelu, tržište determiniše granicu samofinansiranja i utiče na rentabilitet poslovanja preduzeća sopstvenim sredstvima. Zato finansijska politika preduzeća mora voditi računa da ne povećava osetljivost preduzeća na konjunkturna kolebanja i na tržišne oscilacije, koje doprinose neefikasnoj alokaciji investicionih resursa. Finansijski marketing zato mora da planira razvoj samofinansiranja na principu tržišne regeneracije sopstvenih sredstava deriviranih iz rastuće tržišne reverifikacije dobiti.

Finansijski marketing preduzeća mora posebno da respektuje finansiranje tuđim sredstvima, naročito u uslovima visoke i rastuće inflacije i visoke i rastuće kamatne stope. Kad to ističem imam u vidu da je raspolaganje tuđim resursima limitirano vremenom i uslovima dobijanja i vraćanja eksternih sredstava. A ti problemi su povezani sa politikom likvidnosti korisniku tuđih sredstava, sa eventualnim negativnim implikacijama na tekuće poslovanje i kontinuitet proizvodnog procesa. Jer, nestabilni uslovi privređivanja, koji su i opterećeni visokom inflacijom induciraju opadajuću tendenciju dugoročnih izvora u ukupnim finansijskim sredstvima i rastući kvantum kratkoročnih izvora u pasivi. Time se postepeno degradira Finansijska struktura, što sa rastućim kamatama povećava troškove finansiranja. Rastuće kamate i rastući troškovi finansiranja uvode problem postepenog skraćivanja rokova amortizacije sredstava uzetih iz dugoročnih izvora. U takvim uslovima preduzeće se izlaže sve većim rizicima cene kapitala, pogotovu u uslovima nedostatka trajnih obrtnih sredstava i permanentnog opadajućeg učešća privrede u ukupnoj novčanoj masi. A kada se nato nadoveže i preduzetnički rizik i rizik od reduciranih mogućnosti naplate potraživanja na osnovu realizacije robe i usluga na tržištu, onda se otvara problem neutralisanja rizika, problem „prebacivanja“ tržišta i problem pokrića rizika. Finansijski marketing u takvim okolnostima prima novi zadatak: da stvara rezervne fondove za pokriće rizika, da pretvara rizike u troškove poslovanja, da plaćanjem premija „prevodi“ rizik na osiguravajuće institucije i da pretvara kratkoročne u dugoročne kredite (sa očekivanim inflacionim topljenjem sadašnjih kamatnih troškova).

U uslovima sprovođenja politike skupog novca [10], finansijski marketing implicira usklađivanje nabavke i prodaje, usklađivanje priliva i odliva novčanih sredstava, i usklađivanje robnih i finansijskih tokova preduzeća. Finansijski marketing nastoji da prikuplja novčana sredstva u skladu sa planom potrebnih sredstava, koja se jednim delom transformišu u materijalna sredstva, dok se svojim drugim delom koriste za tekuća plaćanja. Finansijski marketing usmerava prikupljena novčana sredstva finansijskim planiranjem i distribucijom sredstava s ciljem da se poveća i ubrza obrt sredstava, proširi obim proizvodnje i diversifikuje plan prodaje. On, dakle, sledi sve aktivnosti koje su povezane sa kružnim tokom kretanja osnovnih i obrtnih sredstava.

Finansijski marketing preduzeća implicira, po mom mišljenju, pet instanci. U prvoj instanci aktivnost je skoncentrisana na problematici utvrđivanja kvantuma raspoloživih

novčanih resursa i na planiranju novčanih sredstava, pošto u osnovi reflektuje finansiranje u užem smislu. Finansijski marketing preduzeća dinamizira finansijsku funkciju, dajući joj aktivnu i mobilizatorsku ulogu u procesu kreiranja i sprovođenja razvojne politike preduzeća. Akcenat se, dakle, stavlja na finansijsko planiranje u okviru čije delatnosti bitišu izrađeni programi finansiranja i planovi osiguravanja sredstava po utvrđenoj dinamici u skladu sa kružnim kretanjem sredstava (kretanje sredstava rada, predmeta rada i rezultata rada, priliva i odliva novčanih sredstava).

U drugoj instanci pribavljaju se novčana sredstva za standardno finansiranje preduzeća, odnosno za tekuće poslovanje. Radi se u osnovi o permanentnim problemima finansiranja, odnosno o brizi za novčana sredstva za obrtna sredstva, jer od ovog segmenta ciklusa finansijske funkcije najviše zavisi odvijanje normalnog toka poslovanja (poslovni uspeh) i finansijski rezultat preduzeća. No, ovaj tok upravo implicira uspostavljenje „čvrste“ kontrole upravljanja zalihama kako bi se potrebna novčana sredstva kretala u tzv. zoni niske tražnje, pogotovu u uslovima visoke inflacije i visokih kamatnih stopa. To je vrlo važno zbog toga što sposobnost plaćanja obaveza po izdatim instrumentima (i sposobnost plaćanja u zakonskom roku) inkorporira srednjoročno usklađene planove nabavke i prodaje, planove priliva i odliva novčanih sredstava, i planove naplate i isplate, uz rigoroznu kontrolu dotičnih planova od koje zavisi pravovremena intervencija u procesu uravnotežavanja novčanih tokova (priliva i odliva) [8]. Ovakav pristup, nadalje, implicira racionalnu politiku nabavke i efikasnu politiku kontrole zaliha kako bi se osigurala ekonomija sredstava i kontinuitet proizvodnje. Normiranje zaliha (neefikasna kontrola zaliha) mora sa svoje strane biti povezana sa problematikom raspodele kako bi se stimulisao obrt zaliha iznad planiranog koeficijenta. O tome treba posebno voditi računa u privredi u kojoj je izuzetno nizak koeficijent samofinansiranja i hipertrofiran kreditni odnos sa visokim kamatnim opterećenjem. Finansijski marketing, u tom kontekstu, izlaz vidi u odabiru najpovoljnije varijante udruživanja sredstava ili zajedničkih ulaganja, koja obezbeđuju — srednjoročno i dugoročno planiranje, konkretizuje finansijsku politiku preduzeća u procesu definisanja potreba u novčanim sredstvima, pribavljanja finansijskih sredstava, korišćenja internih i eksternih resursa, tržišnog usmeravanja sredstava i racionalne alokacije resursa.

Treća instanca finansijskog marketinga faktički inkorporira problem finansiranja, kao trajni zadatak finansijske funkcije preduzeća unutar koje finansijski marketing insistira na iznalaženju optimuma potrebnih sredstava za tekuće poslovanje (po obimu, etrukturi i dinamici) i na istraživanju racionalnih izvora sredstava za investicije[2]. U ovom kontekstu, zadatak je finansijskog marketinga da analizira: (1) izvore sredstava (poslovni fond, udružena sredstva, kratkoročni krediti, krediti za obrtna sredstva, devizni krediti i sl.), (2) tekuće obaveze (obaveze po menicama, dobavljači, inostrani partneri i dr.), (3) novčana sredstva (žiro-račun, menice, čekovi, ostala novčana sredstva, kupci i ostala potraživanja), (4) zalihe (materijal, sirovina i gotova roba), itd. To je potrebno činiti zbog toga što je veoma važno sagledati da masa raspoloživih i korišćenih obrtnih sredstava ne dostigne nivo ukupnog prihoda, da koeficijent obrta sredstava ne bude izuzetno visok. da neangažovana sredstva izvan funkcije zakonomerno ne rastu, da kratkoročni krediti ne postanu predominantni oblik angažovanja bankarskih sredstava. da „blokirana“ obrtna sredstva u zalihama kontinuelno ne rastu, da permanentno zaduživanje ne reprezentuje „izlaz“ iz besparice (nelikvidnosti), da troškovi kamata ne postanu balast, da obnavljanje obrtnih sredstava na rastućim „novčanim“ cenama ne ugrozi poslovanje i razvoj preduzeća, itd.

U četvrtoj instanci razrešava se karakterističan problem finansiranja zaliha gotovih proizvoda i kupaca, preko koga se uspostavlja koordinacija finansijske i komercijalne

funkcije. U tom sklopu, pažnju treba obratiti na prodaju roba na kredit (robni kredit) među korisnicima društvenih sredstava (na osnovu Zakona o osiguravanju plaćanja između korisnika društvenih sredstava), i na tzv. potrošačke kredite za prodatu robu građanima. Kad to ističem, imam u vidu da se dotični krediti mogu odobravati iz sopstvenih slobodnih novčanih sredstava, iz pribavljenih sredstava putem kreditnog mehanizma, iz udruženih sredstava, iz inostranih izvora i sl., što i otvara problem obračuna kamata sa stanovišta nominalnog i realnog nivoa. Kamata je preteški problem za finansijski marketing preduzeća, pošto racionalnu politiku nominalnih i realnih kamatnih stopa u hiperinflacionoj euforniji nije adekvatno rešio ni bankarski i monetarno-kreditni sistem.

Konačno, u petoj instanci karakteristična je problematika vraćanja pozajmljenih finansijskih resursa kako bi se očuvao potreban nivo likvidnosti i solventnosti. U tom kontekstu, finansijski plan treba da predvidi potencijalna sredstva za povraćaj dospelih finansijskih obaveza u vidu kredita, dok finansijska politika treba da sagleda racionalnost i opravdanost obnavljanja kratkoročnih kredita, konvertovanja kratkoročnih kredita u dugoročne kredite i uslova kreditiranja sa fiksnom ili varijabilnom kamatom i sa fiksnim rokovima dospeća[9]. U uslovima inflacije od posebnog je značaja mogućnost sprečavanja formiranja dužničke dobiti i pretvaranja dohotka poverioca u dužničku korist.

U tom kontekstu marketinška analiza finansijske situacije ima za zadatak da ustanovi pravila igre u finansiranju obrtnih sredstava kako bi se osnažila likvidnost preduzeća, koja se opservira sa stanovišta kreiranja likvidnosti iz finansijskog rezultata, upotrebe obrtnih sredstava i vraćanja kredita za obrtna sredstva. Finansijski marketing treba, isto tako, da analizira finansijska ulaganja u obrtna sredstva. Finansijski marketing treba, isto tako, da analizira finansijska ulaganja u obrtna sredstva i efektivnost pojedinih izvora sredstava (sopstvena, kreditna i zajmovna) u odnosu na ostvarene rezultate poslovanja. Ispitivanja izvora finansiranja treba da inicira odgovor na pitanje kako se finansira povećana poslovna aktivnost preduzeća i kako se „razvija“ veličina sopstvenih ulaganja za buduće investicije.

Savremeno finansijsko upravljanje obrtnim sredstvima jeste važan segment finansijskog marketinga preduzeća u funkciji povećanja efikasnosti angažovanih novčanih sredstava, održavanja nivoa potrebne likvidnosti i stabilnosti finansijske situacije. Finansijski marketing preduzeća u procesu korišćenja finansijskih sredstava posebno treba da vodi računa o usklađivanju sopstvenih i pozajmljenih sredstava, o usklađivanju izvora po ročnosti, i oceni finansijskog položaja poslovnog partnera.

Savremeni trendovi u ekonomskim odnosima prema upravljanju preduzetnom finansijskom funkcijom pretpostavljaju znanje i informisanost u ekonomiji novca. Stručno vođen finansijski menadžment tendira ostvarivanju finansijskih dobitaka kroz maksimizaciju efekata upotrebe finansijskih sredstava i redukciju finansijskih rizika.

U savremenom svetu kretanje kapitala postalo je propulzivan faktor ekonomije, pošto godišnji promet kapitala od 100 biliona dolara uveliko nadilazi evetsku trgovinu robom i uslugama od 2,5-5 biliona dolara. Takva finansijska snaga postaje sve više autonomna sila koja se postepeno odvaja od robnih tokova. Autonomno kretanje novca i kapitala sada prate nestabilni (fluktuirajući) devizni kursevi i kamatne stope; što značajno utiče na konkurentsku poziciju preduzeća na inostranom tržištu i na cenu koštanja proizvoda[4].

Zahvaljujući razvoju računarske tehnologije, finansije postaju važan faktor mikroekonomije posredstvom finansijskih inovacija i diversifikacije finansijskih instrumenata (depozitni certifikati, NOW računi, aranžmani o rekvizitima obveznica, SVIP-depoziti, zajednička sredstva novčanog tržišta, overdraft računi i kreditne kartice), kojima se može trgovati i manipulirati u procesu zaštite od rizika. U uslovima visoke inflacije, visokih kamatnih stopa i visoke deprecijacije nacionalne valute, upravljanja poslovnim finansijama postaje stožer integralne poslovne strategije. Finansijsko

odlučivanje, samim tim. postaje sve složenije, pogotovu ako finansijska funkcija inklinira profilerskoj maksimizaciji.

Planiranje potrebnih sredstava za finansiranje tekućeg poslovanja i razvoja, pribavljanje finansijskih sredstava pod najpovoljnijim tržišnim uslovima, efikasna distribucija novčanih resursa i racionalna alokacija resursa reprezentuju marketinški koncipiranu finansijsku funkciju preduzeća koja je poslovno orijentisana isključivo ka biznis finansijskim operacijama na domaćim i međunarodnim tržištima novca, kapitala i hartija od vrednosti. Savremene metode kupovina i prodaja roba i usluga mora da sledi finansijski marketing zbog toga što međunarodna konkurencija razvija nove metode finansiranja, koje redukuju troškove upotrebe sredstava i modernizuju finansijsko poslovanje.

5. ZAKLJUČAK

Marketinški koncept finansijskog poslovanja preduzeća po pravilu „ne trpi“ preterano decentralizovani model upravljanja finansijama. Razloge vidimo u brojnim slabostima prednmenzionirane decentralizacije, koje se ispoljavaju kroz teritorijalizaciju novčanih tokova preduzeća, povećanje troškova platnog prometa, multiplikaciju žiro-računa, smanjivanje koeficijenta obrta novčanih sredstava, nekorišćenje efekata ekonomije veličine (obima) sredstava (koncentraciju resursa), povećanje troškova finansiranja reprodukcije, degradiranja plana novčanih sredstava, itd. Multinacionalne i transnacionalne kompanije u savremenom svetu napustile su. stoga, decentralizovani metod i okrenule su se potiranju centralizacije finansijske funkcije, čije se prednosti ogledaju kroz smanjenje troškova finansiranja, koncentraciju finansijskih sredstava, efikasniju politiku zaštite od finansijskih rizika, uspostavljanje kontrole nad alokacijom akumulacije, eliminisanje preliivanja profita. Centralizovano finansiranje preko moderne računarske tehnologije omogućava elektronsku komunikaciju između finansijskih centara i kontrolu nad finansijskim tokovima bez organizacione decentralizacije. Takav pristup finansijskom marketingu bio bi koristan i za nas, pogotovu ukoliko želimo da racionalno organizujemo finansijski inženjering i planiranje cash-flowa na „vrhu“ preduzeća.

Finansijsku funkciju. u tom kontekstu, treba organizovati u formi — profitcentra. a ne kao servisnu službu za upravljanje finansijama. Takav profitcentar može da posluje na princppu privrednog računa sa difuzijom inovacione finansijske tehnike. Samo tada se može ostvariti zarada po osnovu korišćenja finansijskih inovacija, koje povećavaju efikasnost finansijske funkcije preduzeća i disperziraju poslovnu aktivnost. Uvođenje informacionnih tehnika u procesu finansijskog menadžmenta doprinelo je razvoju tzv. naučnog medija u finansijskoj strukturi preduzeća. Radi se o razvoju elektronskog novca i o elektronskom upravljanju finansijskim operacijama (disponiranje raspoloživih finansijskih sredstava, evidencija i obrada kredita, plasmana, dospeća i troškova finansiranja, vođenje dužinčko-poverilačkih odnosa, ocene investicionih projekata, elektronsko komuniciranje sa bankama i berzama novca, banka podataka o kupcima, dobavljačima, poveriocima i dužnicima itd.). Kompjuterizacija finansijskog poslovanja jeste fundamentalna pretpostavka savremenog upravljanja finansijskom funkcijom na marketinškom konceptu.

Ali, za takav pristup finansijskom marketingu potrebni su savremeni finansijski kadrovi u vidu tzv. finansijskih menadžera koji su osposobljeni za upravljanje novčanim sredstvima, investicijama, kreditima, kamatnim rizicima. inovacijama i finansijskim instrumentima na finansijskim tržištima (kao što su svopovi, kolari, kapori, NIF, STRIP, ICON, ZEBRA, NRV, FIIPS, formard svop opcija, opcije, fjučersi, terminske transakcije

itd.) u uslovima rastuće finansijske deregulacije i reprivatizacije. Elektronska revolucija, dakle, modifikuje nasleđeni model upravljanja finansijama, jer savremenn svet teži automatizaciji finansijske funkcije preduzeća. Telekomunikaciona tehnologija već obezbeđuje infrastrukturu za novi finansijski marketing, kao katalizatora finansijskog preduzetništva i akcionarstva.

REFERENCE

1. B. Kovač, Finansijska struktura i politika predazeća u postsocijalističkom društvu, u dr Z. Pjanić dr J. Bajec (Red.) Tržište, kapital, svojina". Ekonomika, Beograd. 1991. st. 192.
2. Ch. K.Coe. Public Financial Management, Englewood Cliffs, Prentice Hall, 1989. st. 96.
3. D. A.Seh (Ed.). Readings in Strategic Management, Maemillan Press, London, 1989. st.71 .
4. Đ.Evans I B. Berman, Marketing, Ekonomika, Moskva ,1990. st. 37.
5. E. B. Flipo, Personal Management. McG. HBC.N.York. 1984. st.126.
6. G.A. Aragon, Financial Management, Apup and Brcon, Boston,1989. st.11 i A.G. Pirxty i J.C. Dodds, Financial management, Clarpman and Hall, London, 1991. st.311.
7. J. M. Samnels. F. M. Wilkes i R. E. Brayslow, Management of Company Finance, London, Champan and Hall, 1990. i T. S. Maness, Introduction to Corporate Finance, Me Graw — Hill, N. York. 1988 st.71.
8. K. Ristić, dr S. Komazec i dr Ž. Ristić, Globalni finansijski menadžment, Etnostil, Beograd, 2014. st. 426.
9. K. Ristić, dr S. Komazec i dr Ž. Ristić, Monetarne i javne finansije, Etnostil, Beograd, 2014. st. 91.
10. K. Ujčić, Analiza finansijske situacije, Ekonomski pregled, 10-11-12/90. st. 31.
11. M. Schlosser, Cooperate Finance, Prentice — Hall, N. York, 1989. st.131 .
12. M. Zečević, Menadžment, Institut za internacionalni menadžment, Beograd. 1991. st. 24 .
13. P.Howelss i K. Bain, Financial Market and Institution Harlow, Longman, 1990.st.218.
14. R. C. Merlon, Continuous-TimeFinance, Basil Blackwell, Oxford, 1990. st. 86.
15. Wilker, F.M. i R.E. Brayslow: Management of Company Finance, Champan nnd Hill, London. 1990.i T.S. Mannes, Introduction to Corporate Finance, Mc Graw - Hill, New Vork, 1992. st. 27-29 .

QUALITY MANAGEMENT AS A GENERATOR OF INCREMENTAL NEW PRODUCT DEVELOPMENT

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Abstract: Scope of this paper is introduction of quality management model in order to improve the incremental development of new products. The goal of new product is providing new solution to consumers; only through satisfying consumer's demands we could achieve success in market. From market we receive the signals that tell us about the success of a new product, however, and within a company can be a lot of work to do in the field of new product enhancements. Through careful quality management we can achieve effect of incremental product development. However, the best effect is achieved by combining market signals to the internal quality management. We should not forget logistics function which is extremely important in the development of new products, because logistics is powerful platform for various business processes integration. The easiest way to achieve market success with new products is through an integrated logistics system.

Keywords: quality management, new product development, incremental development, integrated logistics system, market information

UPRAVLJANJE KVALITETOM KAO GENERATOR INKREMENTALNOG RAZVOJA NOVOG PROIZVODA

Radovan Vladisavljević, Dragan Janjušić, Marina Simin, Bogdan Ivković

Apstrakt: Cilj rada je predstavljanje modela upravljanja kvalitetom sa ciljem poboljšanja inkrementalnog razvoja novog proizvoda. Novi proizvod ima za cilj da pruži nova rešenja potrošačima, ali samo kroz zadovoljenje potreba tržišta postiže se tržišni uspeh. Sa tržišta stiže niz signala koji nam govore o uspešnosti novog proizvoda, međutim i unutar preduzeća moguće je dosta toga uraditi na polju poboljšanja novog proizvoda. Kroz pažljivo upravljanje kvalitetom moguće je postići efekat inkrementalnog razvoja proizvoda. Međutim, najbolji efekat se postiže kombinovanjem tržišnih signala sa internim upravljanjem kvalitetom. Ne sme se zaboraviti logistička funkcija koja je izuzetno važna u razvoju novog proizvoda, jer postaje moćna platforma za integraciju niza poslovnih procesa. Najlakše je postići tržišni uspeh sa novim proizvodom kroz integralni logistički sistem.

Ključne reči: upravljanje kvalitetom, razvoj novog proizvoda, inkrementalni razvoj, integralni logistički sistem, informacije sa tržišta

1. UVOD

Konkurencija na tržištu je sve veća, a tržišni uspeh je sve teže postići. Mnoge kompanije su se okrenule ka razvoju novih proizvoda jer se takva strategija dokazala kao uspešna. Međutim, sistemi razvoja novih proizvoda imaju određene mane i prednosti. Prednost modernih sistema razvoja je sve veća uloga spoljnih saradnika i samih potrošača, a negativni aspekt ovih sistema je vreme koje se utroši u prikupljanju podataka. Vreme je jedan od najvažnijih resursa koje kompanije sebi ne mogu dopustiti da izgube. Sa druge strane, stari sistemi razvoja su imali dobre performanse u smislu brzine razvoja, ali tržišni uspeh je često izostajao.

U korporativnoj istoriji upravljanje kvalitetom se pokazalo kao jako interesantna aktivnost koja sve više utiče na razvoj novog proizvoda. Mnogi sistemi upravljanja kvalitetom nisu bili okrenuti ka razvoju novog proizvoda ali sama logika koja je stajala iza ovih sistema je bila jako bliska logici razvoja novog proizvoda. Kao jedna od najvažnijih sistema upravljanja kvalitetom koji je imao veliki uticaj na menjanje postojećih sistema razvoja novih proizvoda, je japanski kaizen. Ovaj sistem je veoma teško opisati jer u sebi sadrži jednu potpuno novu poslovnu filozofiju koja diktira stalna unapređenja. U daljem radu korišćićemo se terminom inkrementalnog razvoja, jer mnogo bolje opisuje onu stranu kaizena koja nas zanima za potrebe ovog rada.

Pored samog razvoja novog proizvoda treba naglasiti da je za tržišni uspeh potrebno imati jak integrisani logistički sistem. Samo kroz harmonizaciju raznih logističkih procesa moguće je isporučiti potrošačima proizvod koji ima sve potrebne atribute. Logistička funkcija već odavno je prevazišla svoju prvobitnu namenu i postala je jedna od najvažnijih procesa.

2. UPRAVLJANJE KVALITETOM

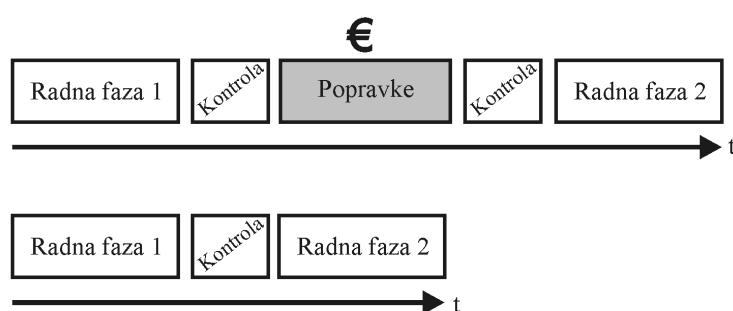
Kvalitet je kategorija koja u sebi sadrži niz subjektivnih i objektivnih dimenzija. Sa tehničke strane kvalitet se može kvantifikovati, opisati i pratiti. Međutim, sa marketinške strane kvalitet ima jedan sasvim novi momenat koji se ogleda u psihološkom profilu potrošača. Potrošači su ti koji određuju da li je proizvod kvalitetan, na osnovu svoje subjektivne analize donose odluku o kupovini. Drugim rečima, nije dovoljno imati propisane standarde i procedure, potrebno je u upravljanje kvalitetom uključiti i humanu komponentu.

Kompanije mogu imati izuzetno jaku strategiju, adekvatno istraživanje tržišta i sl. Međutim, kompanije ne mogu dostići tržišni uspeh ukoliko ne mogu kreirati vrednosti za potrošače. Da bi se vrednost mogla kreirati onako kako je to traženo potrebno je imati jaku operativu za sprovođenje strateških odluka top menadžmenta. „Operacionalizacija se dešava na osnovna četiri poslovna procesa: proces razvoja strategije (formulacija i implementacija strategija), proces upravljanja lancem snabdevanja (isporuka proizvoda i usluga od dobavljača pa nadalje), proces razvoja proizvoda (kreiranje novih ponuda) i razvoj novih razvojnih procesa (kreiranje novih operativnih kapaciteta).“ (Christoph H. Loch, Stephen E. Chick, Arnd Huchzermeier ,2008, 7).

Iz prethodnog se može videti da je upravljanje kvalitetom poslovni proces koji se sve više bavi problematikom razvoja proizvoda i poslovanja. Puko praćenje proizvodnje i kvaliteta proizvoda je i dalje važan činilac upravljanja kvalitetom, ali mogućnosti upravljanja kvalitetom su daleko veće i mogu pružiti organizacijama potrebnu konkurentnu

prednost. Svedoci smo pojave niza različitih tehnika i filozofija vezanih za upravljanje kvalitetom. Neke od ovih tehnika su nastale unutar organizacija za neke specifične potrebe poput „six sigma“, druge tehnike su nastale u proizvodnji poput „lean“ koncepta itd. Mnoge tehnike su kasnije proširivane i drugačije formulisane kako bi i druge organizacije mogle da ih implementiraju. Na primer „six sigma“ metoda danas iza sebe ima čitave organizacije i verifikaciona tela koja nude određene usluge u implementaciji i praćenju efektivnosti metode.

Svrha upravljanja kvalitetom je, sa jedne strane smanjenje troškova, a sa druge strane povećanje satisfakcije potrošača. Pojava defektnog proizvoda može dovesti do pojave dodatnih troškova i gubitka potrošača. Defektan proizvod se može definisati kao proizvod ili neka druga izlazna vrednost koji ne ispunjava proizvođačke specifikacije. Konvencionalno mišljenje je da se sa povećanjem kvaliteta povećavaju troškovi proizvodnje, međutim, sa smanjenjem kvaliteta povećavaju se troškovi popravki i reklamacija.



Slika 1. Šematski prikaz povećanja troškova usled nižeg kvaliteta

Na prethodnoj slici možemo videti dva slučaja upravljanja kvalitetom. U prvom slučaju imamo loše upravljanje kvalitetom i konsekvencija toga je vraćanje proizvoda na doradu. U drugom slučaju imamo bolje upravljanje kvalitetom gde nemamo dodatne dorade. Poslednji slučaj je povoljniji jer se štedi novac i vreme, takođe u poslednjem slučaju imamo slobodne proizvodne kapaciteta.

Treba naglasiti da mnoge tehnike koje se danas koriste su u stvari integralne verzije nekoliko različitih tehnika upravljanja kvalitetom. Najčešća kombinacija je između "lean" i "six sigma" koncepta zbog svoje bazične sličnosti. Treba naglasiti da ove kombinacije imaju i svoje mane, a pre svega tu je udaljevanje od fundamentalnih vrednosti na koje se pojedini koncepti oslanjaju.

3. INKREMENTALNI RAZVOJ

Razvoj novih proizvoda se u prošlosti obavljao u laboratorijama i razvojnim departmanima kompanija. Ovakav vid razvoja je bio jako daleko od tržišta i ostatka kompanije. Sa pojavom novih tržišnih zahteva stari sistem razvoja proizvoda se pokazao kao neadekvatan. Mnoge kompanije koje su želele da ponude tržištu nešto novo, počele su da odbacuju stari sistem razvoja. Na Dalekom Istoku pojavljuje se nova poslovna filozofija pod nazivom „kaizen“. Sama reč „kaizen“ može se prevesti kao stalno unapređenje i to na svim hijerarhijskim nivoima kompanije. Danas se „kaizen“ može smatrati internacionalnim fenomenom, jer se filozofija dokazala kao vrlo efikasna i raširila se van granica Japana.

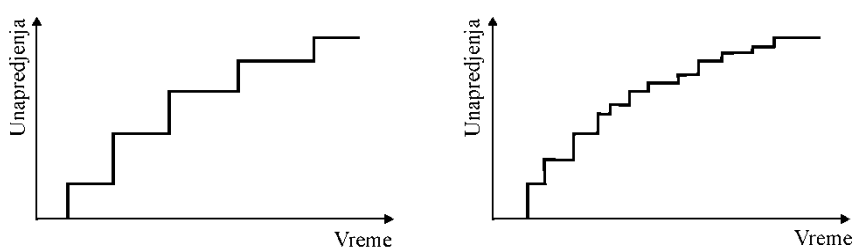
Šire gledano „kaizen“ koncept polazi od toga da se stalno traže neefikasnosti i greške koje potom treba korigovati. U srcu ove filozofije leži potrošač sa svojim željama i

potrebama i koji je u nekoj vrsti partnerstva sa kompanijom. Ovo je velika razlika između zapadnog koncepta po kojem je istraživanje izolovano od ostatka kompanije, a sa druge strane, potrošač je izolovan i od kompanije i od inovacionog procesa.

Nova poslovna paradigma koja je ustanovljena kaizenom uključuje sve nivoe organizacije. Svaki učesnik u radu je u obavezi da se uključi u razvoj poslovanja. Sama filozofija nije toliko okrenuta ka inovacijama koliko ka promeni sistema poslovanja. Ovakav stav iznosi i Makasi Imaji u svojoj knjizi "Kaizen" (2008,34) koji kaže: "najgore kompanije su one koje su okrenute isključivo ka održavanju sistema". Sam poslovni sistem je podložan degradaciji, a poslovni procesi se usled sitnih neefikasnosti polako menjaju i postaju neadekvatni.

Za potrebe ovog rada nećemo koristiti izraz „kaizen“, jer se rad bazira na razvoju novog proizvoda, a ne na razvoju poslovnih procesa. Svesni smo da se ova dva pojma, razvoj procesa i inovativnost, teško mogu razdvojiti. Međutim, za potrebe rada moraćemo ovo učiniti uz opasku da se prikazani model može lako uključiti u širi model baziran na „kaizen“ filozofiji. U radu korišćićemo se terminom inkrementalni razvoj kako bi ga razlikovali od poslovne filozofije „kaizen“. Sama svrha inkrementalnog razvoja jeste stalno unapređenje proizvoda. Ovakav vid razvoja može biti indukovano internim i eksternim faktorima. Interni faktori inkrementalnog razvoja mogu biti: zahtevi uprave da se koristi što manje materijala i energije, zahtevi ka promeni određenih atributa proizvoda radi lakše proizvodnje i sl. Eksterni faktori inkrementalnog razvoja mogu biti: zahtevi potrošača ka nekim atributima korisnosti, niže cene, veći kvalitet, drugačiji dizajn i sl. Ovo nam govori da su informacije i kooperacija od izuzetne važnosti za inkrementalni razvoj. Jedino pažljivim upravljanjem informacijama može se postići pravi efekat.

Stariji sistem razvoja u ovom radu možemo nazvati zapadnim konceptom razvoja, zbog mesta nastanka koncepta i poslovne filozofije koja podržava ovakav koncept. Stilizovana šema daje vizuelni pregled osnovne razlike između zapadnog koncepta i „kaizen“ koncepta. Na šemi se jasno vidi kako kod zapadnog koncepta imamo skokovita unapređenja, za razliku od „kaizen“ koncepta gde imamo mnogo manjih unapređenja. Kroz niz sitnih unapređenja inkrementalnim razvojem dolazi se do potpuno novog proizvoda. Uticaj potrošača na razvoj je velik i neretko su potrošači ti koji utiču na dalji tok razvoja.



Slika 2. Šema zapadnog koncepta inovacija i kaizen koncept

Postoji još jedna bitna razlika između „kaizen“ koncepta i koncepta inovacija, a to je suprotstavljanje istočnog koncepta traženja harmonije nasuprot zapadnog koncepta upravljanja konfliktima. Zapadna filozofija inoviranja često se oslanja na konflikt u domenu ideja i mišljenja što iziskuje određenu dozu veštine upravljanja kreativnim konfliktima. Istočna filozofija okrenuta je ka stvaranju harmonije što je kod kaizen koncepta naročito izraženo

Odnos prema informacijama koje se stvaraju i dele unutar preduzeća je odličan primer zapadne i istočne filozofije. Nije neobično u zapadnoj hemisferi da se preko informacija pokuša steći određena prednost. Konkretno, mnogi menadžeri smatraju da imaju pravo na

monopol nad informacijama. Istočni koncept okrenut je ka kolektivizmu, a deljenje informacija je od velikog značaja. Menadžeri na istočnoj hemisferi imaju manji monopol nad informacijama, drugim rečima, informacije se dele sa svima u kompaniji.

“Većina kompanija koje su bezuspešno uvodile kaizen (inkrementalni razvoj) nisu prvo izgradile neophodnu infrastrukturu” (Imaj, M., 2012, 95). Infrastruktura je izuzetno važna za kreiranje pozitivnog ambijenta za inkrementalni razvoj. Pored tehničkih i organizacionih rešenja potrebno je obratiti pažnju na ljudski faktor. Potrebno je imati jaku podršku od strane radnika kako bi se inkrementalni razvoj uspešno koristio. Međutim, treba voditi računa i o uticaju potrošača na inkrementalni razvoj. Kroz moćan informacioni sistem potrošači mogu postati integralni deo preduzeća. Na ovaj način su granice između internih i eksternih faktora inkrementalnog razvoja sve slabije.

4. SISTEM OTVORENIH INOVACIJA

Svaki oblik inovacije koji nema sveže ideje i jaku podršku menadžmenta je osuđen na propast. Sveže ideje mogu da se generišu unutar kompanije, ali se ne smeju zanemarivati potrebe potrošača. Nizom povratnih veza moguće je dobiti informacije o reakcijama sa tržišta, ali ovakav vid dolaska do informacija nije dovoljno efikasan. Zahvaljujući nizom IT rešenja i promenom organizacione klime, moguće je uključiti potrošače u sam proces kreiranja novog proizvoda. „Generalno, ovakav pristup inovacijama stvara porozne granice između kompanije i okruženja, pretvara bivše čvrste granice u polu-propustne.“ (Herzog, P., 2007, 23)

Svrha otvorenih inovacija je povećanje fleksibilnosti inovacionog sistema kompanije uz smanjenje rizika od neuspešnog tržišnog učešća novog proizvoda. Stariji sistemi inovacija su zatvoreni za tržište i potrošače. Čak i u slučajevima gde je kompanija imala informacije sa tržišta (kroz istraživanje tržišta, praćenjem trendova, izučavanjem potrošačkih navika, ...) zatvoreni sistemi inovacija nisu mogli ove informacije da koriste na najefikasniji način. Razlog je u tome što se previše vremena provede u skupljanju i interpretiranju informacija sa tržišta. U turbulentnim ekonomskim uslovima vreme je najvažniji resurs koji kompanija ne može da nadoknadi. Dok se skupe informacije sa tržišta i izvrši interpretacija istih dotle je moguće da se tržište promeni ili da se pojavi nova konkurencija sa sličnim idejama.

Postoji nekoliko postulata vezanih za sistem otvorenih inovacija: prvi postulat je veliki uticaj potrošača na sam proces kreiranja novog proizvoda, drugi postulati nalažu tesnu saradnju sa ostalim poslovnim partnerima. Prema filozofiji otvorenih inovacija ukoliko jedno preduzeće nije u stanju da podrži neku inovaciju, dužnost mu je da istu prepusti nekom drugom. Takođe, pored potrošača, mora se ostvariti tešnja saradnja sa dobavljačima i ostalim učesnicima u lancu snabdevanja.

Za ispravno funkcionisanje sistema otvorenih inovacija potrebno je imati veliku bazu znanja. „Skupljati široki spektar znanja i potvrditi upotrebljivost iste: uzimajte savete izvan vaše organizacije kako biste obezbedili širu perspektivu o tome kako sistem može i kako treba da funkcioniše.“ (Eriksson Lundstrom, J., S., Z., 2013, 161) Kolaboracija postaje ključni element u procesu otvorenih inovacija. Međutim, „otvoreni kolaborativni inovacioni projekti zbunjuju istraživače svojim karakteristikama, poput dobrovoljnog doprinosa i slobodnog otkrivanja tajni“ (Ehls, D., 2014, 50)

Na osnovu ovoga možemo reći da u sistemu otvorenih inovacija još postoji široko neistraženo polje, pa ipak ovaj sistem se pokazao kao jako dobar u pojedinim granama industrije. Na primer, u industriji opreme za ekstremne sportove velika većina novih proizvoda potiče od samih korisnika. Naravno, u nekim granama industrije ne možemo se

osloniti na korisnike kao nosioce inovativnih ideja. Sa druge strane, pojedini korisnici imaju ideje i visoko su motivisani za kreiranje novih proizvoda, ali im nedostaju tehnička znanja. Uspešan model kreiranja novog proizvoda baziranog na otvorenim inovacijama mora posedovati komponentu tehničke podrške zainteresovanim korisnicima.

5. MARKETING NOVOG PROIZVODA

Tokom pedesetih i šezdesetih godina dvadesetog veka dolazi do afirmacije marketinga, veze između preduzeća i tržišta postaju jače, ali i dalje postoje prepreke. Marketing, naročito u drugoj polovini dvadesetog veka je bio usmeren ka identifikaciji ciljnog tržišta korišćenjem segmentacije i statističkih metoda. Raznim istraživanjima tržišta tražila se niša u kojoj će proizvod biti pozicioniran, ali ove metode nisu najbolje oslikavale realnost. Dešavalo se da se razvija jedan proizvod za neki segment tržišta koji ne postoji, postoje samo numerički rezultati i nagađanja vezana za dati segment tržišta.

Problem marketinga novog proizvoda uvek nosi veliku količinu rizika. Kao prvo, svaki proizvod ide ka tome da zadovolji neku potrebu potrošača. Novi proizvod može biti toliko radikalno i nov da potrošači nisu ni svesni da imaju neku potrebu koju bi zadovoljili, ili bolje rečeno, latentne potrebe još nisu dovoljno artikulirane. Manje radikalni proizvodi mogu biti odbačeni od strane tržišta, jer postoje sigurnije alternative u vidu stranih proizvoda. Ovo može predstavljati problem, jer potrošači moraju prepoznati novi proizvod kao nešto što ima je potrebno.

Interesantna je činjenica da pojedine poslovne strategije zanemaruju marketing novog proizvoda. Na tržište izbacuju nove proizvode bez prethodnih istraživanja tržišta i reklamnih kampanja. Međutim, to su granični slučajevi koji su povezani sa određenim granama industrije (na primer: kozmetička industrija ili prehrambena) i kod proizvoda male vrednosti. Treba naglasiti da većina biznisa to ne može sebi da dopusti. Rizici od enormnih troškova i gubljenja tržišnog udela su preveliki da bi se na slepo išlo u prodaju novog proizvoda. Filip Kotler to ilustruje sledećom rečenicom: "Mnoge kompanije, međutim, veruju da ispitivanje tržišta može dati vredne informacije o kupcima, dilerima, efektivnosti marketing programa i tržišnih potencijala" (2012, 585).

Merilo uspeha marketing strategije svakog preduzeća je ponovna kupovina iste marke proizvoda i stvaranje lojalnosti kod potrošača. Kvalitete kao necenovni instrument konkurentnosti diktiran je pre svega zahtevima tržišta. Opstanak na tržištu obezbeđuje samo ona preduzeća koja su u stanju da nadmaše konkurente, a to znači biti sposoban, ponuditi *pravi kvalitet* proizvoda i usluga na *pravom mestu*, u *pravo vreme* i na *pravi način*, tj. poslovati po principu *just in time*." Sistem kvaliteta nije statičan već mora biti podložan stalnim poromenama, usavršavanjima i unapređenjima, jer je konkurentna prednost "pokretna meta". Da bi se mogli zadovoljiti rastući zahtevi potrošača neophodno je permanentno povećavati nivo kvaliteta. (Simin, M., 2012, 52).

Zahvaljujući Internet tehnologijama moguće je kreirati čitavu marketinšku kampanju za relativno kratko vreme uz minimalna ulaganja. Međutim, nove tehnologije pored brzine i veće kontrole troškova nude i izuzetno jake povratne veze. Svaka informacija sa tržišta je od izuzetnog značaja za kompaniju, ono što je važno jeste da se IT rešenjima može uspostaviti direktan kontakt sa potrošačima. Na osnovu ovoga moguće je pokrenuti sistem otvorenih inovacija gde bi korisnici mogli direktno uticati na kreiranje novog proizvoda.

Dolazimo do toga da IT rešenja pružaju višestruku korist i to u skupljanju podataka sa tržišta za potrebe istraživanja istog, lansiranje marketinške kampanje i pružanje povratne veze. Naravno, nemoguće je očekivati tržišni uspeh bez korišćenja drugih marketinških

kanala, ali Internet kao platforma preuzima sve više marketinškog prostora naročito kad se radi o novom proizvodu.

I pored svih prednosti koje pružaju Internet tehnologije, kvalitet proizvoda je od presudnog značaja za tržišni uspeh. Već smo naglasili da postoji problem tehničkog i opazajnog kvaliteta. Onaj poslednji je čisto subjektivan i u domenu je marketinga kao glavnog nosioca ideja i filozofije koja stoji iza određenog proizvoda. Sa ovim ciljem, marketing novog proizvoda mora biti u harmoničnom odnosu sa razvojem i proizvodnjom istog gde se mora postići slobodan protok informacija. Nažalost, postoji veliki problem translacije ideja i zahteva tržišta prema tehničkim karakteristikama. Na sreću, postoji niz tehnika koje se mogu iskoristiti za „pomirenje“ zahteva potrošača i tehničkih karakteristika. Jedna od cenjenijih metoda je kuća kvaliteta gde se sa jedne strane stavljaju zahtevi potrošača, a sa druge strane tehničke karakteristike. Kroz sistem ocenjivanja i vrednovanja karakteristika moguće je iskristalizovati tržišne zahteve.

6. INTEGRALNI LOGISTIČKI SISTEM

Do sada smo opisivali pojedine procese razvoja novog proizvoda, međutim, ono što nedostaje jeste integrator celokupnog razvojnog napora. Logično je da se integracija kreira u najbližoj tački spajanja svih pomenutih procesa. Ta tačka je logistika, koja je po svojoj prirodi izuzetno kompleksna i pruža ogromne mogućnosti integracije različitih procesa i funkcija kompanije. Starije definicije opisuju logistiku kao veštinu u upravljanju materijalnim tokovima, međutim, u modernom poslovnom okruženju logistika je mnogo više od upravljanja materijalnim tokovima. Kroz logistiku je moguće upravljanje vrednostima koje kompanija isporučuje potrošačima. Moguće su velike uštede u logističkom sistemu što daje dodatni motiv poslovnim ljudima da više obrate pažnju na logistiku.

Logistika ima i dalje veliku ulogu u kreiranju i upravljanju materijalnim tokovima. „Kreiranje materijalnih tokova znači eliminisanje celokupnog vremena koje materijal i informacije u sistemu provedu čekajući. Dok materijali čekaju, ništa se ne dešava, tako da nemamo povećanja vrednosti“ (Coimbra, A., E., 2013, 130). Ovo je jako važna činjenica koja nam govori o tome da je potrebno pažljivo planiranje kako bi logistički sistem pravilno funkcionisao.

Pre nego, što se kreiraju planovi potrebno je kreirati sistemsku strategiju, koja mora biti adekvatna kako bi se uspostavio pravilan logistički sistem. Međutim, „implementacije systemske strategije za proširenu mrežu zahteva centralizovanu nabavku i centralno terminiranje,“ (Gudehus, T., Kotzab, H., 2009, 111). Ovi centralizovani sistemi moraju imati jaku IT podršku, kao i jaku internu organizaciju. „Najveća opasnost centralizovanog terminiranja i planiranja je primena systemske strategije bez osiguranja svih pozitivnih efekata, dok su u isto vreme negativne konsekvence nedovoljno poznate i zanemarivane“ (Gudehus, T., Kotzab, H., 2009, 111). Drugim rečima, potrebno je veoma dobro poznavati anatomiju poslovnih procesa u kompaniji, u suprotnom je moguća pojava izuzetno velikog broja problema. Logistika je izuzetno važan segment poslovanja i dodiruje veliki broj poslovnih funkcija, tako da je sa pojavom greške moguć domino efekat. Jedna greška može izazvati čitav niz drugih grešaka, na primer pogrešno naručen materijal za potrebe proizvodnje može usporiti proizvodni proces, napraviti problema u skladištu i administraciji itd.

Rad se bazira na procesu razvoja novog proizvoda, međutim, kako bi kompanija uspešno poslovala mora posedovati određeni stepen ambideksternosti. Drugim rečima, pored razvoja novog proizvoda kompanija mora posedovati jake kapacitete za upravljanje

tekućim poslovima. Mnoge kompanije su rešile taj problem tako što su kreirale paralelne logističke tokove. Prvi tok je operativni i bavi se upravljanjem svakodnevnim poslovnim aktivnostima dok je drugi tok vezan za razvoj novih proizvoda. Mesto spajanja ova dva toka je centralizovani sistemi nabavke i terminiranja. Na ovaj način moguća je podela resursa bez gubitaka informacija, vremena i ostalih resursa.

Logistički lanac snabdevanja pruža mogućnosti spajanja dobavljača, proizvođača, trgovaca i kupaca. Ovde informacije igraju veliku ulogu, a mogućnosti greške su velike. Za potrebe razvoja novog proizvoda mora se uvek polaziti od toga za koga se proizvod razvija i da li novi proizvod ima adekvatnu logističku podršku. Postoje posebne metode razvoja novog proizvoda kojima je početna tačka razvoja logističke mogućnosti kompanije. Ukoliko se ne vodi računa prilikom razvoja novog proizvoda o logističkom lancu može doći do tržišnog debakla, a razloga za to je više. Najveći problem je izbor pouzdanih dobavljača.

Loši dobavljači često imaju problema sa kontrolom kvaliteta, tako da je kontrola ulaznih vrednosti u domenu proizvođača. Ovakva situacija nažalost dodatno opterećuje proizvođače, poskupljuje proizvodnju, gubi se vreme na proveru kvaliteta. Problemi vezani za poskupljenje proizvodnje mogu biti dvojadi. Prvi problem nastaje ukoliko se nađe greška u ulaznim vrednostima, tada je potrebno naručiti ispravne sirovine. Drugi problem nastaje ukoliko se ne detektuju problemi i tada se dobija neadekvatan proizvod. U oba slučaja problemi mogu dovesti do gubitka tržišnog udela. Konkurencija koja ima bolji logistički lanac će brže, lakše i jeftinije da funkcioniše.

Uvođenje nekog standarda upravljanja kvalitetom u logističkog lancu snabdevanja može dovesti do smanjenja troškova poslovanja kao i povećanja efikasnosti celokupnog poslovno – proizvodnog sistema. Međutim, upravljanje kvalitetom ne sme da bude rigidno i previše restriktivno. U suprotnom, može naškoditi procesu razvoja novog proizvoda. Neki standardi upravljanja kvalitetom poput ISO standarda su nažalost previše restriktivni i mogu postati smetnja za postizanje višeg stepena kreativnosti.

Međutim, „kaizen“ filozofija se može koristiti i u logističkom lancu snabdevanja. Ova filozofija je okrenuta ka upravljanju kvalitetom uz održavanje određenog stepena kreativnosti. Sa druge strane, „kaizen“ filozofija nije standardizovana poput ISO standarda, tako da je teško razlikovati organizacije koje se samo deklarativno zalažu od onih koji su stvarno okrenute ka upravljanju kvalitetom. Međutim, različiti autori koji se bave upravljanjem kvalitetom slažu se sa time da kad se jednom organizacija „zarazi“ kaizenom ona sve više postaje deo organizacije.

Logistička moć preduzeća se ogleda u tome koliko lako može da se koriste različita sredstva koja olakšavaju poslovanje. Na primer, Internet platforma pruža velike mogućnosti spajanja proizvođača, dobavljača sirovina, trgovačkih lanaca, pa i samih finalnih kupaca. IT rešenja nude veliku fleksibilnost u upravljanju tokovima informacija. Sa druge strane, sistemi prevoza su u poslednjih nekoliko decenija drastično unapređeni. Danas je moguće slati pakete na adrese finalnih potrošača po izuzetno niskim cenama. Reverzibilnom logistikom je moguće kreirati sistem povlačenja neispravnih proizvoda uz pribavljanje informacija o mogućim problemima.

Reverzibilna logistika je jedan od segmenata logistike koji je u prošlosti bila potcenjena. U industrijskom dobu, gde je guranje proizvoda bila dominantna strategija, vraćanje proizvoda usled reklamacija je praktično bilo svedeno na minimum. Sa razvojem tržišta i povećanjem očekivanja potrošača reverzibilna logistika je od izuzetnog značaja. Kroz ovaj vid logističkog segmenta moguće je dobiti čitav niz benefita. Najvažniji benefit je zadovoljenje potrošača u slučaju pojave lošeg proizvoda. Drugi benefit je vezan za ponovno iskorištavanje materijala iz lošeg proizvoda. Treći benefit je informacija o

greškama i na kraju treba naglasiti da je reverzibilna logistika u skladu sa ekološkim zahtevima modernog poslovanja.

7. MODEL UPRAVLJANJA KVALITETOM SA CILJEM POBOLJŠANJA INKREMENTALNOG RAZVOJA NOVOG PROIZVODA

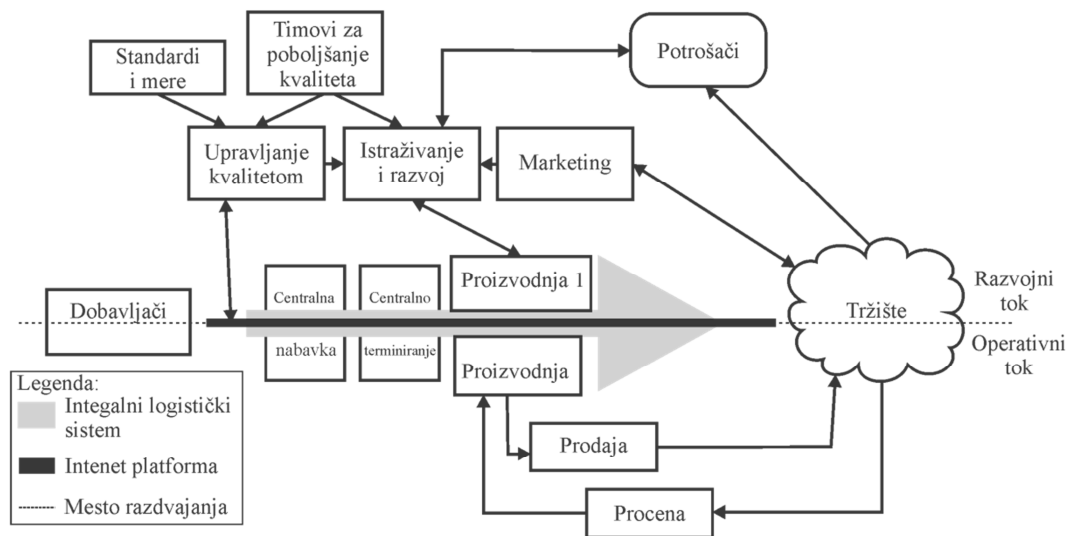
Na sledećoj slici prikazaćemo naš model upravljanja kvalitetom koji je pogodan za inkrementalni razvoj. U osnovi ovaj model uključuje nekoliko koncepata koje smo u prethodnom radu već opisali. Treba naglasiti da ovaj model pored teoretskog ima i praktičnu vrednost.

U samom srcu modela leže tržište i potrošači sa svojim željama i zahtevima. Celokupan model je podeljen na dva dela. Prvi deo je operativni i vezan je za održavanje celokupnog sistema. Drugi deo je vezan za razvoj proizvoda, poslovnih procesa i funkcija. Ceo model koji se bavi operativnim poslovima služi za isporuku postojećih vrednosti potrošačima. Na ovaj način model u sebi sadrži bitnu komponentu stabilnosti. Tako razvojni deo modela ne opterećuje celokupno poslovanje. Međutim, treba imati u vidu da je za ovakav model potrebno posedovati atraktivan proizvodni program koji donosi profit.

Razvojni deo modela služi za kreiranje budućeg proizvoda ili tehnologija koje bi trebalo da obezbede buduću stabilnost poslovnog sistema. Kroz celokupan model provlače se dve važne funkcije kompanije. Prva je integralni logistički sistem koji služi kao integrator ova dva odvojena toka, a druga funkcija je informatička u vidu internet platforme. Na osnovu ovoga imamo jaku logističku podršku sa snažnim informacionim sistemom koji je u stanju da pruži obilje informacija onima kojima je to potrebno.

Dobavljači i tržište se pojavljuju na samim „ivicama“ ovog modela jer nisu fizički deo kompanije, ali mogu postati integralni deo iste kroz logistički i informatički sistem. Za moderno poslovanje potrebno je izvršiti što je moguće jaču saradnju dobavljača i ciljanog tržišta. Zajednički deo modela se ogleda u centralizovanoj nabavci i terminiranju. Na ovaj način lakše je pratiti dva bitna resursa, vreme i novac.

Proizvodnja se pojavljuje u oba toka, međutim postoje bitne razlike. Proizvodnja koja se pojavljuje u operativnom toku je bazirana na masovnoj industrijskoj proizvodnji i služi za opsluživanje tržišta postojećim proizvodima. Proizvodnja 1 je vezana za razvojni tok i služi za kreiranje prototipova, koji su i pored virtualnih modela sastavni deo svakog razvojnog napora. Razvojna proizvodnja ima karakter zanatske proizvodnje i nije podesna za masovnu proizvodnju. Naravno, u nekim granama industrije ovakva podela proizvodnje nije dobra i prototipovi se kreiraju direktno na postojećim proizvodnim linijama. Međutim, kod proizvodnje skupih proizvoda više se isplati kreiranje posebnog proizvodnog pogona.



Slika 2. Model upravljanja kvalitetom

Prodaja je deo operativnog toka i služi za praćenje ugovorenih obaveza između kupaca i proizvođača. Ovde postoji jaka administrativna komponenta koja podržava operativu. Ova funkcija je podesna za proizvode koji imaju visok procenat tržišnog učešća i gde nema potreba za jačim marketinškim naporima. Procena, sa druge strane, je vezana za reverzibilnu logistiku i služi za ispunjenje reklamacija sa tržišta. Ovaj deo modela je jako važan jer daje uvid u efikasnost proizvodnog sektora, takođe ove informacije su od presudnog značaja kod budućeg razvoja. Treba naglasiti da se posle procene oštećenja i ostalih razloga reklamacije dobar deo materijala vraćenog proizvoda može vratiti u proces proizvodnje.

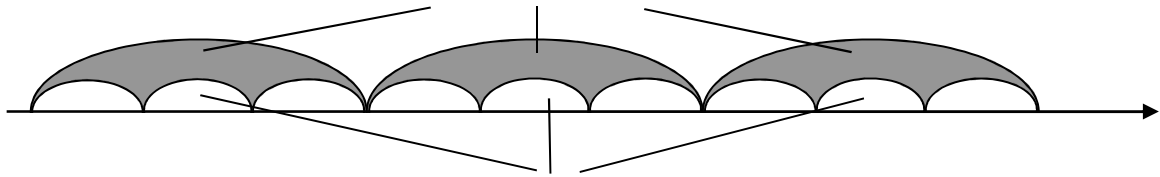
Na strani razvojnog toka imamo nekoliko bitnih segmenata. Prvi je upravljanje kvalitetom, koji se može posmatrati kao integralni deo proizvodnje i operativnog toka. Međutim, upravljanje kvalitetom se pokazalo kao jako moćno sredstvo za formiranje razvojnog toka kompanije. Bitni delovi upravljanja kvalitetom su standardi i mere koje su osnovne ulazne vrednosti za kvalitet. Standardi i mere su često rigidnog karaktera i služe za postizanje višeg nivoa kvaliteta korišćenjem određenih dokazanih metoda. Iza ovih standarda i mera stoje sertifikacione kuće koje nadziru implementaciju i funkcionisanje usvojenih standarda upravljanja kvalitetom. Sa druge strane, imamo jak uticaj timova koji se bave poboljšanjem kvaliteta. Za inkrementalni razvoj jako je važno imati saradnju sa svim zaposlenima u kompaniji bez obzira na hijerarhijski nivo. Ovaj segment je važan za uspostavljanje kratkoročnih, ali stalnih unapređenja kvaliteta.

U centru razvojnog toka nalazi se sektor za istraživanje i razvoj, koji je od ključne važnosti za kreiranje novog proizvoda. U ovom sektoru su okupljeni ljudi koji su prošli kroz rigorozan trening koji proširuje znanja i iskustva postojećeg kadra ka inovativnosti. Treba naglasiti da su inženjerski i inovatorski poslovi slični mnogim segmentima, ali da ipak postoje bitne razlike. Najveća razlika je ta što inovatori moraju da budu izuzetno kreativni i da razmišljaju van uobičajenih normi. Pored razvoja i istraživanja ovaj sektor može da pruži jaku podršku učesnicima tima za poboljšanje kvaliteta kao i korisnicima koji se uključuju u proces kreiranja novog proizvoda.

Marketing kao bitan element je tu da istražuje tržište, podržava razvojne napore, povećava svest potrošača o postojanju novog proizvoda i sl. Ono što je veoma važno kod marketinga je da on može pronaći latentna tržišta i nove zahteve potrošača. Iako je teško otkriti skrivene želje i zahteve, postoje tehnike kojim se i to može u nekoj meri postići.

Svaka informacija sa tržišta je značajna i na osnovu nje može se smanjiti rizik u poslovanju.

Potrošači koji žele da se uključe u razvoj novog proizvoda su dobrodošli, ali njima se mora pružiti jaka podrška. Često se dešava da potrošači imaju izuzetno zanimljive i korisne ideje. Međutim, nedostaje im tehničko znanje. Već smo naglasili da sektor istraživanja i razvoja može poslužiti kao podrška u smislu treninga i mentorisanja zainteresovanih učesnika.



Slika 3. Odnos inkrementalnog razvoja i „klasičnog“ razvoja

Na prethodnoj slici možemo videti odnos inkrementalnog i „klasičnog“ razvoja. Kod inkrementalnog razvoja možemo videti sitne skokove u unapređenju proizvoda i poslovnih procesa. Sa druge strane, „klasičan“ razvoj je skokovit i brzo se kreće. Vremenski gledano skokoviti razvoji su relativno ređi od inkrementalnog razvoja. Drugim rečima, dok konkurencija dođe do novog proizvoda klasičnim razvojem kompanija već može da ima adekvatan proizvod sa nekim manjim inovacijama u sebi. Na ovaj način je lakše održati tržišno učešće i samim tim isplativiji je ovakav način poslovanja.

8. OGRANIČENJA MODELA

Model je pre svega kreiran za akademske potrebe i nedostaje mu niz bitnih elemenata kako bi dobio praktičnu dimenziju. Naime, ovaj model služi kao okvir za kreiranje inovacionog modela baziranog na inkrementalnom razvoju uz održavanje netaknutih operativnih funkcija kompanije. On pruža stabilnost poslovanja i očuvanje tržišne pozicije, na ovaj način kreira se sistem koji ima niži stepen rizika prilikom razvoja novog proizvoda i/ili poslovnih procesa. Ovim se postiže viši stepen podrške višeg menadžmenta razvojnim naporima kompanije.

Ambidekstrane organizacije, koje poseduju operativni i razvojni tok su u praksi poznate. Primer za ovo je kompanija „Eurocopter“ koja favorizuje ovakav model poslovanja. Na ovaj način u akademski model uneli smo i iskustva iz realnog poslovanja.

Pored ambideksternosti model u sebi sadrži niz koncepata koji su važni za pravilno funkcionisanje modela. Nažalost, usled brojnih koncepata može doći do problema oko upravljanja i rukovođenja. Neke funkcije su na prvi pogled u direktnoj suprotnosti, na primer inkrementalni i „klasični“ razvoj bi trebalo da budu u antagonizmu. Međutim, u

praksi se pokazalo da suprotstavljene filozofije mogu da koegzistiraju ukoliko postoji kvalitetan menadžment.

Olakšavajuća okolnost modela je da su već niz godina svi pomenuti koncepti u upotrebi, neki koncepti su se čak pokazali kao delotvorni u turbulentnom poslovnom okruženju koje je nametnula svetska ekonomska kriza. Pa ipak, model je pre svega akademskog karaktera i služi isključivo za izučavanje poslovnih procesa.

9. ZAKLJUČAK

I pored svih ograničenja modela, istraživačima u poslovnoj sferi otvaraju se niz novih mogućnosti. Kombinacijama različitih koncepata moguće je stvoriti jak sinergijski efekat na osnovu kojeg je moguće postići konkurentski prednost. Tržište postaje sve izbirljivije i zahteva sve kvalitetnije i jeftinije proizvode. Kroz inkrementalni razvoj moguće je dodavati novu vrednost proizvodima i to na nekoliko nivoa. Na nivou funkcionalnosti moguće je dodavati različite attribute kojima se proširuje upotreba starog proizvoda. Mnogi proizvodi su danas doživeli „renesansu“ dodavanjem mogućnosti upravljanja uređajima putem Interneta ili izbacivanjem štetnih i opasnih materijala. Na nivou tehnologije proizvodima je moguće smanjiti cenu koštanja usled smanjenja škarta i loma. Na ovaj način se štede ulazni materijali. Nivo organizacije nudi uštede u radu i eliminisanje nepotrebnih operacija koja dodatno poskupljuju proizvode.

Druga velika prednost modela je korišćenje višestrukih izvora ideja za kreiranje novih proizvoda. Novi proizvod, po ovom modelu može nastati usled inkrementalnog razvoja, marketing istraživanja ili uticaja samog potrošača. U svakom slučaju inkrementalni razvoj je najvažniji jer pored kreiranja novog proizvoda, inkrementalnim razvojem postiže se kontinuitet, a čitava organizacija se uključuje. Uticaj organizacije na proces kreiranja novog proizvoda je od izuzetno velikog značaja, stalno unapređenje nudi kreativnu slobodu svima u organizaciji i to može postati izuzetno moćan motivator.

REFERENCE

1. Christoph H., Loch, Stephen E., Chick, Arnd Huchzermeier (2008) „*Management Quality and Competitiveness Lessons from the Industrial Excellence Award*“, Springer, Heidelberg, Germany
2. Coimbra, A., E. (2013) „*Kaizen in Logistics and Supply Chains*“, McGraw Hill, New York, USA
3. Ehls, D. (2014) „*Joining Decisions in Open Collaborative Innovation Communities: A Discrete Choice Study*“, Springer Galber, Hamburg, Germany
4. Eriksson Lundstrom, J., S., Z., Wiberg, M., Hrastinski, S., Edenius, M., Agerfalk J. P. (2013) „*Managing Open Innovation Technologies*“, Springer, Uppsala, Sweden
5. Gudehus, T., Kotzab, H. (2009) „*Comprehensive Logistics*“, Sprineger, New York, USA
6. Herzog, P. (2007) „*Open and Closed Innovation: Different Cultures for Different Strategies*“, Gabler edition wissenschaft, Berlin, Germany
7. Imai, M. (2012) „*Gemba Kaizen: A Commonsense Approach to a Continuous Improvement Strategy 2/E*“, McGraw-Hill, London, UK
8. Janjušić, D. (2011) „*Menadžment kvaliteta*“, Cekom, Novi Sad, Srbija

9. Kotler, P., Keller, L., K. (2012) „*Marketing Management, 14 ed.*“, New Jersey, Prentice Hall, USA
10. Levi-Jakšić, M. (2004) „*Upravljanje tehnološkim inovacijama*“, Čigoja štampa, Beograd, Srbija
11. Makasi, I. (2008) "*Kaizen - ključ japanskog poslovnog uspeha*", Mono i Manjana, Beograd, Srbija
12. Ristić, D. (2007) „*Osnovi menadžmenta*“, Cekom, Novi Sad, Srbija
13. Ristić, D. i sar. (2007) „*Upravljanje kvalitetom*“, Cekom, Novi Sad, Srbija
14. Simin, M. (2012) „*Intelektualna svojina i mala i srednja preduzeća*“, monografija, Zadužbina Andrejević, Beograd, Srbija

THE ROLE OF TQM AND BPR CONCEPTS IN ERA OF KNOWLEDGE ECONOMY

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Abstract: Considering that business in the era of knowledge economy requires a fully satisfying the needs of customers, the importance of getting concepts of Total Quality Management and Business Process Reengineering. Both concepts are focused on the long-term success through the satisfaction of all stakeholders in the enterprise. In their focus on the quality of the business processes that will ensure the quality of products / services being offered to the consumer. The main purpose of this paper is to explain the basics of process orientation as an essential element of the overall quality management. On the other hand, will be presented characteristics, comparative analysis methodology of reengineering and its comparison with the concept of quality.

Keywords: Total Quality Management ,Business Process Reengineering, Process orientation

ULOGA KONCEPATA TQM I BPR U ERI EKONOMIJE ZNANJA

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Apstrakt: Imajući u vidu da poslovanje u eri ekonomije znanja zahteva potpuno zadovoljenje potreba kupaca, na značaju su dobili koncepti upravljanja ukupnim kvalitetom i reinženjering poslovnih procesa. Oba koncepta su usmerena na dugoročan uspeh kroz zadovoljstvo svih stejkholdera preduzeća. U njihovom fokusu je kvalitet poslovnog procesa koji će obezbediti kvalitet proizvoda/usluge koji se nudi potrošaču. Osnovna svrha ovog rada jeste da objasni osnove procesne orijentacije kao bitnog elementa upravljanja ukupnim kvalitetom. Sa druge strane, biće iznete karakteristike, komparativna analiza metodologija reinženjeringa i njeno poređenje sa konceptom kvaliteta.

Ključne reči: upravljanje ukupnim kvalitetom, reinženjering poslovnih procesa, procesna orijentacija

1. DETERMINANTE KVALITETA I KREIRANJE VREDNOSTI ZA POTROŠAČE

U savremenim uslovima poslovanja kvalitet je značajan faktor konkurentnosti. Stoga, menadžment preduzeća prilikom formulisanja i implementacije strategije uzima u obzir kvalitet i posmatra ga sa stanovišta potrošača. Kvalitet je u fokusu interesovanja svih preduzeća koja žele na najbolji način da zadovolje zahteve korisnika, pa se često može čuti da je 20. vek bio vek produktivnosti, ali 21. vek je zasigurno vek kvaliteta [27]. Kvalitetom su se praktično bavili i odredili ga Walter Shewhart [25], Joseph Juran [17], Edwards Deming [5], Armand Feigenbaum [7], Kaoru Ishikawa [15], Genichi Taguchi [29], Philip Crosby [4] i dr.

Većina ovih autora su jedinstveni po pitanju toga da kvaliteti definišu kao usaglašenost sa zahtevima. Misli se na zahteve korisnika rezultata određene aktivnosti ili procesa. Usklađenost sa zahtevima mora da postoji u smislu kvantiteta, ali i kvaliteta; isticanjem značaja zahteva korisnika, a ne samo potrošača, pokazuje se da kvalitet mora da prati svaki proces od početka do kraja, jer se zahtevi krajnjeg korisnika (potrošača) mogu ispuniti jedino ukoliko su ispunjeni zahtevi svih korisnika koji realizacijom određenih aktivnosti dodaju vrednost proizvodu. Sličan stav iznosi i *Međunarodna organizacija za standardizaciju* [30] definišući kvalitet kao skup svih karakteristika nekog entiteta koje se odnose na njegovu mogućnost da zadovolji potrebe koje su iskazane i koje se podrazumevaju. Pri tome, entitet može biti aktivnost, proces, proizvod, preduzeće, sistem ili pojedinac.

Tri bitne determinante koncepta kvaliteta kojima treba posvetiti pažnju su svakako: kvalitet proizvoda, kvalitet procesa i kvalitet preduzeća. *Kvalitet proizvoda* je određen stepenom upotrebne vrednosti u zadovoljavanju stvarnih potreba potrošača, ali i ostalih zainteresovanih strana. U svojoj osnovi, ovaj aspekt se odnosi na obezbeđenje karakteristika proizvoda kao rezultata procesa u granicama definisanim specifikacijama [3]. Ovi zahtevi postaju ultimativni i ukoliko ih preduzeće ne ispuni u određenom periodu postepeno gubi kupce, a time prihod i dobit. *Kvalitet procesa* pokazuje način funkcionisanja aktivnosti u procesu sa ciljem da zadovolji potrebe neposrednih procesnih izvršilaca. Kvalitet poslovnih procesa i kvalitet proizvoda biće u potpunosti povezani. Ukoliko se primeti da proizvod ne zadovoljava potrebe potrošača, neophodno je raditi na kontinuiranom poboljšanju kvaliteta procesa. Od kvaliteta poslovnog procesa zavisiće kvalitet ponuđenog proizvoda. *Kvalitet preduzeća* je društveno orijentisan i povezan je sa kvalitetom života građana, a okrenut je, takođe, obezbeđenju zaštite zdravlja ljudi, životne okoline i prirodnih resursa [19].

Da bi ostvarilo visok kvalitet ekonomije preduzeća, neophodno je raditi na unapređenju kvaliteta proizvoda i usluga. To je moguće ostvariti ukoliko se na odgovarajući način upravlja poslovnim procesima i aktivnostima koji omogućavaju da proizvod poseduje željene karakteristike. Iz tog razloga, upravljanje kvalitetom nije neka izdvojena aktivnost koja se nadovezuje na proizvodne i druge aktivnosti preduzeća, već efikasan način za njihovo sprovođenje. "Primenom elemenata upravljanja kvalitetom u svim aspektima poslovanja dolazi se do koncepta *upravljanja ukupnim kvalitetom*. Postao je sastavni element poslovnog razmišljanja i neizbežni strategijski alat preduzeća savremene tržišne privrede. Predstavlja svojevrsnu filozofiju menadžmenta, način mišljenja i delovanja koji doprinosi usklađivanju interesa različitih stejkholdera preduzeća."

2. PROCESNA ORIJENTACIJA KAO ELEMENT KONCEPTA UPRAVLJANJA UKUPNIM KVALITETOM

Upravljanje ukupnim kvalitetom (TQM) je koncept stalnog unapređenja poslovnih performansi preduzeća sa ciljem otkrivanja, definisanja, planiranja i rešavanja problema vezanih za kvalitet. TQM je usmeren na povećanje efikasnosti preduzeća kroz povećanje produktivnosti, bolje zadovoljenje potreba potrošača, podržavanje inovacija, razvoj komunikacije i povećanje poverenja u proizvod/uslugu i u funkcionisanje celog preduzeća. "U njegovoj suštini je pojam kvaliteta i to kvaliteta proizvoda i usluga, ali pre svega kvalitet poslovnih procesa koji će obezbediti potreban kvalitet proizvoda, odnosno usluga. U fokusu je, u stvari, kvalitet ekonomije preduzeća kvantifikovan nizom finansijskih i nefinansijskih merila performansi njegove upotrebe." [19]

Prema standardu serije ISO 8402, upravljanje ukupnim kvalitetom predstavlja "*pristup upravljanju baziran na kvalitetu i zasnovan na učešću svih članova preduzeća i poslovnih procesa, sa ciljem dugoročnog uspeha preko postizanja zadovoljstva korisnika i postizanja koristi za članove preduzeća i društva u celini*". Iz definicije se uočava da je TQM upravljački mehanizam kojim preduzeće razvija kvalitet kao svoj osnovni strateški cilj. Najvažniji elementi sistema upravljanja ukupnim kvalitetom čine:

- Fokus na *postizanje zadovoljstva kupca*. Jedan od osnivača koncepta, *Joseph Juran* [17, str. 5], definisao je kvalitet kao "*prilagođenost za upotrebu*". Kvalitet ne definiše iz tehničkog, već iz ugla kupca. To znači da je kupac jedini merodavan da definiše kvalitet preko svojih želja i očekivanja.
- *Usmerenje na poslovne procese preduzeća* jeste ključni element koji se sprovodi u cilju dizajniranja procesa koji će biti u funkciji zadovoljenja potreba potrošača. Ova usmerenost podrazumeva implementaciju faza selekcije procesa, evaluacije i standardizacije poslovnih procesa.
- *Težnja kontinuiranom poboljšanju* je elemenat koji podrazumeva neprekidno poboljšanje svih procesa i aktivnosti koji postoje u okviru preduzeća. Ovaj koncept podrazumeva poboljšanje koje se sprovodi kroz postepene, parcijalne i evolutivne promene. Za sprovođenje poboljšanja procesa mogu biti zaduženi specijalno formiran inter-disciplinarni timovi za poboljšanje procesa. [16]
- *Zasnivanje odluka na činjenicama*. Preduzeća koja su orjentisana na trajno poboljšanje donose odluke na bazi činjenica, a ne na bazi mišljenja. To znači da se efektivne odluke baziraju na analizi informacija.
- *Učešće svih zaposlenih u donošenju odluka vezanih za kvalitet*. U okviru TQM filozofije zagovara se novi način upravljanja, koji podrazumeva uključenost svih zaposlenih u preduzeću, u cilju prevazilaženja nedostataka vertikalne organizacije i funkcionalno orijentisanog menadžmenta

Usmerenost na poslovne procese preduzeća jeste jedan od bitnijih elementata upravljanja ukupnim kvalitetom. Ovaj element TQM-a se sprovodi u cilju poboljšanja i standardizacije kvaliteta procesa koji će kao takav uticati na poboljšanje kvaliteta proizvoda.[1] Na taj način uticaće se na zadovoljavanja iskazanih potreba i potreba koje se podrazumevaju kod potrošača. Tri osnovne faze ovog elementa jesu *identifikacija, evaluacija i standardizacija poslovnih procesa*.

Identifikacija podrazumeva nastojanje menadžmenta preduzeća da utvrdi sve ulaze i izlaze iz komponentnih procesa, redosled odvijanja procesa i izdvoji one procese koji su od vitalnog značaja za obezbeđenje zahtevanog nivoa kvaliteta. Zbog toga se, u ovoj fazi, definišu tzv. ključni procesi, procesi koji su od odlučujućeg značaja za zadovoljenje zahteva kupaca, sa jedne strane i interesa preduzeća, sa druge strane. Polazna tačka ključnih procesa je utvrđivanje potreba, zahteva ili očekivanja kupaca, tako da u fokusu budu kupci i tržište, što je glavno usmerenje za preduzimanje akcija u preduzeću. Utvrđene potrebe, zahtevi ili očekivanja potrošača se prenose na preduzeće sa jezika potrošača na jezik razumljiv za realizaciju pojedinačnih poslovnih procesa preduzeća. U fazi *evaluacije* je neophodno sakupiti podatke o rezultatima procesa, izvršiti merenja i prikazati podatke u prikladnom obliku. Pored toga, neophodno je izvršiti analizu dobijenih rezultata i pripremiti ih u odgovarajućoj formi za izveštavanje. Analiza dobijenih rezultata će poslužiti kao osnova za poboljšanje kvaliteta procesa. I poslednja u nizu faza, jeste svakako faza *standardizacije* poslovnih procesa. To znači da ukoliko su implementirane nove procedure i one se pokazale kao uspešne, neophodno ih je standardizovati na nivou celog preduzeća.

U savremenim uslovima poslovanja, konkurencija nikada „ne miruje“ i nastoji da stalno unapređuje kvalitet svojih proizvoda i efikasnost poslovnih procesa. Kroz unapređenje performansi poslovnih procesa, preduzeća ostvaruju unapređenje kvaliteta proizvoda. [2] Na taj način utiče na zadovoljenje potreba kupaca (kako internih tako i eksternih)¹⁶, a indirektno na povećanje produktivnosti, smanjenje troškova poslovanja, povećanje dobiti, dugoročni rast i razvoj preduzeća.

3. REINŽENJERING POSLOVNIH PROCESA U FUNKCIJI RADIKALNOG POBOLJŠANJA I REDIZAJNIRANJA PROCESA

Michael Hammer i James Champy, doajeni koncepta reinženjeringa poslovnih procesa (BPR), tretirali su isti kao "fundamentalno razmišljanje i radikalno redizajniranje poslovnih procesa sa ciljem postizanja dramatičnih poboljšanja u kritičnim, savremenim merilima performansi, kao što su troškovi, kvalitet, usluga i brzina." [11, str. 32-34] Naime, njihovom knjigom "*Reengineering the Corporation: A Manifesto for Business Revolution*" determinisane su osnove reinženjeringa. Četiri ključna elementa iz prethodno pomenute definicije su: fundamentalno, radikalno, dramatično i procesi. [11, str.42-45]

Fundamentalno – Reinženjering podrazumeva temeljnu promenu. U sprovođenju reinženjeringa, menadžeri moraju da postavljaju najosnovnija pitanja o svojim preduzećima i načinu na koji ona rade: "Šta preduzeće radi?" i "Kako to radi?" Odgovor na ova pitanja traži od menadžera da preispitaju osnovna pravila i pretpostavke na kojima se posao zasniva i da utvrde na koji način ona utiču na njihove poslove. Često se ova pravila pokažu kao prevaziđena, pogrešna i neprikladna. Reinženjering podrazumeva traganje za odgovorima: "Šta preduzeće treba da radi?", kao i "Kako to treba da radi?" On, dakle, ignoriše ono što jeste i koncentriše se na ono što bi moglo biti. Misli se na dubinu i sveobuhvatnost promena.

*Radikalno*¹⁷ – Radikalni redizajn ne podrazumeva činjenje površnih promena, već odbacivanje svega starog. Misli se, dakle, na korenite promene. U reinženjeringu, radikalni

¹⁶ Ovde je neophodno razgraničiti pojmove internog i eksternog kupca. Kada je reč o internim kupcima, onda se misli na zaposlene u preduzeću, a kada se kaže eksterni kupac onda se misli na same konzumente proizvoda (kupce/potrošače).

¹⁷ Reč radikalno je izvedena iz latinske reči "radix", što znači koren.

redizajn znači zaobilaženje svih postojećih organizacionih struktura i procedura i osmišljavanje potpuno novih načina za obavljanje posla. Reinženjering je stvaranje (engl. invention) i ponovno stvaranje poslova (engl. reinvention). Reinženjering nije poboljšavanje poslova, povećavanje ili modifikacija posla.

Dramatično – Reinženjering nije način za postizanje marginalnih poboljšanja poslovnih performansi. Reinženjering bi trebalo primeniti samo kada postoji potreba za dramatičnim poboljšanjima performansi. Inkrementalna poboljšanja zahtevaju fino podešavanje, a dramatična poboljšanja traže razaranje starog i njegovu zamenu sa nečim znatno boljim. To znači da se najpre postavljaju dramatični, ekstremni ciljevi, a potom se procesi grade tako da se ti ciljevi i dostignu. *Hammer i Champy* su identifikovali tri vrste preduzeća [11, str.34] koje preduzimaju reinženjering. Prva su preduzeća koja se nalaze u velikoj nevolji i nemaju drugi izlaz. Druga su preduzeća koja još uvek nisu u nevolji, ali je njihov menadžment u stanju da predvidi probleme. Ovakva preduzeća imaju viziju da počnu sa reinženjeringom pre nego što se dogodi "nezgoda". Treća vrsta preduzeća koja vrše reinženjering su lideri na tržištu. Oni nemaju nikakvih problema, niti se oni naziru, ali je njihov menadžment ambiciozan i agresivan. Poboljšanjem izvršenja, ona teže da povećaju konkurentsku prednost još više i učine poslovanje nemogućim za ostale učesnike.

Procesi – Orijentacija na procese smatra se najvažnijim aspektom BPR. Hammer tvrdi da su skoro sva preduzeća okrenuta zadacima, ljudima i organizacionoj strukturi pre nego procesima. Idealno bi bilo da transformacija doda veću vrednost ulazu i kreira izlaz koji je korisniji krajnjem potrošaču. Kod BPR, fokus je na suštini odvijanja, realizovanja poslovnog procesa koji direktno pogađa potrošača i snabdevača. Menadžment preduzeća mora bazirati konkurentsku strategiju na kritičnim poslovnim procesima koji zahtevaju poboljšanja da bi se pobedila konkurencija. [12]

Reinženjering je, dakle, fundamentalan, radikalno i dramatičan pristup poboljšanju procesa i performansi. On se razlikuje od koncepta koji se zalažu za unapređenje performansi kroz inkrementalne promene. Inkrementalne promene su rezultat kontinuiranog poboljšanja onoga što preduzeće već radi. Da bi se performanse unapredile, potrebna je brza i radikalna promena koju afirmiše reinženjering, a koja je u skladu sa zahtevima okruženja.

Međutim, pojedini autori govore o mogućnosti primene dva pristupa programu reinženjeringa.[26] BPR može biti primenjen u formi radikalnog poboljšanja, odnosno kada se svi poslovni procesi u preduzeću bitno menjaju. Radikalni BPR projekti usmereni su ka rešavanju ugrentnih problema koji su, po svojoj prirodi, kritični za opstanak preduzeća. Zbog značajne dubine i širine poslovnog područja koje se menja, rizici i troškovi uključeni u taj program često su veliki. Upravo iz tog razloga preduzeća često pristupaju formi inkrementalnog poboljšanja, odnosno redizajniranju postojećih poslovnih procesa. Ovde se radi o projektima koji uključuju skromnija sredstva i kadrove i kada se ne radi o potrebi za urgentnim rešavanjem problema.

Forma radikalnog poboljšanja BPR-a podrazumeva težnju da se definišu potpuno novi procesi. Set procesa koji mogu biti objekat forme radikalnog poboljšanja veoma je heterogen: osnovni procesi, pomoćni procesi i menadžment procesi. REFERENCE o redizajniranju procesa često ističe važnost da se stvarno teži fundamentalnim i radikalnim promenama. Prema *Hammer-u* [11] put za promenu starih pravila i pretpostavki podrazumeva neopterećeno novo razmišljanje. Ovo se radi putem korišćenja tzv. "*postupka-praznog-lista*", što znači da se potpuno sa strane ostave postojeći procesi kako bi se iz osnova stvorili potpuno novi. U fokusu ovog načina jeste obezbeđenje dodatne vrednosti za kupca. Prakse koje su se jednostavno održale zato što su tradicionalne ili podesne za preduzeće brišu se ukoliko kupac od njih nema koristi. [10]

Forma inkrementalnog poboljšanja BPR-a, znači da se, polazeći od postojećih procesa, analiziraju njihove mogućnosti za poboljšanje. Redizajniranje procesa ide u pravcu smanjenja vremenskog trajanja procesa, smanjenja troškova, povećanja kvaliteta, povećanja efikasnosti i sl. Inkrementalno poboljšanje poslovnih procesa je kompleksno za primenu i sa elementima kojima se mora posvetiti velika pažnja. Poboljšanje procesa može biti u obliku *korekcije ili simplifikacije*. [18] Korekcija podrazumeva vraćanje procesa na tradicionalan nivo performansi, dok simplifikacija procesa podrazumeva njegovo pojednostavljevanje i tzv. skretanje procesa, odnosno, promenu jednog ili više njegovih koraka.

Reinženjering je izbalansiran i obuhvatan proces koji se razlikuje od nekih drugih koncepata [21]: 1) Reinženjering se razlikuje od racionalizacije, mada skoro uvek dovodi do povećanja produktivnosti; 2) Reinženjering se razlikuje od restrukturiranja, mada skoro uvek dovodi do organizacione promene¹⁸; 3) Reinženjering se razlikuje od automatizacije, iako koristi tehnologiju na kreativan i inovativan način. Automatizacija je usmerena ka modifikaciji, a ne ka radikalnoj promeni poslovanja; 4) Reinženjering se razlikuje od TQM, iako je uvek usmeren ka zadovoljstvu potrošača i procesima koji ga podržavaju. Poboljšanje kvaliteta teži stalnom inkrementalnom poboljšanju performansi procesa, dok reinženjering teži "rušenju" postojećih procesa, njihovom napuštanju i zameni sa potpuno novim procesima.

4. KOMPARATIVNA ANALIZA METODOLOGIJAREINŽENJERINGA POSLOVNIH PROCESA

Mnogi teoretičari i konsultanti su paralelno izrađivali sopstvene metodologije reinženjeringa poslovnih procesa. Bitna karakteristika jeste ispravno formulisanje faza metodologije koje će poslužiti za potrebe implementacije i koje će pritom garantovati uspeh u funkcionisanju preduzeća [28]. U Tabeli 1 su prikazane faze u metodologijama različitih autora, koje će poslužiti kao osnova za definisanje jedinstvene metodologije reinženjeringa procesa. Tačnije, u tabeli su pri dnu definisane neophodne faze od kojih bi jedna sveobuhvatna metodologija reinženjeringa trebala da se sastoji. U tome se, najpre, sagledavaju metodologije istaknutih autora u ovoj oblasti.

Prvu metodologiju su preporučili *Harrison i Pratt* [14]. Ovi autori polaze od toga da reinženjering treba da se sastoji od sledećih koraka: određivanje zahteva potrošača i ciljeva za poslovne procese, mapiranje i merenje postojećih procesa, analiziranje i modifikovanje postojećih procesa, dizajniranje novih procesa i implementiranje novih procesa.

Furey [8] ističe postojanje koraka reinženjeringa: podesiti pravac akcije (u smislu definisanja vizije projekta reinženjeringa), kreiranje ciljeva koji će se ostvariti, pokretanje projekta promena, implementiranje promena, redizajniranje poboljšanja i težnja kontinuiranom unapređenju.

Richard i Dewitte [23] smatraju da su osnovni koraci reinženjeringa: motivisanje zaposlenih za sprovođenje reinženjeringa, planiranje procesa reinženjeringa, podešavanje preduzeća za potrebe reinženjeringa, opis i analiza reinženjeringa, primena reinženjeringa, dizajniranje i proveravanje reinženjeringa.

Manganelli i Klein [21, str. 55] definišu nekoliko elemenata u njihovoj metodologiji reinženjeringa: pripremanje za koncept reinženjeringa, identifikovanje ljudi koji će sprovođiti koncept, definisanje vizije koncepta, menjanje socijalne strukture (u smislu

¹⁸ Racionalizacija i restrukturiranje znače – raditi manje sa manjim, dok reinženjering znači – raditi više sa manjim

broja zaposlenih, vrste i nivoa kvalifikovanosti, interakcija između zaposlenih, normi ponašanja...) i transformisanje organizacije.

Tabela 1. Upporedna analiza faza različitih metodologija BPR-a

Autori	Postojeće faze metodologija									
	<u>1</u>	<u>2</u>	<u>3</u>	<u>4</u>	<u>5</u>	<u>6</u>	<u>7</u>	<u>8</u>	<u>9</u>	<u>10</u>
Metodologija 1 <i>Harrison i Pratt</i>	√	√	√	√		√				
Metodologija 2 <i>Furey</i>	√			√		√	√		√	
Metodologija 3 <i>Richard i Dewitte</i>	√			√	√	√	√	√		
Metodologija 4 <i>Manganelli i Klein</i>	√			√	√	√				
Neophodne faze	Definisanje vizije i ciljeva za poslovne procese	Mapiranje i merenje procesa	Analiziranje i modifikovanje procesa	Identifikovanje procesa za reinženjering	Definisanje neophodnih resursa	Implementacija novih procesa	Redizajniranje novih procesa	Evaluiranje novih procesa	Unapređenje redizajniranih procesa	Standardizovanje procesa

Izvor: Kahrović, E., (2012) *Upravljanje performansama poslovnih procesa u funkciji povećanja efikasnosti preduzeća*, Ekonomski fakultet, Niš, str. 20

Uprkos nekim zajedničkim fazama, kao što su definisanje vizije i ciljeva za poslovne procese, identifikovanje procesa za reinženjering i implemetiranje novih procesa, mnogo su veće razlike koje između navedenih metodologija postoje. Zapaža se da se pomenute metodologije, uglavnom, završe implementacijom novih procesa. Koju metodologiju će preduzeće implementirati zavisi od većeg broja različitih faktora, kao što su: kulturne razlike, stil upravljanja, odnosi između zaposlenih i sl. To, zapravo, znači da ono što je dobro za jedno, ne mora biti prihvatljivo za drugo preduzeće upravo zbog različitih faktora uticaja i subjektivnog izbora menadžera. Analiziranjem tabele mogu se zapaziti još neki nedostaci ovih metodologija:

- Metodologija 2, 3 i 4 u potpunosti zanemaruju aspekte koji se tiču razumevanja postojećih procesa, odnosno mapiranje i merenje postojećih procesa, kao i analiziranje i modifikovanje postojećih procesa. Ove metodologije otpočinju sa identifikacijom novih procesa koji će biti predmet reinženjeringa;
- Metodologija 1 i 2 veoma malu pažnju posvećuju definisanju resursa neophodnih za reinženjering. Zanemaruju se tehnički, finansijski i elementi koji se tiču pružanja podrške i obuke zaposlenima za implementaciju novog koncepta;
- Metodologija 1 i 4 ne realizuju fazu ponovnog dizajniranja procesa, ukoliko se uvidi da nešto u procesu ne funkcioniše onako kako je planirano. Takođe, evaluaciji se ne pridaje zadovoljavajući značaj u metodologijama 1, 2 i 4;

- Osim metodologije *Furey-a*, razvijenoj u napred citiranom radu, koja posvećuje pažnju kontinuiranom unapređenju redizajniranih poslovnih procesa, ostale metodologije u potpunosti zanemaruju tu fazu, kao i fazu koja bi trebala da se tiče institucionalizacije redizajniranih procesa na nivou preduzeća kao celine.

Nepostojanje tačno utvrđenog metodološkog postupka za sprovođenje reinženjeringa poslovnih procesa može biti jedan od razloga zašto veliki broj preduzeća koja su se opredelila za ovu vrstu promena, nisu postigla željene rezultate. Na osnovu navedenih koraka kod pojedinačnih metodologija različitih autora, kao i nedostataka, moguće je izvesti neophodne faze od kojih bi jedna sveobuhvatna metodologija reinženjeringa trebala da se sastoji.

Faza 1: Definisanje vizije i ciljeva za poslovne procese. Ova faza podrazumeva definisanje vizije preduzeća. Vizija treba da bude tako formulisana sa namerom da jasno pokazuje u kom pravcu preduzeće ima nameru da se kreće, pritom u potpunosti uvažavajući potrebe i želje potrošača. Na osnovu vizije je neophodno definisati ciljeve za postojeće poslovne procese u preduzeću.

Faza 2: Mapiranje i merenje procesa. Razumevanje postojećih procesa je mnogo bitnije od kreiranja novih procesa. Sa tim u vezi se ističe potreba za mapiranjem i merenjem postojećih procesa. Mapiranje daje odgovor na pitanje kako procesi i aktivnosti međusobno utiču jedni na druge u preduzeću i u kakvom su odnosu sa spoljnim okruženjem. Sa druge strane, neophodno je izvršiti i odgovarajuća merenja performansi procesa, u smislu poređenja onog šta procesi ostvaruju i onog šta je zacrtano ciljevima.

Faza 3: Analiziranje i modifikovanje procesa. Ova faza metodologije reinženjeringa je bitna da bi postojeći procesi bili analizirani i da bi se otkrile eventualne mogućnosti modifikovanja, a indirektno, i poboljšanja. Ova faza je naročito značajna kada se preduzeće odluči za inkrementalne promene poslovnih procesa. Ukoliko se uvidi da se ovakvim tipom promena ne mogu postići bolji rezultati, onda se prelazi na fazu četiri, koja podrazumeva kreiranje potpuno novih procesa, a koji će biti predmet radikalnog reinženjeringa.

Faza 4: Identifikovanje procesa za reinženjering. Ova faza podrazumeva identifikovanje procesa koji će biti predmet reinženjeringa, odnosno promena. Za ovu fazu se može reći da je kritična iz razloga jer će greške u izboru procesa, celokupan projekat osuditi na propast. U izboru procesa mogu se koristiti tri kriterijuma: značaj procesa za ostvarivanje konkurentске prednosti, nefunkcionalnost procesa i mogućnost postizanja pozitivnih rezultata na dug rok.

Faza 5: Definisanje resursa neophodnih za reinženjering. Ova faza podrazumeva razmatranje portfolija resursa neophodnih za novo identifikovane procese u programu reinženjeringa. Potrebno je definisati neophodne finansijske resurse koji će podržati projekat reinženjeringa. Sa druge strane, neophodno je voditi računa o različitim elementima intelektualnih resursa.¹⁹

¹⁹ Kada je reč o intelektualnim resursima, posebnu pažnju u implementaciji reinženjeringa treba posvetiti organizacionom kapitalu (tačnije IT kao jednom od bazičnih elemenata), kao i humanom kapitalu (sticanju različitih oblika znanja, veština i kompetencija zaposlenih putem različitih vidova obuka). Uspešno sprovođenje reinženjeringa je usko povezano sa primenom informacionih tehnologija, koje predstavljaju osnovno pokretačko sredstvo za uvođenje promena. Ova faza podrazumeva, takođe, i promenu socijalne strukture zaposlenih - broja zaposlenih, vrste i nivoa kvalifikovanosti, interakcija između zaposlenih, normi ponašanja i sl. To će, u zavisnosti od forme poboljšanja (inkrementalna/radikalna), usloviti potrebu za

Faza 6: Implemetiranje novih procesa. Ova faza podrazumeva realizaciju potpuno novih ili poboljšanih poslovnih procesa. Ona se sprovodi radi postizanja i realizacije vizije i ciljeva za poslovne procese, što znači da se na osnovu nje može utvrditi da li se procesi zaista realizuju onako kako je planirano.

Faza 7: Redizajniranje novih procesa. Redizajniranje se sprovodi ukoliko menadžment preduzeća uvidi da se novi procesi ne izvršavaju na način kako je planirano. Redizajniranje podrazumeva povezivanje nekoliko operacija u jednu aktivnost, eliminisanje nepotrebnih aktivnosti, utvrđivanje redosleda izvođenja i stvaranje više verzija pojedinih procesa.

Faza 8: Evaluiranje redizajniranih procesa. Osnovni smisao evaluacije procesa je da se utvrdi u kojoj meri je realizovani program reinženjeringa odgovorio očekivanjima. Evaluacija treba da ponudi odgovor na pitanje da li su resursi uloženi u program bili ispravna investicija.

Faza 9: Unapređenje redizajniranih procesa. Ova faza podrazumeva težnju ka kontinuiranom unapređenju redizajniranih i pozitivno ocenjenih procesa. Značajne karakteristike unapređenja bi mogle biti: povećanje kvaliteta organizacionog/eksplicitnog znanja, povećanje inovacija, rast efikasnosti i efektivnosti procesa, smanjenje troškova, povećanje produktivnosti, razvijanje timskog rada, povećanje konkurentne snage, usresređivanje na zahteve potrošača i sl.

Faza 10: Standardizovanje procesa. Označava kontinuiranu primenu novih poslovnih procesa, ali i primenu nove organizacione kulture, tj. novih sistema pretpostavki, vrednosti i normi ponašanja koje su članovi jednog preduzeća razvili i usvojili. Jedinostvena i snažna kultura podrazumeva da postoji konzistentan sistem pretpostavki i verovanja, kojih se u svakodnevnom realizovanju aktivnosti i procesa, ali i u ponašanju preduzeća kao celine, pridržava većina zaposlenih. Uspeh u implementaciji navedene metodologije u velikoj meri zavisiće od sposobnosti menadžmenta preduzeća da sledi navedene korake. Ako menadžment preduzeća donese odluku o implementaciji navedene metodologije bez detaljnog proučavanja navedenih koraka, velika je verovatnoća za neuspeh u realizaciji.

5. UMETO ZAKLJUČKA: ULOGA KONCEPATA TQM I BPR U RAZVOJU PROCESNE ORIJENTACIJE PREDUZEĆA

U praksi su se tokom 90-ih godina prošlog veka često isprepletali koncepti TQM-a i BPR-a i postavljalo se pitanje njihove povezanosti i komplementarnosti. Osnovne sličnosti između navedenih koncepata se ogledaju u sledećem [22]: orijentacija prema poslovnim procesima, inicijativu za njihovo uvođenje daje najviši menadžment preduzeća, delegiranje odgovornosti i ovlašćenja, kao i potreba za obukom. Uporedni pregled karakteristika ovih koncepata prikazan je u tabeli 2.

obukom zaposlenih. Obuku je moguće izvršiti interno ili eksterno, a podrazumeva upoznavanje zaposlenih sa celokupnim projektom reinženjeringa.

Tabela 2. BPR I TQM- uporedni pregled

KRITERIJUMI UPOREĐIVANJA	UPRAVLJANJE UKUPNIM KVALITETOM	REINŽENJERING POSLOVNIH PROCESA
<i>Stepen promena</i>	Postepen	Radikalna
<i>Polazna tačka</i>	Postojeći proces	Budući proces
<i>Frekvencija promena</i>	Kontinualna	Jednokratna
<i>Potrebno vreme</i>	Kratko	Dugačko
<i>Inicijativa</i>	Odozdo na gore	Odozgo na dole
<i>Obim promena</i>	Uzak	Širok
<i>Rizik</i>	Mali	Veliki
<i>Pokretačko sredstvo</i>	Statističko upravljanje procesima	Informacione tehnologije

Kahrović, E., (2012) *Upravljanje performansama poslovnih procesa u funkciji povećanja efikasnosti preduzeća*, Ekonomski fakultet, Niš, str. 23

Pored prikazanih postoje i sledeće razlike [6]: (1) TQM zahteva uključivanje svih zaposlenih, BPR zahteva rad po timovima; (2) TQM zahteva relativno male, BPR zahteva investicije većeg obima (iz razloga ako se radi na uvođenju potpuno novih procesa); (3) TQM podrazumeva dobrovoljno, dok BPR zahteva obavezno uključivanje menadžera i ostalih zaposlenih; (4) TQM zahteva uključivanje svih procesa, BPR fokusira pojedine kritične procese. Realizacija konceptata TQM i BPR započinje od potreba potrošača. Poboljšanje sposobnosti preduzeća da razume i udovolji stvarnim potrebama potrošača predstavlja osnovni cilj pomenutih konceptata. Oba koncepta su usmerena ka poboljšanju procesa i satisfakciji potrošača uz maksimiranje dobiti. Takođe, oba koncepta predlažu način razmišljanja "spolja ka unutra", drugim rečima, oba funkcionišu sa stanovišta potrošača. To znači da im je težnja da promene procese, kako bi na taj način promenili proizvode/usluge. [20]

TQM je usmeren ka poboljšanju postojećih poslovnih procesa, dok je BPR usmeren ka inovacijama, odnosno formulisanju potpuno novih procesa koji će se odvijati u okviru preduzeća. Koncept kvaliteta utiče na poboljšanje procesa pomoću metode koju Japanci zovu *kaizen*[9], tj. neprekidno poboljšanje. Kvalitativna poboljšanja postojećih procesa traže stalna i postepena poboljšanja u realizaciji procesa. Reinženjering, kao što je rečeno, podrazumeva formulisanje potpuno novih procesa. Reinženjering takođe uključuje drugačiji pristup upravljanju promenama od onog koji je potreban za kvalitativne promene [13]. TQM se prožima kroz niz poslovnih procesa. U to su upleteni svi od snabdevača do potrošača. Međutim, kod BPR-a, projekat može biti usredsređen na određene poslovne procese. Oba koncepta će u kontinuitetu formulisati procese sa ciljem unapređenja poslovanja. Tačnije, i jednom i drugom konceptu je težnja ka unapređenju performansi poslovnih procesa, kao što su troškovi, kvalitet, vreme i brzina.

REFERENCE

1. Arsovski S., "Menadžment procesima", Mašinski fakultet u Kragujevcu, Kragujevac, 2006, str. 6
2. Arsovski S, Lazić M., „Vodič za inženjere kvaliteta“, Mašinski fakultet u Kragujevcu, Kragujevac, 2008,

3. Bošković G., Anđelković-Pešić M., "Upravljanje kvalitetom – osnova konkurentnosti preduzeća i privrede", Ekonomski fakultet u Nišu, Niš 2011, str. 17
4. Crosby P.B., "Kvalitet je besplatan", Evropa Jugoinspekt MDD, Beograd, 1995, p. 16
5. Deming W. Edwards, "The New Economics for Industry, Government, Education", Massachusetts Institute of Technology, Massachusetts, 1994.
6. Đokić I., Rajković D., "BPR i TQM – određenja i komparacije", Zbornik radova: 32. Nacionalna konferencija o kvalitetu, Asocijacija za kvalitet i standardizaciju Srbije, Kragujevac, 2005, str. B-37
7. Feigenbaum V. A., "Quality: The Strategic Business Imperative", *Quality Progress*, Vol. 19, No. 2, 1986, pp. 26-30
8. Furey T.R., "A six-step guide to process reengineering", *Strategy & Leadership*, Vol. 21, No. 2, 1993, p. 21
9. George A., "Lean Kaizen in 21st century", *Quality Progress*, Vol. 40, No. 8, 2007, p. 69
10. Grinberg Dž., Robert A. B., "Ponašanje u organizacijama: razumevanje i upravljanje ljudskom stranom rada", Želnid, Beograd, 1998, p. 595
11. Hammer M., Champy J., "Reengineering the Corporation: A Manifesto for Business Revolution", Harper Collins Publishers, New York, 1993, p. 32-34
12. Hammer M., "Reengineering Work: Don't Automate, Obliterate", *Harvard Business Review*, Vol. 68. NO. 4, 1990, p. 106
13. Hammer M., Champy J., "Reinženjering tvrtke-manifest za poslovnu revoluciju", Zagrebačka škola ekonomije i managementa, Zagreb, 2004, p. 50
14. Harrison D. B., Pratt M. D., "Methodology for reengineering businesses", *Strategy & Leadership*, Vol. 21, No. 2, 1993, p. 8
15. Ishikawa K., "Introduction to Quality Control", Productivity Press, New York, 1990.
16. Jaehn A. H., "Quality Improvement Team Handbook", Tappi Press, 1997, p. 9
17. Juran J., Gryna F., "Quality Planning and Analysis", McGraw-Hill, New York, 1993.
18. Kahrović, E., (2012) *Upravljanje performansama poslovnih procesa u funkciji povećanja efikasnosti preduzeća*, Ekonomski fakultet, Niš
19. Krstić B., "Елементи и детерминанте управљања пословним процесима предузећа", Зборник радова: *Управљање кључним аспектима трансформације предузећа*, Економски факултет у Крагујевцу, Крагујевац, 1999, стр. 133
20. Krstić B., Sekulić V., „Upravljanje performansama preduzeća, Ekonomski fakultet u Nišu, Niš, 2007, str. 342
21. Lee S. M., Asllani A., "TQM and BPR: symbiosis and a new approach for integration", *Management Decision*, Vol. 35, No. 6, 1997, p. 409
22. Manganelli R. L., Klein M.M., *The Reengineering Handbook: A Step-by-Step Guide to Business Transformation.*, American Management Association, New York, 1994, p. 18
23. Papić LJ., „Menadžment kvalitetom“, Istraživački centar za upravljanje kvalitetom i pouzdanošću-DQM, Prijedor, 2011, str. 93

24. Richard M.J., Dewitte P.S., "Delivering Results: Evolving BPR from art to engineering", Department of Industrial Engineering Texas A&M University, College Station, Texas, 1998, p. 4-20
25. Robson M., Ullah P., "A practical guide to business process re-engineering", Gower, Vermont, 1996, p. 4-6
26. Shewhart A. Walter, "Statistical Method from the Viewpoint of Quality Control", Dover Publications, New York, 1986.
27. Simić I., Uloga reinženjeringa poslovnih procesa u organizacionoj transformaciji preduzeća", Zbornik radova: Upravljanje ključnim aspektima transformacije, Ekonomski fakultet u Kragujevcu, Kragujevac, 1997, str. 147
28. Slack N., Johnston R., Chambers S., Betts A., "Operations and process management", Prentice Hall, London, 2009, p. 390
29. Stoica M., Chawat N., Shin N., "An Investigation of the Methodologies of Business Process Reengineering", *Information System Education Journal*, Vol. 2, No. 11, 2004, p. 4
30. Taguchi G., "Taguchi's Quality Engineering Handbook", John Wiley & Sons, Hoboken, New Jersey, 2005.

TRUST ACQUIRED KNOWLEDGE - IN WORLD ORGANIZATION GOOD BOSS IS A LEADER

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Abstract: Regardless of how good intentions and no matter how much experience you have, the boss will certainly make mistakes and there's no reason for him looking for an apology. Making mistakes is an integral part of life - family, including business.

There are two classic types of errors. However, these are two completely different species. Some errors are one-time events: quickly identify what has gone wrong, learn from it and do not repeat. Characteristics of a good leader is to correct errors quickly.

The second type of error is far more dangerous for the 'health' of the company. This is when the boss does not recognize a mistake when chronic errors become part of management style, causing problems to employees, companies, and ultimately customers. One boss and make "bad boss" - and that is never good.

Keywords: boss, human resources management, management

POVERENJE STIČENO ZNANJEM - U SVETU ORGANIZACIJA DOBAR ŠEF JE LIDER

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Abstrakt: Nezavisno od toga koliko su namere dobre i nezavisno od toga koliko iskustva ima, šef će sigurno praviti greške i nema razloga da za sebe tražite izvinjenje. Praviti greške sastavni je deo života - privatnog, pa tako i poslovnog.

Postoje dve klasične vrste greški. Ipak, u pitanju su dve sasvim različite vrste. Neke greške su jednokratni događaji: brzo prepoznati u čemu se pogrešilo, naučiti nešto iz toga i to više ne ponavljati. Odlika dobrog lidera je da pogreške ispravlja brzo.

Druga vrsta pogreški daleko je opasnija za „zdravlje“ firme. To je kada šef ne prepozna grešku i kada hronične pogreške postanu deo menadžerskog stila, uzrokuju probleme zaposlenima, firmi, a na kraju i klijentima. One šefa čine i „lošim šefom“ - a to nikada nije dobro.

Ključne reči: šef, upravljanje ljudskim resursima, rukovođenje

1. UVOD

Poverenje stečeno znanjem podrazumev usvajanje kolektivnog znanja u cilju postizanja poslovnih ciljeva kompanije. Dobri šefovi koji se poistovećuju sa liderima u organizaciji imaju ulogu da osiguraju da ljudi imaju znanje koje im je potrebno, tamo gde im je potrebno i u trenutku kada im je potrebno, tj. pravo znanje, na pravom mestu i u pravo vreme. Najširi pristup ovom konceptu je razmišljanje o menadžmentu znanja kao procesu koji predstavlja jedinstvo tri komponente [1]: *ljudi, procesa i tehnologije*. Cilj savremene organizacije je da se svi poslovni procesi posmatraju kao procesi znanja. Ovakvo polazište uključuje: stvaranje znanja (*Creation*), osvajanje znanja (*Capture*), čuvanje znanja (*Storing*), podelu znanja sa drugima (*Sharing*) i primenu znanja (*Application*) na način koji će doprineti stvaranju dodatne vrednosti za organizaciju.

Kao strategijski pogled koji obuhvata jedinstvo između tehnoloških i ljudskih faktora kao osnovu opstanka u promenljivom okruženju ističe se [2] definicija po kojoj se liderstvo koje svoje potkrepljenje ima u znanju definiše kao najvažnija kritična putanja organizacione adaptacije, opstanka i kompetencije u susretu sa sve rastućim i bržim promenama poslovnog okruženja. To je koncept kolektivnog znanja jedne organizacije čiji krajnji cilj predstavlja efikasnu primenu znanja u situacijama u kojima se donose odluke. Potrebno je posebno istaći da to znanje treba da je raspoloživo uz zaista malo truda i napora, i da se može primeniti. Koncept dobrog liderstva predstavlja, dakle poistovećuje se sa sposobnošću da se za relativno kratko vreme dođe do informacije koja će omogućiti svakome u organizaciji da donese najbolju odluku, bilo da se radi o uslovima na tržištu, proizvodu, usluzi, procesu, planiranim aktivnostima konkurenata ili nekim drugim informacijama važnim za uspeh kompanije. [3] Najkraće rečeno, menadžment znanja je proces kroz koji organizacija generiše vrednost svoje intelektualne imovine bazirane na znanju. [4]

2. KARAKTERISTIKE „LOŠIH“ ŠEFOVA

Prema istraživanjima sprovedenim na temu o „lošim šefovima“, čak 65% zaposlenih se izjašnjava da bi radije odabrali novog šefa nego povišicu. Postavlja se jednostavno pitanje: Šta je zajednička osobina „loših šefova“? Međutim, odgovor i nije tako lak, imajući u vidu da su pojmovi dobro i loše veoma rastegljivog karaktera, ono što je za nekog dobro to nekom drugom može da zvuči loše. Međutim, ajčešće se sastavlja popis sedam najčešćih pogrešaka koje šefovi koji se najčešće karakterišu kao loši šefovi rade:

1) Ne znaju kvalitetno da komuniciraju. Informacija je moć koja zaposlenima omogućava da svoj posao rade brže i tačnije. Što je potpunija informacija koju zaposleni dobija, brže će shvatiti šta šef želi, pre će to moći izvršiti i kvalitetnije poslužiti kupce/klijente.

2) Kratkotrajne umesto dugoročnih mera. Brzi popravci su zadovoljavajući, ali ne traju. Treba zastati i potrošiti onoliko vremena koliko je potrebno kako bi se došlo do srži problema i razvoja strategije kako taj problem da se reši. Ako se učini manje od toga, to onda ne znači da je problem rešen - samo je odložen na neko vreme.

3) Ne umeju da delegiraju. Menadžer ne može sve sam da uradi, niti bi to trebao da pokušava. Pokušavajući da sve sam uradi, on ne koristi svoje vreme i talenat na najbolji mogući način, a istovremeno troši potencijal zaposlenih. Delegirajući posao zaposlenima,

šef ostavlja sebi više prostora za preuzimanje zadataka kojima se mora baviti i čini svoje poslovanje produktivnijim.

4) Ne postavljaju realne ciljeve zaposlenima. Kao šef, svako ima zadatak da razvije realne i dostižne ciljeve koji će zaposlene voditi prema onim rezultatima koji su ujedno i cilj strategije razvoja tvrtke.

5) Odupiranje promenama umesto sprovođenja promena. Odupiranje promenama u današnje vreme predstavlja strahovit gubitak vremena i energije. Istovremeno, daje prednost konkurentima. Šef treba da nauči da prihvati i sprovodi promene u svojoj industriji te svaku novost da pretvori u svoju korist.

6) Ne prepoznaju postignuća zaposlenih. Puno je toga što se može učiniti kako bi se nagradili zaposleni koji pokazuju dobre rezultate. Na primer, zahvaliti im za dobro obavljen posao - ništa ne košta, a nekome stvarno možete ulepšati dan.

7) Shvataju sve ili previše ozbiljno ili previše neozbiljno. Treba osigurati onakvo radno okruženje u kojem zaposleni svakoga dana žele da borave. To bi trebalo da bude ugodno, pa čak i zabavno okruženje u kojem se svi osećaju ugodno.

Neko možda jednostavno nije rođen za šefa ili ne obraća pažnju na sitnice tipa „vodim li računa o svojim zaposlenima“ ili „da li bi ih ponekad mogao pohvaliti“.

Sve u svemu, ovo je lista magazina *Forbes*, koja daje 31 karakteristiku lošeg šefa:

- U svojim izveštajima daje slabe ili nikakve smernice,
- Izbegava oceniti učinke svojih zaposlenih. Kada to mora učiniti, ne kaže zaposlenima ništa konstruktivno,
- Ne voli obrazovaniji kadar koji je po njemu previše arogantan,
- Provodi više vremena igrajući se politikom kompanije, nego što radi posao za koji je njegov sektor odgovoran,
- Kada god je moguće, sve zasluge za dobro obavljen posao pripíše sebi
- „Spušta“ svoje zaposlene pred svima i nikad ih ne pohvali za njihov rad,
- Nikad nije kriv - na bilo koju temu,
- Stalno menja ekipu. Ljudi ili daju ili dobijaju otkaze,
- Kada dođe do greške, uvek okrivi nekog iz tima,
- Obraća previše pažnje na sitnice,
- Poviši glas više od jednog puta u mesec dana,
- Zaobilazi istinu ili je majstor u „zavlačenju“,
- Uvek je na putu i to naglašava zaposlenima kako bi videli kako je on važan,
- Radije bi odluku odložio nego je doneo,
- Privatni život mu je u haosu,
- Jedan od razloga zašto ne voli ocenjivati zaposlene leži u tome što ne zna njihove vrline i slabosti ili voli da angažuje ljude koji su ispod „njegove lige“ kako ga ne bi nadmašili u poslu,
- Uvek govori "Ja", nikad "Mi" i osvetoljubiv je,
- Toleriše loše učinke zaposlenih samo zato što su mu lojalni,
- Ne informiše svoje zaposlene i namerno ih ostavlja bez ikakvih saznanja o događanjima u firmi,
- Posao više prebacuje na svoje zaposlene, nego što ga sam radi, a pri tome ima loše podatke o tome kako rade ljudi „ispod njega“,

- Od zaposlenih traži da rade prekovremeno i uopšte ih ne inspiriše, a pri tome uvek podseća svoj tim na neke loše stvari koje su učinili u prošlosti,
- Kada ga nešto naljuti, postaje druga osoba i to svi vide, tako da se ljudi oko njega pitaju: „Kako je ona/on uopšte dobila/o posao“?
- Nikad nije pročitao članak ili knjigu o tome kako postati bolji šef,
- Nikad ne kaže hvala,
- Ljudi bi o njemu mogli reći da ih ne sluša, a njegov odgovor bi bio da „ne razume otkuda sad to.“

3. STVARI KOJE ŠEFOVI NE BI TREBALO DA ČINE

Danas se svi sa laptopom i blogom smatraju šefovima ili preduzetnicima. No, budimo realni prema ovom novom talasu mode: činjenica da su sami sebe prozvali šefom, ne podiže im ugled, a šačica sledbenika na twitteru, takođe ne čini liderom.

Namera ovog rada nije da pogazi ničije snove i nade, ali opet je činjenica da velika većina ljudi jednostavno nije stvorena za liderstvo. Nije loše imati velike ambicije i posezati za zvezdama. Upravo, čovek treba stremiti da nadmaši svoja i tuđa očekivanja, ali ako se osvrne oko sebe vrlo brze će saznati da se danas cela preduzetnička i kvazipreduzetnička scena previše razbacuju tzv. kraticama i buzz rečima, do te mere da sve zajedno postaje iritantno.

Iako ne postoji kalup i tačna definicija, velika većina šefova ipak ima neke zajedničke karakteristike. Ne izdvajaju se po titulama i neverovatnim veštinama, nego po delima. Ono što rade, ili možda bolje rečeno, ono što ne rade, čini ih jedinstvenima.

1. Ne razmišljaju o uravnoteženosti privatnog i poslovnog života - Uglavnom su radoholičari, to znači da im je posao na prvom mestu. Za njega žive. Nisu bezbrižni, opušteni i ne žive za vikende kako bi se zabavljali. Oni se svakodnevno bave onim što vole, a to je njihov posao.

2. Ne pokušavaju biti ono što nisu - Verovatno najštetniji mit u poslovnom svetu u zadnjih desetak godina je lično brendiranje. Ljudi nisu proizvodi i ne mogu promeniti ono što jesu. Uostalom, pravi šefovi ne razmišljaju previše o sebi, već o idejama i kako te ideje pretvoriti u dobre proizvode i usluge. Što je najvažnije, u tome i uspevaju.

3. Ne rade to zbog novca - Ne kukaju kako moraju krvavo raditi za sitan novac, jednostavno odrade što moraju. A pošto su ekstremno fokusirani i strastveni oko onog čime se bave, novac s vremenom mora doći. Puno novca.

4. Nemaju drugi posao - Veliki šefovi ne rade svoj posao površno, ulaze u projekte u potpunosti. Ne svaštare i ne lutaju, kada pronađu nešto što smatraju vrednim truda, u potpunosti se predaju i posvećuju tome.

5. Ne dozvoljavaju da ih strah savlada - Ne obraćaju pažnju na glasove u glavi koji im govore da sve lako može poći po zlu. To ne znači da se ne boje ničeg. Kao i svi drugi normalni ljudi, i šefovi strahuju, ali razlika je u tome što oni ne dozvoljavaju da ih strahovi odvrte od reskiranja. Neke glasove doduše slušaju: glas razuma i svoje instinkte.

6. Nemaju velike vizije - Veliki broj šefova se smatra sposobnim za velike stvari i to im se samoproročanstvo često i ostvari. Međutim, mnogi od njih nemaju velike i jasne vizije za svoje kompanije.

7. Nemaju virtualne mentore - Većina ljudi čita tweetove i sjedi savete pisaca ili blogera. To je u redu, ali da bi dospeli negde u životu, treba imati stvarne mentore. Bivši predsednik *Intela*, *Andy Grove*, bio je mentor *Steveu Jobsu*. *Jobs* je potom savetovao osnivače *Googlea*, *Larrya Pagea* i *Sergeya Brina*. Iza svakog uspešnog šefa je barem jedan mentor. Stvarni, ne virtualni.

Najvažnije je upamtiti da se šefovi ne nazivaju gazdama. Oni ne rade sve što i ostali, usuđuju se skrenuti sa utabanih staza i ne povode se za uvreženim mudrostima i trendovima. Pronalaze svoj put, sami kroje svoju sudbinu i to je ono što ih pokreće. Zato i uspevaju.

3. ŠTA LIDER NIKADA NE GOVORI

Ponekad uopšte nije teško biti šef ili lider. Samo treba izbegavati ove neke, konkretno, tri rečenice. U duhu kvalitetnog vođstva, ovo su neke stvari koje kao lider ili šef ne bi trebao govoriti:

1) *Ne zanimaju me nikakva iznenađenja* - Šef se suoči s nekim događajem koji nije mogao predvideti i odluči da se više nikada neće tako osramotiti i da ga ubuduće više ništa neće na takav način iznenaditi.

U početku radi duže, napornije, pokušava predvideti sve do najsitnijih detalja i...odjednom se pojavi neočekivana situacija, iskrnsne neki događaj i lider se ponovo razočara.

Šta se događa kada ne želi iznenađenja ili da mu ljudi donose loše vesti? Možda te stvari više ne dopiru do njega, ali to ne znači da se ne događaju već da ih ljudi „stavljaju pod tepih“ zato jer im je to tako on rekao. Tako se stvara tempirana bomba i samo je pitanje vremena kada će svi ti problemi isplivati...istovremeno!

Ako se želi predvidljivost i doslednost, ne treba pokušati da se izbegnu loše vesti ili iznenađenja. Upravo suprotno, treba se suočiti s njima. Neka to budu prve informacije koje se dobijaju od zaposlenih. Jedino takvim uvidom imate šef ima moć da kontroliše stvari.

2) *Da ste životinja, koja biste životinja bili?* Ili "Koja je knjiga na vas najviše uticala kada ste bili mlađi?" ili "Koja je vaša najdraža boja?" - zapravo, svako pitanje za koje mislite da osigurava dublji uvid u potencijal kandidata ili zaposlenih. Ovakva pitanja ne doprinose stvarnom razumevanju sposobnosti pojedinca da radi posao na kojem ga treba zaposliti. Umesto toga, radije kandidatima treba postaviti pitanja o njihovim konkretnim postignućima kod prethodnih poslodavaca. To je jedini način da se precizno utvrdi koliko je neko bio uspešan i proceniti hoće li takav biti i u datoj kompaniji.

3) *Ne shvataj to lično* - Zaista? Obraćate se osobi, govorite o njoj, njenom radu, idejama, kompetencijama, izboru, doprinosu, životnom pozivu, i kažete im da to ne shvataju lično? Zamislimo kako bi to izgledalo kada bi svaki od zaposlenih jednom nedeljno imao pravo reći šefu sve što misli o tome što kaže, radi, predlaže, na način kako želi, dokle god to može potkrepiti rečenicom "Nemojte to shvatati lično."

Ako mislimo da rad s ljudima na nikakav način nije „ličan“ onda bi možda trebalo razmišljati o promeni karijere i poslu koji ne podrazumeva rad s ljudima.

4. POVERENJE SE STIČE ZNANJEM

U trenutku kada osoba s autoritetom prekrši svoje obećanje gubi ugled, poput političara koji ne održi izborna obećanja. Da bi bio lider ili šef, osoba ne mora biti od naroda izabrani

političar ili predsednik Uprave već neko koga ljudi slede i stalno se raspituju o novim trendovima i idejama. Šminkerska titula donosi trenutnu sreću, ali pravo liderstvo donosi lojalnost ljudi oko nekoga, a ona dolazi iz gore navedenog. Tako, u produžetku navodimo sedam koraka koji čine pravog lidera, bez obzira nalazio se on u politici ili biznisu.

Održavanje obećanja. Teren na kojem su se političari najviše puta okliznuli vredi i za poslovni sektor. U trenutku kada osoba s autoritetom prekrši svoje obećanje gubi ugled, poput političara koji ne održi izborna obećanja i u tom trenutku ne pomaže ni skupo odelo, ni sve znanje koje neko poseduje. Ako lider održava svoja obećanja zaposlenici će ga "držati kao malo vode na dlanu".

Odeća i tim. - Drugi korak je adekvatna odeća. Iako se to čini nevažnim pravi lideri znaju odabrati odevni stil koji odgovara trenutku. Stajati usred kancelarije u skupom odelu i gledati na sat ne otkriva lidera već nekog kome se žuri. Jer ponekad odelo nije najbolji odabir kao ni majica uvučena u pantalone. Razliku treba činiti između oblačenja da bi se impresioniralo i oblačenja da bi se uticalo na trenutak.

Odnos prema timu. Stara izreka "čini kako kažem, a ne kako ja činim" nije ispravna. Pravi lider svom timu mora davati primer svojim delima a ne rečima. Svako pretvaranje i naređivanje bez primera kroz rad na kraju će rezultirati nezadovoljnim timom.

Predanost timu i ciljevima. Kako bi organizacija rasla svako unutar nje mora se osećati dobro. U tom slučaju nije dovoljno da lider bude odličan, on mora učiniti odličnim i svoj tim. Jer bez podrške tima nema ni liderstva. Prvi korak u ostvarenju tog cilja je upoznavanje svih članova tima individualno i postizanje toga da budu što predaniji jedni drugima i ciljevima tima. To iziskuje veliku društvenu veštinu i predanost cilju da se svi članovi upoznaju pojedinačno. Pravi lider članovima tima mora pomoći da se razvijaju i uče.

Postavljanje pitanja. Često ljudi ne prilaze liderima jer se postavljaju kao glavni ljudi organizacije i čine se nedodirljivim. Pravi lider ne čeka da mu članovi tima priđu već sam postavlja pitanja kako bi bio upoznat sa svim delovima organizacije, ciljevima i radnim procesima. Takođe, kroz postavljanje pitanja članovi tima dobijaju na važnosti jer se od njih traži da odgovaraju na pitanja poput onih kako nešto poraviti ili kako ubrazati neki radni proces. Jer biti lider znači prepoznati i da drugi mogu imati odlične ideje.

Predvodnik samo kada se to mora. Rođeni lideri ne ulaze u sobu i objavljuju "tu sam".

Preuzimanje inicijative - Pravi lideri preuzimaju inicijativu samo kada vide da nešto treba biti učinjeno i deluju prema trenutku. Biti lider ne znači stalno pokušavati preuzeti inicijativu i nametati se. Jer u većini situacija biti liderom ne znači biti imenovan već prirodno pripadati toj funkciji. Ljudi često neće nekome javno priznavati njegovo liderstvo, ali će mu ga često ako nije dorastao oduzeti. Pravi lider ne bi trebao nastupati dominantno i s pozicije onogatko sve zna već kroz gore navedeno osetiti kroz druge da on to jeste. Sedmi korak je videti više nego činiti. Koliko god se ovo činilo komplikovanim, pravi lider nije onaj koji puno radi nego onaj koji vidi inicijativu, oseti rast ili pad i zacrtava put ka uspehu. Pravi lider nije onaj koji podiže glas već onaj koji tumači situaciju, modelira je i pronalazi rešenje. I zaključno, pravi lider će preuzimati inicijativu, donositi odluke, ali i preuzeti odgovornost za njih. Takođe pravi lider će deliti svoju viziju i tako privlačiti članove time da deluju u skladu s njegovom vizijom.

4. KAKO POSTATI BOLJI ŠEF

Sve više istraživanja govori u prilog tome kako povećati produktivnost, na koji način podstaći zaposlene, kako izaći na kraj sa teškim šefom... Ukoliko se žele da se naprave i ubrzaju pozitivne promene u poslovanju, potrebno je posvetiti se interakciji sa zaposlenima. Ovaj pristup zahteva nekoliko minuta vremena i predstavlja tek polaznu tačku, ali i korak ka tome da zaposleni posmatraju šefa kao boljeg šefa, i to u instant roku.

Izdvojiti 90 sekundi da kažete hvala. Kada neko od saradnika - ljudi uradi nešto dobro, treba naći vremena da se napiše zahvalnica, i to svojom rukom, e-mail se ne računa. Zahvaliti se određenoj osobi zbog onoga što je uradila, i pokazati da se njen trud cení. Na primer, zahvaliti se kolegici koja se javlja na telefon i koristi tzv. korisne laži.

Postaviti četiri dobra pitanja: Izdvojiti pet minuta da se postavi svakom od zaposlenih ljudi ova pitanja:

- Da li mi ispunjavamo obećanja koja smo vam dali?
- Šta mislite, šta je ono što mi radimo najbolje?
- Postoji li nešto što ste videli na drugim mestima na kojima ste radili, za šta smatrate da bi moglo da poboljša poslovanje naše kompanije?
- Da li smo kojim slučajem uradili nešto, što bi moglo da dovede do toga da nas napustite i date otkaz?

Kada se postave pitanja, pažljivo treba saslušati zaposlene, hvatati beleške, i dati obećanje da će se zahtevi uvažiti. Ne dozvoliti da se uđe u rasprave samo zbog različite tačke gledišta.

Zabava: pravi šef će umeti da zabavi svoj tim. Na primer, može da izvede tim napolje, da igraju frizbi, gledaju zajedno smešne video snimke, igraju neku igru ili da naprave takmičenje – treba raditi sve što prija i opuštajuće deluje na kolektiv... Kao rezultat, sigurno će se dobiti ekipa koja će imati više entuzijazma.

5. ZAKLJUČAK

Kažu da nema dobrih šefa, jer većina onih koji su se barem jednom suočili s javnom kritikom šefa, verovatno su okusili strašne posledice.

Teško je predvideti kada će nešto poći po zlu, a još je teže prikladno se prilagoditi situaciji. Najvažnije je kako će se šef nositi s negativnom pričom. Način na koji se postavi i kako reaguje može znatno poboljšati, odnosno pogoršati situaciju u firmi. Šta se može pomoći da šef dobro reaguje, a da se pritom ne doda ulje na vatru?

Primarno, dogovor. U većini slučajeva, nedostatak dogovora će samo dodatno dati na snazi kritikama te je dogovor gotovo ustaljen savet da se loš šef preobrazi i doživi metamorfozu u dobrog šefa. Međutim, kao i uvek, i ovde postoje izuzeci. Ukoliko kritika nije verodostojna (trač ili internetska bujica) bespotrebno joj je davati na važnosti. Lako se je emotivno zaplesti i postaviti se odbrambeno, najčešće kada situacija postane lična. Međutim, ako šef odluči naglo da reaguje napadajući druge, insinuirajući neke kritike, optužbe i slično, naškodi će samo sebi. Time će stvoriti još više pitanja nego odgovora, posebno za one koji uopšte nisu niti bili upućeni u situaciju. Isplativo je zatražiti objektivni savet, po mogućnosti od treće strane.

Ono što je šefu striktno zabranjeno (kodeksom profesionalne etike pa čak i legislativom) jeste da ne sme da preti ili terorise, već se poziva na proveru informacija

Koristiti činjenice i brojke i citiranje proverenih, nepristrasnih izvora. Uverljiv odgovor je onaj koja sadrži objektivne činjenice i statističke podatke. Pređašnja dostignuća, procena i preporuke, čak i zadovoljni klijenti će pomoći u dokazivanju druge strane priče.

Suština reputacije jeste ono što drugi o govore o šefu. Ukoliko je potrebno, šef mora da se izvini. Ako je napravljena greška, iskreno se mora izviniti. Pri tome, treba da izbegava floskule poput "Žao nam je ako se neko osetio povređen", i slično. Šef mora da preuzme odgovorost, i što je još bitnije, da uvidi kako bi mogao da popravi ili nadoknadi štetu.

Stvaranje pozitivnog sadržaja gde god je to moguće, u stvari to je i najvažniji zadatak i najvažnija karakteristika dobrog lidera i omiljenog šefa. Naravno, ponekad je javna kritika doista pozitivna stvar. Može se posmatrati kao ružno upakovan poklon. Dobar lider i šef će svaku priliku iskoristiti kako bi ispravio problem ili poboljšao i unapredio međuljudsku saradnju u organizaciji.

REFERENCE

- [1] Macintosh, A. (1995) *Position Paper on Knowledge Management, Artificial Intelligence Applications Institute*, University of Edinburg, str. 139.
- [2] Malhotra, Y. (1997) *Knowledge Management in Inquiring Organizations*, Proceeding of 2RD American Conference on Information System (Philosophy or Information Systems – in Track), Indianapolis
- [3] Shockley, W. (2000) *Planning to Knowledge Management*, Quality Progress, USA, str.57.
- [4] Santosus, M., Surmacz, J., *ABC of Knowledge Management*, dostupno na www.cio.com/research/knowledge/edit/kmabc.html
- [5] Stošić Mihajlović Lj., (2013) *Marketing*, VŠPSS, Vranje

TOP MANAGEMENT'S STAFF OPERATIONS

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Abstract: Success of modern company cannot be attained without suitable human resources, equipped with knowledge, ability and personal quality which are in line with companies activities, business plans and market demands. Due human resources constitute the basis of business activity, the staff planning has to be part of the general company's growth strategy. There is no successful staff planning if it is not based on vision and planning of company's growth with management in behind.

Keywords: company, human resources, strategy, vision, management

KADROVSKE FUNKCIJE TOP MENADZMENTA

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Apstrakt: Uspeh savremene kompanije ne može se postići bez odgovarajućih ljudskih resursa koji raspolazu znanjima, sposobnostima i licnim osobinama primerenim delatnosti kompanije, poslovnim ciljevima i zahtevima tržišta. Budući da su kadrovi osnovni činilac poslovanja to njihovo planiranje mora biti deo opšte strategije rasta preduzeća. Nema dobrog planiranja ljudskih resursa, ukoliko se ono ne bazira na dobrom planu i viziji razvoja kompanije iza koje stoji menadžment.

Ključne reči: Kompanija, ljudski resursi, strategija, vizija, menadžment.

1. UVOD

Ljudski faktor ima najznačajniju ulogu u procesu rada. Pojedine tehničko-tehnološke društvene promene zahtevaju nove profile kadrova, nivo potrebnog obrazovanja se povećava, a sve veća podela rada dovodi do stručne specijalizacije, što u izvesnom smislu ograničava mobilnost ljudskih resursa. Planiranje rasta i razvoja preduzeća mora da bude prožeto nastojanjima da se obezbedi adekvatna kadrovska struktura i da se stvaraju uslovi za njeno efikasno korišćenje, a dinamizam kadrovskih resursa je inicijator rasta i drugih promena u poslovanju preduzeća. Budući da su kadrovi osnovni činilac poslovanja, njihovo planiranje mora biti deo opšte strategije rasta preduzeća. Da bi se obezbedila veza između strategije preduzeća i planova razvoja kadrova, može se govoriti o tri nivoa planiranja: prvi nivo je nivo preduzeća gde se utvrđuje opšti značaj kadrova i radnih uslova

i shodno tome utvrđuju se principi kadrovske politike, drugi nivo je nivo organizacionih delova preduzeća koji uključuju razmatranje alokacije po organizacionim delovima, dok se treći nivo odnosi na alokaciju kadrova po funkcijama i njihovim organizacionim delovima.

2. PROCES PLANIRANJA KADROVA

Uspeh savremene kompanije ne može se postići bez odgovarajućih ljudskih resursa koji raspoložu znanjima, sposobnostima i ličnim osobinama primerenim delatnosti kompanije, poslovnim ciljevima i zahtevima tržišta. Šta se podrazumeva pod planiranjem ljudskih resursa? Pod planiranjem ljudskih resursa podrazumevamo blagovremeno predviđanje potreba u ljudskim resursima po zanimanjima, strukama, broju, kvalifikacijama i rokovima za to ostvarenje, uključujući potrebna finansijska sredstva za realizaciju tog planiranja. Planiranje ljudskih resursa se ne može svesti na mehaničko izračunavanje potrebnog broja ljudi za dati period. U suštini, planiranje ljudskih resursa treba da bude predmet duboke analize i studije timskog rada, u prvom redu top menadžmenta kompanije i sektora za ljudske resurse.

3. IZRADA PLANA LJUDSKIH RESURSA

Osnov za planiranje ljudskih resursa čine: izveštaj o ostvarenim rezultatima u poslovanju kompanije; izveštaj o ostvarenom kvalitetu proizvoda i usluga, odnosno o potrebama i reklamacijama kupaca, odnosno korisnika usluga; planski ciljevi - sadašnji i budući; procena tehnoloških i organizacionih promena; procena interne i eksterne pokretljivosti ljudskih resursa; analiza sposobnosti, znanja i uspešnosti postojećih ljudskih resursa; predviđanje mogućnosti nedostatka posla u planskom periodu.

4. PRETPOSTAVKE ZA USPEŠNO PLANIRANJE LJUDSKIH RESURSA

Planiranje je menadžerska funkcija. Pripremu plana ljudskih resursa vrši menadžer sektora za ljudske resurse na osnovu iskazanih potreba menadžmenta kompanije i sopstvenog stručnog uvida. U tom smislu, menadžer ljudskih resursa treba da poznaje planske ciljeve, plan rada i poslovanja kompanije, poslovnu politiku i politiku upravljanja ljudskim resursima, kao i iskorišćenost postojećih ljudskih resursa, njihove mogućnosti i nedostatke. Da bi se napravio kvalitetan plan ljudskih resursa, menadžment kompanije i menadžer ljudskih resursa treba da znaju odgovor na ledeća pitanja: Koji se poslovi mogu obaviti u planskom periodu da bi se realizovao biznis plan? Koja su znanja, veštine i sposobnosti potrebne za realizaciju tog plana? Koliko je ljudi potrebno za obavljanje tih poslova? Kako obezbediti potrebne ljude? Nema dobrog planiranja ljudskih resursa ukoliko se ono ne bazira na dobrom planu i viziji razvoja kompanije iza koje stoji menadžment.

Menadžment kompanije veruje da su ljudski resursi najvažniji kapital firme. Planiranje ljudskih resursa je sastavni deo ukupnog strateškog planiranja kompanije. Top menadžment direktno koordinira ovu aktivnost i stoji iza nje. Menadžment kompanije zna da se strategija ljudskih resursa mora razvijati isto tako dugoročno kao i strategija tehnologije, strategija proizvodnje, tržišta i slično. Menadžment zna da strategija osvajanja i zadržavanja tržišta može biti dobra samo ukoliko su dobri i stručni ljudski resursi koji iza

kompanije stoje. Menadžer sektora za ljudske resurse treba da bude nosilac planiranja ljudskih resursa. On obezbeđuje jedinstvenu metodologiju učestvujući u svim fazama izrade plana ljudskih resursa. Njegova uloga je naročito značajna u situacijama kada od top menadžmenta kompanije dobije podatke o tome koliko će biti potrebno zaposlenih po strukama i kvalifikacijama za realizaciju planiranih aktivnosti za određeni period u budućnosti. U tom slučaju menadžer sektora za ljudske resurse postupa po sledećem: utvrđuje podatke o postojećem stanju ljudskih resursa po zanimanjima, strukama, kvalifikacijama, polu i uzrastu, što postiže analizom postojeće dokumentacije, anketiranjem, intervjuom i drugim metodama; predviđa moguće smanjenje ljudskih resursa zbog odlaska na stručno usavršavanje, specijalizaciju, odlazak na rad u drugu zemlju, penziju i sl.; predviđa koliko bi se moglo vratiti ljudi sa specijalizacije, sa rada iz drugih zemalja i sl. kako bi dobio "neto stanje ljudskih resursa".

5. FAZE PLANIRANJA LJUDSKIH RESURSA

Proces planiranja ljudskih resursa obuhvata četiri međusobno povezane faze i to:

- 1) prikupljanje podataka o eksternom i internom okruženju,
- 2) predviđanje ponude i tražnje za ljudskim resursima;
- 3) usklađivanje ponude i tražnje ljudskih resursa, i
- 4) praćenje i korigovanje plana ljudskih resursa.

Prva faza - prikupljanje podataka o eksternom i internom okruženju - U ovoj fazi identifikuju se ključni faktori o eksternom i internom okruženju. U faktore eksternog okruženja spadaju: uslovi poslovanja u privredi kao celini, a posebno u onoj privrednoj grani u kojoj kompanija ostvaruje svoje poslovanje; relevantne tehnologije; konkurencija u delatnosti kompanije; stanje na tržištu rada (stopa nezaposlenosti, struktura raspoložive ponude prema polu i uzrastu); zakonska regulativa u oblasti rada i slično. U faktore internog okruženja koji su relevantni za planiranje ljudskih resursa spadaju: strateški biznis planovi; raspoloživi ljudski resursi, po polu, uzrastu i kvalifikacijama; stopa fluktuacije; stopa ponovnog vraćanja u kompaniju.

Druga faza - predviđanje ponude i tražnje za ljudskim resursima - Nakon prikupljenih svih relevantnih informacija o eksternom i internom okruženju pristupa se planiranju tražnje i ponude za ljudskim resursima, u smislu: koliko ljudi i koja zanimanja će biti potrebni kompaniji da bi ostvarila svoj biznis plan, kao i da li kompanija ima te resurse ili ih mora pribaviti na internom ili eksternom tržištu rada. U praksi postoje dve osnovne metode koje se koriste za predviđanje tražnje i ponude:

- 1) kvalitativne metode, i
- 2) kvantitativne (matematičke) metode.

Kvalitativne metode po svojoj prirodi su subjektivnog karaktera i baziraju se na procenama "od oka" i intuiciji i kao takve su dosta nesigurne, a koriste se kod malih preduzeća. Kvantitativne metode su daleko objektivnije jer se predviđanja za tražnjom i ponudom ljudskih resursa baziraju na podacima raznih matematičkih metoda i naučnih ekspertiza. **Treća faza - usklađivanje ponude i tražnje** U ovoj fazi sagledava se odnos ponude i tražnje kako bi se sagledalo da li su te dve promenljive uravnotežene. Ukoliko su neuravnotežene, tada ponuda i tražnja mogu imati dva vida:

- 1) suficit - kada je ponuda ljudskih resursa veća od tražnje, i
- 2) deficit - kada je tražnja za ljudskim resursima veća od ponude.

Kako se rešava suficit ljudskih resursa u kompaniji? Ne popunjavati radna mesta onih koji odlaze u penziju, na rad u inostranstvo i sl.; ponuditi stimulacije za prevremeni odlazak u penziju, redizajniranje radnih mesta; smanjiti nadnice; smanjiti broj radnih sati; obezbediti sporazumno preuzimanje u drugu kompaniju; dati otkaz višku zaposlenih.

Kako se rešava deficit ljudskih resursa u kompaniji? Rekrutovati nove ljude sa punim radnim vremenom; dati stimulaciju za odlazak u penziju; platiti prekovremeni rad; ugovoriti deo posla sa drugom kompanijom koja raspolaze potrebnim ljudskim resursima; prekvalifikovati i obučiti zaposlene; stipendirati školovanje mladih i talentovanih učenika i studenata.

Četvrta faza - praćenje i korigovanje plana ljudskih resursa Proces planiranja ljudskih resursa sastavni je deo sveukupnog planiranja u kompaniji, odnosno proces planiranja ljudskih resursa sastavni je deo strategijsko-poslovnih planova kompanije. Bez obzira koliko se vodi računa da se proces planiranja do kraja izvede pažljivo i kvalitetno, nemoguće je prilikom izrade plana predvideti baš sve okolnosti koje mogu uticati na plan, zato je potrebno stalno pratiti i predviđati eventualne uticaje kako bi se izvršile potrebne korekcije, što govori da je proces planiranja ljudskih resursa kontinuirani proces koji stalno traje. Na osnovu informacija prikupljenih iz različitih organizacionih jedinica i brojnih filijala, utvrđuje se broj ljudi potrebnih za ostvarivanje poslovnih ciljeva za određeni period. Važan izvor informacija u utvrđivanju "neto potreba" jesu predviđanja kretanja i napredovanja zaposlenih unutar kompanije, uključujući i predviđanja spoljašnjih potreba, posebno ako kompanija ima svoje poslovne filijale na drugom geografskom prostoru. Menadžment ljudskih resursa predviđa više vrsta planova. Obično je reč o jednogodišnjim planovima, zatim srednjoročnim planovima za period od jedne do pet godina, mada se ne isključuju ni dugoročni planovi na period preko pet godina.

6. METODE PLANIRANJA LJUDSKIH RESURSA

Za predviđanje potrebnog broja ljudskih resursa, primenjuju se brojne tehnike i metode, od kojih su najzastupljenije:

- Statističko-matematička metoda koja se zasniva na sadašnjoj ili prošloj povezanosti zavisnih promenljivih - porast stope proizvodnje i stepena zaposlenosti za određeni period.
- Tačnost predviđanja zavisi od korelacije povezanosti navedenih promenljivih i verovatnoće da ostanu takve i u budućnosti. Primena ove metode traži znanja iz područja matematike, statistike operacionih istraživanja i računara. Ova metoda često zahteva tačno evidentiranje i praćenje neke pojave u dužem vremenskom intervalu u prošlosti.
- Delfi metoda se zasniva na prikupljanju, analiziranju i usaglašavanju odgovora brojnih stručnjaka - eksperata za određena pitanja nauke, tehnologije i menadžmenta. Postupak je ovakav: najpre se sastavi upitnik sa pitanjima vezanim za probleme koji su predmet istraživanja. Upitnik se dostavlja svim stručnjacima - ekspertima. Odgovori dobijeni na prvi upitnik se zatim analiziraju i sistematizuju da bi se uradio drugi upitnik koji eksperte informiše o odgovorima ostalih učesnika na prvi upitnik. Na isti način sastavlja se i treći, četvrti upitnik... Ovo se obavlja sve dok se pojedini stavovi međusobno ne usaglasu. Konačni rezultat ostvaren je onda kada su odgovori usaglašeni sa stavovima većine anketiranih eksperata.

- Metod međunarodnog upoređivanja se sastoji u utvrđivanju promena kvalifikacione strukture ljudskih resursa u odnosu na uticaj tehničko-tehnološkog razvoja i to na osnovu upoređivanja, s tim da upoređivanje mora biti sa zemljama približnog ekonomskog razvoja. Šablonska primena ove metode može biti veoma opasna.
- Metod ad hok se primenjuje u manjim organizacijama, kada u određenom periodu treba oceniti potrebe za ljudskim resursima "od oka". Takvo planiranje nije sigurno, čak ni u situacijama kada se odnosi na kraći vremenski period.
- Normativni metod se zasniva na normativima rada za pojedine kompanije ili određene delatnosti. Primenjuje se za planiranje ljudskih resursa u zdravstvu (prema broju pacijenata), u školstvu (prema broju đaka i studenata), u poljoprivredi (prema obradivoj površini itd.).

7. SMERNICE ZA IZBOR ADEKVATNE METODE PLANIRANJA LJUDSKIH RESURSA

Pri izboru i upotrebi metoda predviđanja ljudskih resursa potrebno je paziti na sledeće: Optimalnost prognoze - većina menadžera želi da ima prognoze za što dalju budućnost, međutim, predugačko razdoblje smanjuje tačnost i iziskuje izvesne troškove. Prognoze potreba ljudskih resursa su najoptimalnije za period od jedne do pet godina. Tehničko izvođenje - mnoge metode zahtevaju računarska, matematička i statistička znanja koja stručnjaci za ljudske resurse često nemaju, tako da je potrebno angažovati dodatne stručnjake. Kvalitet podataka - pre izbora metoda treba razmotriti dostupnost i kvalitet podataka. Kompanije često ne raspolažu podacima koje traže određene metode. Pored toga, mnogo finansijskih, proizvodnih i marketinških podataka može da nedostaje stručnjacima i planerima ljudskih resursa ako ne saraduju sa stručnjacima iz drugih oblasti.

8. DEFINISANJE ODGOVORNOSTI RUKOVODSTVA

Odgovornost rukovodstva vezana je za obezbeđenje takve radne sredine u kojoj se zaposleni uključuju u postizanje ciljeva organizacije. Najviše rukovodstvo treba da ima iskrenu želju da se angažuje u razvoju efektivnog i efikasnog sistema upravljanja kvalitetom.

Definisanje odgovornosti rukovodstva zasniva se na:

- definisanju potreba i zahteva kupaca i krajnjih korisnika, ljudi u organizaciji, vlasnika ili investitora, isporučilaca i partnera i društva; definisanju pravnih zahteva sa aspekta kvaliteta njenih proizvoda ili usluga;
- definisanju politike kvaliteta; planiranju, tj. definisanju ciljeva kvaliteta i planiranja kvaliteta;
- definisanju sistema upravljanja kvalitetom, tj. definisanju odgovornosti i ovlašćenja, definisanju predstavnika rukovodstva, definisanju načina komunikacije, kao i održavanju dokumentacije kvaliteta i zapisa;
- preispitivanju od strane rukovodstva.

Posmatrano sa stanovišta upravljanja kvalitetom, zainteresovane strane su partneri (kupci i dobavljači) i krajnji korisnici, zaposleni, vlasnici i investitori i državne institucije koje očekuju dobit od trendova kvaliteta u preduzeću. U ISO 9001:2000 ističe se potreba za uspostavljanjem i održavanjem postupaka u kojima je opisan način identifikacije i ostvarivanja pristupa zakonskim zahtevima koji su primenljivi na aspekte kvaliteta njenih proizvoda i/ili usluga.

Politika kvaliteta je sastavni deo svih politika definisanih zbog boljeg upravljanja u preduzeću. Politika kvaliteta uključuje u sebe sledeće odluke:

- koji nivo korisnika čini tržište preduzeća;
- stepen prestiža na tržištu;
- da li se prodaju samo proizvodi ili i usluge;
- da li će proizvodi biti veće pouzdanosti i veće cene ili obrnuto;
- da li veza sa kupcem uključuje garanciju proizvoda;
- do kog nivoa se izlazi u susret potrebama kupca; kakav je odnos sa dobavljačima.

Politika kvaliteta se obezbeđuje i sprovodi kroz sve organizacione nivoe, na osnovu utvrđenih postupaka sistema kvaliteta, uputstava i drugih dokumenata sistema kvaliteta. Planiranje - rukovodstvo ne sme da ostane samo na deklarativnim postavkama ciljeva, već mora da izvrši pripremanje planova aktivnosti koji treba da omoguće ispunjenje postavljenih ciljeva. Rukovodstvo mora da prepozna i prihvati potrebe kupca, jer je odgovornost rukovodstva da preduzeće pravi proizvod koji će se prodavati. Da bi se prepoznale i prihvatile potrebe kupca, mora se izvršiti analiza tržišta, na osnovu čega rukovodstvo postavlja ciljeve vezane za sprovođenje sistema kvaliteta u preduzeću. Planiranje kvaliteta je u funkciji realizacije poboljšanja kvaliteta u skladu sa politikom kvaliteta. Osnova za izradu planova kvaliteta su:

- poslovnik kvaliteta,
- tehničko-tehnološka dokumentacija,
- procedure,
- uputstva,
- standardi, i
- upravljačka dokumentacija.

Sistem upravljanja kvalitetom trebalo bi da izvrši integraciju organizacione strukture, postupaka, procesa i resursa koji su neophodni za realizaciju politike kvaliteta i stvaranje profita. Sistem za upravljanje kvalitetom treba da:

- omogući ispunjenje politike i ciljeva kvaliteta definisanjem odgovornosti i ovlašćenja;
- definiše radno mesto direktora za upravljanje kvalitetom;
- omogući bolju komunikaciju sa partnerima i unutar organizacije posredstvom timskih sastanaka, tabela za obaveštavanje, intraneta;
- definiše dokumentaciju o kvalitetu i zapise koji su osnova za primenu i održavanje sistema.

Preispitivanje od strane rukovodstva odnosi se, pre svega, na proveru i ažuriranje politike i ciljeva kvaliteta, definisanje planova poboljšanja, definisanje mera za povećanje zadovoljstva, ažuriranje sistema upravljanja kvalitetom, definisanje i obezbeđivanje resursa za poboljšanje, definisanje planova poboljšanja korišćenja resursa i upravljanje resursima.

REFERENCE

- [1] M. Jovanović-Božinov, T. Kulić, T. Cvetkovski, Menadžment ljudskih resursa, Megatrend univerzitet, (2004.),
- [2] A. Price, Human Resource Management in a Business Context, Thomson Business Press, (1977.),
- [3] D. Torrington, L. Hall, S. Taylor, Menadžment ljudskih resursa, Data Status, Beograd, (2004.),

- [4] Olport, T: Sklop i razvoj ličnosti, Kultura, Beograd, 1969.,
- [5] Nikola Rot: Psihologija ličnosti, Beograd, 1973.,
- [6] Ivan Vidanović: "Rečnik socijalnog rada"
- [7] Čukić, B. (2003): Psihologija rada: usklađivanje čoveka i posla, ICIM+, Kruševac, ,
- [8] Vujić, D. (2000): Menadžment ljudskih resursa i kvalitet - ljudi ključ kvaliteta i uspeha., Centar za primenjenu psihologiju Društva psihologa Srbije, Beograd,
- [9] Petz, B. (1987): Psihologija rada, Školska knjiga, Zagreb,
- [10] Čukić, B. (1995): Nova upotreba znanja, Privredni pregled, 28.11.95, Beograd
- [11] Bobko, Ph., Roth, Ph. L., Potosky, D. (1999): Derivation and Implications of Meta-Analytic Matrix Incorporating Cognitive Ability, Alternative Predictors, and Job Performance, Personnel Psychology, Durham, Autumn 1999,
- [12] Guzina, M. (1980.) Kadrovska psihologija, Naučna knjiga, Beograd,
- [13] Employment Policy in the Member States, Social Europe 3/89, Brussels, 1989, Employment In Europe 1989, Annual Report, Commission of the European Communities, Brussels, 1989, Achievement Motive, New York, Appleton-Century-Crofts, Steers, R.M. & Porter, L.W. (1987): Motivation and Work Behavior, McGraw-Hill, New York,
- [14] McClelland, D.C.: The Achieving Society, Princeton, NJ.: Van Nostrand, 1961,
- [15] Schein, E. H. (1985) : Organization Culture and Leadership, Jossey Bass, New York; Armstrong, M. (2001): A Handbook of Human Resource Management Practice, Kogan Page Limited, London (UK), Milford (USA),
- [16] Bandura, A. (1977): Social Learning Theory, Prentice-Hall, Englewood Cliffs, NJ
- [17] Drucker, P. (1954): The Practice of Management, Harper & Row, New York
- [18] Locke, E.A. (1968): Toward a Theory of Task Performance and Incentives, Organizational Behavior and Human Performance, Vol. 3, 1968, pp. 57-189; Locke, E.A. & Latham, G.P. (1990.): A Theory of Goal Setting and Task Performance, Englewood Cliffs, NJ., Prentice Hall
- [19] Latham, G. P. & Baldes, J. J. (1975): The Practical Significance of Locke's Theory of Goal Setting, Journal of Applied Psychology, vol. 60, 1975, pp. 187-191; Locke, E. A., Shaw, K.N. , Saari, L.M. & Latham, G.P. (1981): Goal - Setting and Task Performance: 1969-1980, Psychological Bulletin, 90, pp. 125-15; Erez, M. & Zidonj, (1984): Effect of Goal Acceptance on the Relationship of Goal Difficulty to Performance, Journal of Applied Psychology, vol. 69, 1975,
- [20] Wood, R. E., Mento, A. J. & Locke, E. A. (1987): Task Complexity as a Moderator of Goal Effects: A Meta-Analysis, Journal of Applied Psychology, vol. 72, 1975,
- [21] Lewin, K., (1951): Field theory in social science, New York
- [22] Merč, Dž. Dž. i Sajmon, H.E. (1972): Teorija o organizacijama, Beograd, BIGZ,
- [23] Katz, D. & Kahn, R. L. (1966): The Social Psychology of Organizations, Wiley, New York,
- [24] Čukić, B. (1985): Apseñtizam u radu i samoupravljanju, Svetlost, Kragujevac
- [25] Drucker Peter (1986): The Practice of Management, Harper & Row Publishers Inc,
- [26] Drucker Peter (1995): Menadžment za budućnost, Grmeč (prevod), Beograd,
- [27] Kondo Joshio (1997): Motivacija, kreativnost i kontrola kvaliteta - japanska perspektiva, Evropski centar za mir i razvoj, Beograd,
- [28] Taylor Frederick (1967): Naučno upravljanje, Rad (prevod), Beograd.

SMALL AND MIDDLE ENTREPRENEURSHIP AS A FACTOR OF COMPETITION GROWTH

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Abstract: Small and medium companies like the basic generator of hiring and economic development, have a key roll in EU economy, with special meaning on market development of the countries in transition. MSP creates condition for application of entrepreneurial behavior in the economy, makes competition stronger on economy level and also have influence on strengthening of private property. According to official statistics, about 99,8% of companies are MSP, therefore makes priority of the overall economy. Many of domestic entrepreneurs that are in the crisis are seeing their chances for realization of their ideas by starting their own business and using natural resources.

The authors point to the role and importance of SMEs in the economy of the EU and importance of innovation, foreign investment that are essential for development of small and medium companies in EU. Development of small and medium entrepreneurship, which is a key part in economic structure in EU, makes the economy stronger, increase employment that influence on economic independence and stability of the country. Management has a special role in development of small and medium companies and his task is to move and direct activity of the companies, so that they can achieve their goals.

Keywords: smal and medium size enterprise, competitiveness, foreign direct investment (FDI)

MALA I SREDNJA PREDUZEĆA KAO FAKTORI RASTA KONKURENTNOSTI

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Sažetak: Mala i srednja preduzeća kao osnovni generatori zapošljavanja i razvoja privrede imaju ključnu ulogu u privredi EU, sa posebnim značajem za tržišni razvoj zemalja u tranziciji. Naime, M S P stvaraju uslove za primenu preduzetničkog ponašanja u privredi, jačaju konkurentnost na nivou privrede, a takođe utiču na jačanje privatne svojine. Prema službenoj statistici EU oko 99, 8% preduzeća čine upravo MSP, te tako čine prioritet razvoja cjelokupne privrede. Mnogi domaći preduzetnici u krizi su zapravo videli šansu za ostvarenje svoje ideje pokretanjem biznisa i korišćenjem prirodnih bogatstava.

U radu autori ukazuju na ulogu i značaj MSP u ukupnoj privredi EU, kao i na značaj inovacija, stranih direktnih investicija koji su od ključnog značaja za razvoj malih i srednjih preduzeća u EU. Razvojem malog i srednjeg preduzetništva koje zauzima ključno mesto u strukturi privrede EU, jača ukupna snaga privrede, povećava se zaposlenost što utiče na povećanje stepena nezavisnosti i stabilnosti ekonomije zemlje. Posebnu ulogu u

razvoju malih i srednjih preduzeća ima menadžment, koji ima zadatak da pokrene i usmerava delatnost preduzeća da bi se ostvarili njegovi ciljevi.

Ključne reči: Mala i srednja preduzeća, konkurentnost, inovacije, SDI

1. UVOD

Mala i srednja preduzeća se smatraju jednom od vodećih snaga ekonomskog razvoja. Treba napomenuti da su postojale velike razlike među državama u definisanju malih i srednjih preduzeća, pa je Evropska komisija preporučila državama članicama, Evropskoj investicionoj banci, Evropskom investicionom fondu upotrebu jedinstvenih kriterijuma za definisanje MSP, kombinovanjem nekoliko sledećih kriterijuma:

- ✓ broj zaposlenih,
- ✓ godišnji obim prodaje,
- ✓ prosečni obim aktive preduzeća,
- ✓ samostalnost u odlučivanju.

U OECD ekonomijama mala, srednja i mikro preduzeća (MSMP) čine preko 95% biznisa. U njima je 60-70% ukupno zaposlenih i ova preduzeća generišu oko 55% GDP. U zemljama u

razvoju 90% biznisa (izuzimajući poljoprivredni sektor) čine MSMP.[1]

Prema Međunarodnoj Finansijskoj Korporaciji (IFC) postoji pozitivna veza između ukupnog nivoa dohotka jedne zemlje i broja MSP na 1000 stanovnika. Izveštaji Svetske Banke (WB) pokazuju da postoji direktna veza između jačanja „zdravog“ MSP sektora u nekim zemljama i smanjenja aktivnosti na tzv. „crnom tržištu“. Stvaranje uslova za razvoj malih i srednjih preduzeća ima veliki značaj za povećanje konkurentnosti. MSP poseduju veću fleksibilnost i veću moć prilagođavanja tržišnim kretanjima što je uslov efikasnijeg poslovanja, a samim tim i povećanja konkurentnosti.[2] Takođe, preduzeća su spremna na prestrukturiranje koje je stalno prisutno u tržišnim privredama. Struktura preduzeća je važan faktor demonopolizacije privrede. Razvoj malog i srednjeg preduzetništva omogućava organizaciju delatnosti na savremenom tehničko-tehnološkom nivou, povećanje kvaliteta proizvodnje i uspostavljanje tržišnih uslova privređivanja.

Njihovo osnivanje zahteva manja finansijska sredstva, što je značajno za zemlje u tranziciji koje se suočavaju sa nedostatkom finansijskih sredstava. Takođe utiču na povećanje zaposlenosti što je takođe bitno za ove zemlje. Posebno treba istaći da su mala i srednja preduzeća nosilac preduzetničkog duha. On obuhvata karakteristike kao što su: kreativnost, inovativnost, sposobnost preuzimanja rizika, želja za maksimalnim uspehom, fleksibilnost odnosno prilagođavanje novim tržišnim i poslovnim zahtevima. Da bi opstale na tržištu preduzeća za kratko vreme menjaju deo ili celokupno poslovanje. Fleksibilna struktura nekog preduzeća omogućava lakše kombinovanje poslovnih resursa, bolju iskorišćenost kapaciteta, uštede u materijalu i vremenu i povećava efikasnost i produktivnost. Fleksibilna kompanija se za kratko vreme preorijentiše na novu proizvodnju ili uslugu i na taj način odgovara zahtevima tržišta i konkurencije.

Zbog toga, sve više se ističe potreba ubrzanog razvoja sektora MSP i svrstava se u razvojne prioritete zemalja u tranziciji. Međutim, potrebno je stvoriti uslove da sektor MSP posluje u jednostavnom i sigurnom pravnom okruženju, polazeći od načela da je cilj

zakona i propisa da omogući rad preduzećima i preduzetnicima, a ne da postavlja prepreke. Veliki značaj u podsticanju malog i srednjeg preduzetništva ima država i njena ekonomska politika (mere monetarno-kreditne politike i poreska politika).

Takođe na razvoj MSP pozitivno utiče osnivanje agencija koje će im pružati odgovarajuću pomoć (pružanje konsalting usluga i pomoć u rukovođenju, stručno osposobljavanje kadrova iz oblasti preduzetništva, pružanje pomoći pri osnivanju preduzeća, pružanje raznih informacija i sl.). Bitno je i stvaranje programa za podsticanje samofinansiranja procesa reprodukcije korišćenjem nekonvencionalnih finansijskih institucija (zanatskih zadruga, promocija prednosti ortočkih biznisa, obezbeđenje institucionalnih uslova za kolateralno kreditiranje nabavke opreme i reprodukcionog materijala i sl.). Podsticanje razvoja MSP podrazumeva i obezbeđenje tehničke podrške i finansijskih sredstava za izgradnju fizičke infrastrukture za potrebe razvoja ovog sektora gde spadaju: centri za razvoj malog biznisa, industrijske zone malog biznisa, klasteri, inkubatori.

2. INOVACIJE I ODRŽAVANJE KONKURENTSKE PREDNOSTI PREDUZEĆA

Mnoga preduzeća smatraju da je dovoljno da uspostave konkurentsku prednost i da samo nastave da investiraju više resursa kako bi održale prednost. Međutim, situacija nije ni približno tako jednostavna. Brze tehnološke promene čine da svakim danom veliki broj proizvoda, usluga, strategija zastarevaju i zahtevaju inoviranje. Da bi ostale konkurentne, već razrađene i razvijene firme moraju neprestano da traže nove šanse za rast i nove metode za strategijsko unapređenje svog učinka. Promene u potrebama potrošača, nove tehnologije i pomeranja do kojih dolazi na konkurentskoj sceni zahtevaju od kompanija da neprestano sprovode inovacije i da iniciraju korporativne poduhvate s ciljem uspešnog nadmetanja u konkurentskoj utakmici.[4] Reč inovacija vodi poreklo od latinske reči novus, što znači novo. Inovacija podrazumeva uvođenje ili promenu na neko novo stanje.

Slavni ekonomista Džozef Šumpeter (Joseph Schumpeter) uveo je koncept „olujna kreativne destrukcije“ koji je postao opšte prihvaćen, a koji je stvoren zbog stalne čovekove težnje da osvaja neotkriveno, da stvori ono što do tada nije viđeno i što je dovelo svet u stanje da više niko ne može da pojmi brzinu odvijanja procesa u svim oblastima delovanja. Dakle, inovacija je suštinski element dugotrajne konkurentne prednosti.

Inovacije su jedan od najvažnijih izvora iz kojih se rađaju povoljne poslovne šanse, javljaju se kao rezultat istraživačko razvojne aktivnosti u preduzeću. Osnovna funkcija istraživanja i razvoja se ogleda u identifikovanju šansi i pretnji iz okruženja kao i na usmeravanju akcija prema određenim ciljevima.

„Pobeđivanje u poslovanju danas traži inovacije“ kompanije se ne zadovoljavaju svojim uspesima iz prošlosti, nastavljaju da inoviraju svoje proizvode i procese. [3]

Inovacija podrazumeva upotrebu novog znanja s ciljem transformisanja organizacijskih procesa ili da bi se stvorili proizvodi i usluge koji su primamljivi sa komercijalnog aspekta. Kako god da nastaju, inovacije su kombinacije ideja i informacija koje donose pozitivne promene.[4] Inovativnost obuhvata kreativnost i eksperimentisanje koji rezultiraju novim proizvodima, novim uslugama ili poboljšanim tehnološkim procesima.[4]

Na osnovu istraživanja evidentno je da naša preduzeća u velikom broju (85,9%), posebno mala i srednja upražnjavaju inovativne aktivnosti. Sa stanovišta inovativnih troškova uočava se nizak nivo u poređenju sa zemljama EU (1,96%).[5]

Najveći problem koji se uočava je finansiranje inovativnih aktivnosti, koje je jako malo, usled brojnih ograničenja (slabosti obrazovnog sistema, nedovoljnog broja studenata tehničkih struka, nedovoljna uključenost individualaca u obrazovanje).

U Republici Srbiji, Bosni i Hercegovini (Republika Srpska) preduzeća daju sve veći značaj inovativnosti kao osnovnom izvoru konkurentne prednosti. Ali postoji mnoštvo prepreka koje utiču da se inovativne aktivnosti naših preduzeća sporo razvijaju. Među značajnim preprekama pojavljuje se pitanje vlasništva preduzeća koje nije rešeno, nepovoljna starosna struktura zaposlenih kao i kvalifikaciona struktura, nedovoljno ulaganje u istraživanje i razvoj,

tehnološka zastarelost. Naša preduzeća primorana su na poslovanje unutar domaćeg tržišta. Spoljnotrgovinsko poslovanje se može povećati jedino ukoliko se poveća konkurentnost naše privrede.

Sposobnost jedne kompanije da prihvati inovacije i održi svoje konkurentne prednosti zavisi

od tri organizaciona faktora. Kao prvi javljaju se resursi firme, kako materijalni, tako i nematerijalni. Oni determinišu šta jedna firma može, a šta ne može da uradi. Ukoliko firma poseduje obilje resursa ova situacija može povećati šanse firme tokom promena. Drugi faktor čine interni odnosi koji su možda i važniji od resursa kojima raspolaže preduzeće. Interni procesi uključuju interakciju, komunikaciju, koordinaciju i način donošenja odluka. Treći faktor predstavljaju vrednosti preduzeća. Vrednosti se odnose na standarde po kojima menadžeri određuju prioritete i odgovore na pitanja kao što su: kako rasporediti retke organizacione resurse, koji proizvod razvijati, kome prodati taj proizvod.

Inovacije se često koriste da bi se osavremenili i unapredili proizvodi ili usluge, ili da bi se

poboljšale procedure unutar organizacije. Upravljanje procesom inovacije često predstavlja

izazov, jer uključuje priličan stepen neizvesnosti i potrebno je napraviti izbor u vezi sa obimom i tipom inovacija koje će se preduzimati.

Ovi izbori predstavljaju pet dilema koje kompanije moraju da razreše kada se upuste u inovacije, a to su:[6]

1. Žito i kukolj – iz mnoštva potencijalnih inovacija - inovativnih ideja, firme moraju da procene koje inovativne ideje imaju šansu da daju dobre rezultate, dakle da donesu inovacije (žito), a koje ne (kukolj).
2. Iskustvo ili inicijative – kompanije moraju da odluče da li će inovativni projekat voditi menadžeri višeg ranga koje možda imaju iskustvo i potrebno znanje, ali najčešće nisu spremni da rizikuju ili menadžeri srednjeg ranga koji i sami mogu biti inovatori i nosioci inovativnog projekta.
3. Angažovanje internog osoblja ili kadrova.
4. Stvaranje sposobnosti ili saradnje.
5. Postepeno lansiranje inovacija ili rano lansiranje inovacija - vremenski aspekt inovacija je veoma važan, zbog čega kompanije moraju da vode računa o tajmingu novih inovativnih projekata i o njihovom obimu.

Prema IMD [7] iz Lozane postoji nekoliko faktora koji direktno ili indirektno doprinose povećanju konkurentnosti, a to su:[8]

1. Ekonomski uslovi,
2. Efikasnost vlade,
3. Efikasnost privrede,
4. Infrastruktura.

Kad je reč o ekonomskim uslovima, ovde se misli na konkurenciju koja se temelji na tržišnim principima i poboljšava privredne uslove zemlje. Osim toga, ekonomski aspekti konkurentnosti podrazumevaju sledeće elemente:

- ✓ rast konkurencije na domaćem prostoru povećava konkurentnost preduzeća na inostranom tržištu;
- ✓ otvorenost prema međunarodnim tokovima povećava ekonomske potencijale zemlje;
- ✓ međunarodne investicije uvećavaju efikasnost alokacije privrednih resursa;
- ✓ konkurentnost izvoza je povezana sa razvojnou orijentacijom zemlje.

Efikasnost vlade podrazumeva:

- ✓ minimalnu državnu intervenciju u privrednim aktivnostima i odvojenu od stvaranja konkurentskih uslova;
- ✓ ulogu države u obezbeđivanju makroekonomskih i socijalnih uslova koji će biti transparentni i na taj način smanjiti spoljne rizike za preduzeća;
- ✓ fleksibilnu ulogu države u sprovođenju ekonomske politike u uslovima čestih promena međunarodnih okolnosti;
- ✓ državno obezbeđenje adekvatnih obrazovnih uslova, i razvoja preduzeća zasnovanih na znanju od strane države.

Efikasnost privrede podrazumeva da:

- ✓ da ključna pretpostavka uspešnog menadžmenta je sposobnost prilagođavanja spoljnim okolnostima i da na taj način uveća konkurentnost izvoznika;
- ✓ raspoloživa finansijska sredstva olakšavaju aktivnosti koje doprinose stvaranju nove vrednosti;
- ✓ razvijeni finansijski sektor podržava međunarodnu konkurentnost zemlje;
- ✓ održavanje visokog životnog standarda pretpostavlja integraciju u međunarodnu privredu;
- ✓ obrazovana i kvalifikovana radna snaga povećava konkurentsku sposobnost zemlje;
- ✓ stavovi zaposlenih isto utiču na konkurentnost privrede.

Kod infrastrukture se podrazumeva da:

- ✓ razvijena infrastruktura podržava dinamičnu ekonomsku aktivnost i uključuje efikasnu informacijsku tehnologiju, kao i efikasnu zaštitu;

- ✓ je moguće izgraditi komparativnu prednost na efikasnoj i inovativnoj upotrebi postojećih tehnologija;
- ✓ investicije u fundamentalna istraživanja i inovacije ostvaruju nova znanja koja su od ključne važnosti za zemlju koja se nalazi na razvijenom delu privredne lestvice;
- ✓ dugoročne investicije u istraživanja i razvoj (R&D) povećavaju konkurentnost preduzeća.

Ekonomija preduzetništva predstavlja realnost u globalnoj privredi, gde se broj konkurenata svakim danom povećava. Nacionalna privreda, koja podržava preduzetnički duh, stvara uslove za povećanje produktivnosti kroz investiranje u individualnu sposobnost pojedinca u društvu, kao i svake firme, bez obzira na oblik organizacije i karakter vlasništva. Da bi se uspešno mogla ostvariti konkurentnost, potrebno je slediti primere razvijenih zemalja koje su primenile pristup aktivnog učešća različitih interesnih grupa: Vlade, privatni sektor i međunarodna zajednica.

3. ULOGA STRANIH DIREKTNIH INVESTICIJA (SDI) U POVEĆANJU KONKURENTNOSTI

Investicije predstavljaju jedno od osnovnih područja makroekonomske odnosno razvojne politike svake zemlje. Obim, struktura i efikasnost investicija u nekoj ekonomiji bitno opredeljuju putanju njenog razvoja. S obzirom na nisku akumulativnu sposobnost privreda u

tranziciji SDI predstavljaju najkorisniji izvor kapitala. One imaju nekoliko značajnih prednosti u odnosu na druge izvore koji se mogu koristiti - zaduživanje u inostranstvu i portfolio investicije. Ključna prednost SDI u odnosu na inostrane kredite je u tome što one ne podrazumevaju značajnije odlive kapitala u budućnosti koji mogu ugrožavati tekući bilans i

privredni rast u tim periodima. Strani menadžment uči i primorava na racionalnost u radu, odnosno na profitabilno poslovanje. U tom smislu on pomaže dvostruko: materijalno-finansijski podupirući proces privatizacije i edukativno-učenje kroz praksu.

SDI ne znače samo priliv svežeg kapitala, već sa sobom nose i nove tehnologije, nov način upravljanja, nove metode i kanale distribucije proizvoda. Zbog toga je stvaranje povoljne investicione klime od prvorazrednog značaja za razvoj zemalja u tranziciji i povećanje njihove konkurentnosti. Takođe, ulazak SDI u pojedine grane može povećati konkurentski pritisak i

primorati postojeća preduzeća na pronalaženje načina za poboljšanje svog poslovanja. Efekat

ulaska stranih kompanija je veći po lokalnu privredu ukoliko su domaće firme prethodno imale dominantan položaj na tržištu zbog čega su motivi za povećanje produktivnosti i uvođenje nove tehnologije bili mali. Priliv stranog kapitala omogućava ubrzanje strukturnih

reformi, više stope rasta, povećanje deviznih rezervi, liberalizaciju deviznih restrikcija i dobijanje povoljnog kreditnog rejtinga.

Takođe priliv stranog kapitala, a pre svega SDI zavisi od: kreditne sposobnosti primaoca, od

političkih uslova u zemlji, od stepena makroekonomske stabilnosti, od uspeha u sprovođenju institucionalnih reformi, od jačanja izvoznog sektora u dužem, srednjoročnom periodu, od toga da li je zemlja uspela da dobije sredstva na međunarodnom tržištu kapitala ili da odloži otplate dugova prema zemljama članicama Londonskog i Pariskog kluba.

4. KONKURENTSKA SPOSOBNOST MSP

Konkurentska sposobnost MSP je bitan faktor za uspešno poslovanje i pozicioniranje na globalnom tržištu. MSP najčešće vodi jedan rukovodilac, vlasnik, menadžer gde se u prvoj fazi razvoja, menadžment zasniva na znanju i iskustvima vlasnika preduzeća – preduzetnika

koji je na sebe preuzeo veći deo funkcija (organizovanje proizvodnje, nabavke i prodaje, obezbeđivanje finansijskih sredstava i dr.). Vlasnik preduzeća je obično i generalni menadžer, i on po pravilu ne učestvuje u procesu proizvodnje, ali radi na poslovima drugih poslovnih funkcija, kao što su komercijalni poslovi, razvoj, planiranje, itd. Celokupna delatnost menadžera obuhvata više funkcija razvrstanih u tri grupe:[9]

1. funkcije sa područja međuljudskih odnosa (zastupanje interesa preduzeća i javnosti, vođenje i uspostavljanje veza i poznanstava);
2. funkcije sa područja informacija (kontrolna funkcija, funkcija prenosa informacija i funkcija posrednika);
3. funkcije sa područja donošenja odluka (preduzetnik, rukovodilac u uslovima nemira, alokator resursa i pregovarač).

Komparativna prednost preduzeća se postiže uz što veću tržišnu fleksibilnosti i niže troškove poslovanja, što dovodi do izražaja preduzetničku inicijativu, inovativnost i kreativnost. MSP kao fleksibilna, poseduju mogućnost brzog adaptiranja pogotovo na promene koje treba da zadovolje zahteve tržišta.

Tabela 1. Komparativne prednosti MSP u odnosu na druge organizacije: [10]

Najznačajnije prednosti	
Ekonomske prirode	Socijalne prirode
1. tržišna i tehnološka fleksibilnosti	1. povećanje zaposlenosti
2. bolje uočavanje tržišnih šansi	2. razvoj preduzetničke klime u privredi
3. logistička podrška velikim preduzećima	3. uspostavljanje boljih odnosa sa partnerima u poslovnom lancu
4. lakša implementacija savremenih menadžment tehnika	4. bolje obuhvatanje potreba zaposlenih
5. međusobna poslovna saradnja koja podstiče privredni razvoj (posebno na lokalnom i regionalnom nivou)	5. zapošljavanje posebnih kategorija (mladih, žene, penzioneri, invalidi, etničke grupe, itd.)
	6. doprinos razvoju lokalne zajednice

Brojni spoljni i unutrašnji faktori utiču na konkurentnost preduzeća kao što su:

- ✓ razvoj menadžmenta (ukoliko zemlja želi da bude konkurenta na tržištu, njihovim preduzećima treba da upravljaju efikasni i dobro obučeni menadžeri sa svim svojim veštinama i sposobnostima),
- ✓ sistem kvaliteta (pitanje standarda kvaliteta je veoma značajno za sektor MSP i treba da omogući efikasan program uvođenja sistema kvaliteta i da bude dostupan svim zainteresovanim u sektoru MSP),
- ✓ inovacije (treba da postoji podrška preduzećima u razvoju, testiranju novih proizvoda, poboljšanju postojećih, kao i podrška u razvoju i primeni inovacija).

Postoji i razlika između preduzetničkog i nepreduzetničkog preduzeća, jer preduzetničko preduzeće se razlikuje od malog i srednjeg preduzeća i stalno je fokusirano na novim šansama i inoviranju i menjanju. Preduzetnik je osnivač malog preduzeća, on je ujedno vlasnik i menadžer. Mala preduzeća su značajan izvor inovacija, koja pokreću rast preduzeća, a ujedno doprinose i napretku ukupne ekonomije. U ovim preduzećima preduzetnički talenat podstiče i unapređuje kreativnost i stvaralaštvo. [11]

Mala i srednja preduzeća u cilju unapređenja konkurentnosti na tržištu, kao rešenje uzimaju strateško povezivanje u klastere. Udružujući se u klastere MSP pokušavaju da nadoknade ono što svakom preduzeću nedostaje, a to su kadrovi, finansije, sirovine, nova znanja, tehnologije i sl.

U cilju što bolje implementacije politike klastera, potrebna je podrška više državnih institucija kao što su: ministarstva, agencije, instituti i sl., ali i nevladinog sektora. Takođe, preduzetnici, odnosno, MSP moraju da preduzimaju inicijativu za udruživanje, jer država ne može uvek pravovremeno reagovati na njihove potrebe. [12]

5. DISKUSIJA I ZAKLJUČAK

U današnje vreme se konkurentnost privrede više ne određuje samo na osnovu prirodnih resursa, već se sve više ističe značaj stvaranja i implementacija znanja. To naime upućuje na činjenicu da se tržišta, proizvodi, tehnologije dinamički menjaju. Svi ovi inovativni pristupi rasta konkurentnosti uključuju i aspekt preduzetništva. Često se preduzetništvo izjednačava sa stvaranjem većeg broja preduzeća, ali ne treba poistovećivati ovaj pojam uvek sa brojem preduzetnika ili MSP. Naime, velika preduzeća mogu po svojoj prirodi biti preduzetnička ako im je inovacija poslovna filozofija. To naravno podrazumeva da je potrebno ne samo izvršiti inoviranje svih činilaca proizvodnje, nego je potrebno kreirati nove poslovne ideje. Pri pominjanju pojma preduzetništva se prvo uzimaju u obzir MSP koja imaju odličnu sposobnost prilagođavanja sve dinamičnijim promenama na tržištu. MSP su generatori razvoja kako u tranzicionim, tako i u zemljama razvijene tržišne ekonomije. Takav primer pokazuje EU, gde preovlađuju mala i srednja preduzeća u privredi i koja imaju značajnu ulogu u stvaranju radnih mesta, kao i u stvaranju ekonomskog rasta i razvoja. Ova preduzeća značajno doprinose podizanju životnog standarda, povećanju bruto društvenog proizvoda, izvoza i konkurentnosti.

Sve dinamičniji razvoj i rast MSP i preduzetništva u narednim periodima zahteva podsticanje inovativne aktivnosti preduzeća, razne programe za podršku rasta produktivnosti, podizanje konkurentnosti preduzeća, jačanje izvozne orijentacije, investiranje i promovisanje poslovne saradnje među privrednim subjektima (razvoj

klastera). Neophodno je sektoru MSP pružati odgovarajuću podršku primenom politike koja će podstaći njegov dalji napredak, posebno onih MSP koja imaju najveće potencijale za razvoj inovativnosti i internacionalizaciju poslovanja.

REFERENCE

- [1] Dostupno na: <http://www.wbcsd.org/pages/edocument/edocumentdetails.aspx?id=202>;
Promoting small and medium enterprises for Sustainable Development, World Business Council for Sustainable Development; datum pristupa: 06.08.2013.
- [2] Radosavac, A., "Preduzetništvo kao faktor razvoja agro privrede Republike Srpske", doktorska disertacija, Poljoprivredni fakultet, Univerzitet u Novom Sadu, 2014. godine.
- [3] Robbins, Sthepen, P., Coulter, M., "Menadžment" prvo izdanje, Data status, Beograd, 2005.
- [4] Dess, G. G., Lumpkin, G. T., Eisner, A. B.: "Strategijski Menadžment" -Teorija i slučajevi, treće izdanje, prevod sa engleskog jezika, Data status, Beograd, 2007, str. 433.
- [5] Stojanović, B., "Konkurentnost privrede Srbije i politika zaštite konkurencije", Ekonomika preduzeća, 2007, mart-april, str. 126-138
- [6] Dostupno na: <http://gbr.pepperdine.edu/2010/08/managing-innovation-through-corporate-venturing/>, Morrissey, C. A: Managing innovation through corporate venturing, Graziadio Business Report, Volume 3, Issue 2. 2000; datum pristupa: 06.08.2013.
- [7] International Institut for Managment Development,
- [8] Konkurentnost privrede Srbije, Jefferson Institute, Beograd, 2003, str. 27-28.
http://www.nbs.rs/export/sites/default/internet/latinica/90/90_0/konkurentnost_privrede_srbije.pdf, datum pristupa: 16.04.2013.
- [9] Ceranić, S., "Menadžment malih i srednjih preduzeća", monografija, Beograd, 2009.
- [10] Đorđević, D., Bešić, C., Bogetić, S., Osnove funkcionisanja savremene ekonomije, Tehnički fakultet Mihajlo Pupin, Zrenjanin, 2004, str.101.
- [11] Bijelić, N., "Preduzetništvo", Viša ekonomska škola Peć u Leposaviću, Beograd, 2005.
- [12] Đorđević, D., Bogetić, S.: Klasteri kao oblik unapređenja konkurentnosti malih i srednjih preduzeća na tržištu, Poslovna politika, 2006, vol. 35, br. 2, str. 9-12.

IMPORTANCE OF LEADERSHIP IN THE MANAGING OF ORGANIZATIONAL CULTURE IN CRISIS BUSINESS CONDITIONS

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Abstract: The ruling cultural forms in an organization can be to its advantage, but they can also brake its development. Because of this, issues of creating adaptive organizational culture and its management are becoming increasingly important in the process of effective implementation of organizational changes in Serbian companies struggling with transition and economic crisis challenges. Starting from that, the main purpose of this paper is to point to a different scenario in seeking the release from deteriorating economic conditions created under the influence of the economic crisis in which changes, culture and leadership play increasingly important role. Leadership is an irreplaceable element in all phases of implementing changes, but its role is particularly important in initiating changes, and in this sense, in the managing of the dominant values and beliefs, regarding organizational culture. This paper attempts to emphasize the importance and the role of leaders in the proper managing and changing of organizational culture in times of crisis through clarification of the complex relationship between leadership and organizational culture.

Keywords: leadership, leader, organizational culture, economic crisis

ZNAČAJ LIDERSTVA U UPRAVLJANJU ORGANIZACIONOM KULTUROM U KRIZNIM USLOVIMA POSLOVANJA

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Apstrakt: Vladajući kulturni obrasci u preduzeću mogu biti njegova prednost, ali i kočnica njegovog razvoja. Zbog toga pitanja stvaranja adaptivne organizacione kulture i upravljanja njome postaju sve značajnija u procesima efikasnijeg sprovođenja organizacionih promena u borbi srpskih preduzeća sa izazovima tranzicije i ekonomske krize. Polazeći od toga, osnovna svrha ovog rada je da ukaže na drugačiji scenario u pronalaženju izlaza iz pogoršanih uslova poslovanja nastalih pod dejstvom ekonomske krize u kojem promene, kultura i liderstvo igraju sve značajniju ulogu. Liderstvo je nezamenljivi elemenat svih faza sprovođenja promena, ali je od posebne važnosti njegova uloga u iniciranju promena, te u tom smislu i upravljanju sistemom dominantnih vrednosti i verovanja, odnosno upravljanju

organizacionom kulturom. U ovom radu pokušano je da se kroz rasvetljavanje kompleksnog odnosa između liderstva i organizacione kulture istakne značaj i uloga lidera u adekvatnom upravljanju i menjanju organizacione kulture u uslovima krize.

Ključne reči: liderstvo, lider, organizaciona kultura, ekonomska kriza

1. UVOD

Poslednjih decenija srpska privreda razvijala se u veoma nestabilnim i problematičnim tranzicionim okolnostima koje su sa sobom donele pad proizvodnje, zaposlenosti, izvoza, potrošnje, i pad celokupne poslovne aktivnosti. Veliki projekti koji su realizovani u cilju stvaranja konkurentnije privrede i transfera znanja iz razvijenih tržišnih ekonomija, privlačenje stranih investicija u vidu omogućavanja povoljnijih uslova poslovanja stranim vlasnicima, privatizacija preduzeća u državnom vlasništvu i sprovođenje mera restrukturiranja, nisu dale očekivane pozitivne rezultate. Svetska ekonomska kriza primorala je naša preduzeća na nove uslove poslovanja i povećala postojeće probleme iz procesa privatizacija i restrukturiranja koji su dominantno obeležili dosadašnji tranzicioni period srpske privrede. U navedenim okolnostima refleksne reakcije većine srpskih kompanija sastojale su se od redukcije troškova, smanjivanja resursa u skladu sa padom prihoda ili zaduživanja bez konkretnog plana otplaćivanja i poboljšanja poslovanja.

Kriza se može posmatrati kao signal da nešto temeljno treba menjati, a ne samo refleksno reagovati na njene negativne uticaje iz okruženja. Radi se o promeni načina stvaranja održivog rasta i razvoja kompanija, koji otvara nove perspektive i izazove dovodeći u pitanje efikasnost tradicionalnih metoda poslovanja. Novonastala situacija na tržištu postavlja i nov odnos prema konkurentnosti, koji ukazuje da glavni resurs nije više finansijski, odnosno materijalni kapital, prirodni resursi ili fizički rad, već nematerijalni resursi. Nematerijalni resursi, kao što su znanje i kontinuirano ulaganje u znanje, stvaraju dodatnu vrednost, prodaju proizvode i usluge stvarajući zadovoljne potrošače i ostale stejkholdere. Nov način stvaranja vrednosti ukazuje na to da je za kompaniju važnija sposobnost zaposlenih da stvaraju vrednost zasnovane na njihovom znanju od veličine vrednosti fizičke imovine. Prelazak na ovakav vid shvatanja konkurentnosti zahteva i promenu u načinu razmišljanja i ponašanja svih zaposlenih u preduzeću, odnosno redefinisane postojeće organizacione kulture.

Organizaciona kultura u organizaciji može biti njena prednost, ali i slabost razvoja. Pitanja stvaranja adaptivne organizacione kulture i upravljanja njome, kao i pitanja uloge liderstva u tom procesu postaju sve aktuelnija u procesima efikasnijeg implementiranja organizacionih promena u okolnostima ekonomske krize.

2. ZNAČAJ ORGANIZACIONE KULTURE U KRIZNIM USLOVIMA POSLOVANJA

Poslednjih godina pojam organizacione kulture postao je jedan od najistraživanijih tema u oblasti organizacionih istraživanja u poslednjim decenijama. Razlog za to možemo potražiti u ekspanziji japanske privrede koja je bila podsticaj za mnogobrojna istraživanja fenomena organizacione kulture. Veliki broj uporednih kulturnih istraživanja došao je do saznanja da organizacije kroz svoje privredne aktivnosti razvijaju i specifičan sistem vrednosti i normi (kulturu) koja se razlikuje od drugih organizacija i koja može

predstavljati komparativnu prednost. Proučavanjem uspeha japanskih kompanija, uočeno je da je za to zaslužno novo shvatanje kvaliteta i specifičan odnos lidera i zaposlenih prema svom poslu i kompaniji iz kojeg je proisteklo njihovo veliko zalaganje. Grupa istraživača, okupljenih oko Mek Kinsi Instituta (*McKinsey Institute*), ukazala je da se povećanje efektivnosti i efikasnosti organizacije mora tražiti u tzv. mekim varijablama preduzeća, koje se fokusiraju na način na koji se preduzeće odnosi prema kupcima / klijentima i zaposlenima, kako se stiču potrebna znanja, stvaraju nove i otklanjaju stare navike, i sl. Zaključili su da ne postoji dobra struktura ukoliko se ne poštuje "ljudski faktor". Na taj način formiran je *Model 7S* („*7S Framework*”), koji su prvobitno konstruisali Paskal i Atos kao "atom sreće" u svojoj knjizi "Umeće japanskog menadžmenta" [1]. Autori su istraživali uspeh japanskih kompanija, u otprilike isto vreme kada su Piters i Voterman [2] istraživali šta kompaniju čini izvrsnom. Mnogi autori ovaj model nazivaju i Mek Kinsijev model 7S (*McKinsey 7S Model*) i smatraju da je nastao 1978. godine kada su se ova četiri autora prvi put sreli. Model pretpostavlja da se za uspešnu organizaciju, pored "tvrdih varijabli" (strategije, sistemi i strukture) koje su karakteristične za američki stil upravljanja, ugrade i "meke varijable" (sistem vrednosti, ljudi, veštine i znanja, i stil) koje su karakteristične za japanski stil upravljanja. Prema modelu, efektivne organizacije uspevaju da usaglasu svih 7 elemenata modela. Ukoliko dođe do promene jednog elementa, tada dolazi i do promene ostalih elemenata. Na primer, promena u HR sistemu, poput internih karijernih planova i menadžment obuka, utiče na promene u organizacionoj kulturi i stilu liderstva, i na taj način dolazi i do promena u strukturi, procesima i nadležnostima organizacije. Model 7S je idealno sredstvo za pokretanje procesa promena i ukazivanje pravca pokrenute promene. Osnova procesa promene sastoji se u utvrđivanju trenutnog stanja svakog elementa i njegovog poređenja sa idealnim stanjem.

Ubrzane promene, zaoštavanje konkurencije, neizvesnost, kao i pogoršani uslovi poslovanja, nastali pod dejstvom ekonomske krize, podstakli su nove načine stvaranja vrednosti i aktivnosti spajanja, pripajanja i preuzimanja preduzeća u tržišnim privredama što je dovelo do sudara različitih kultura i problema njihovog usklađivanja i istaklo je značaj organizacione kulture u sprovođenju promena. Posmatranje organizacione kulture u pogoršanim uslovima poslovanja, značajno je prvenstveno zbog njenog uticaja na unapređenje poslovne uspešnosti kompanije. Cilj određenog broja istraživanja sastojao se u dokazivanju povezanosti između organizacione kulture i organizacione uspešnosti. Dva najrelevantnija istraživanja o povezanosti organizacione kulture i uspešnosti kompanije obavili su Piters i Voterman početkom 80-tih godina, kao i devedesetih godina Koter i Heskot [3]. Piters i Voterman nastojali su da pronađu zajedničke osobine uspešnih preduzeća, a Koter i Heskot postavili su pitanje da li i pod kojim uslovima "jaka" organizaciona kultura garantuje uspeh preduzeća. Kod prvih autora postavljeno je pitanje sadržaja vrednosti i njihove implikacije na uspešnost, a kod drugih autora pitanje "jačine". Rezultati istraživanja Pitersa i Votermana pokazali su da sve ono što je ranije smatrano za nebitnim, iracionalnim, intuitivnim i neformalnim elementima organizacije, ima uticaja na uspeh i neuspeh kompanije, i da nije manje važno od strukture, sistema i strategije. Elementi, koje su identifikovali kod uspešnih preduzeća odgovaraju "mekim" varijablama Modela 7S. Koter i Heskot su u svom istraživanju pošli od shvatanja da "jake" kulture proizvode izuzetne rezultate. Rezultati istraživanja ukazali su da su uspešna i neka preduzeća koja imaju "slabu" kulturu, i autori su došli do pojma "strateški primerene kulture". Prema autorima, uticaj organizacione kulture na uspešnost preduzeća, zavisi pre svega od njenog sadržaja, a ne od njene snage. Sa jedne strane kultura može pozitivno uticati na motivaciju i posvećenost zaposlenih, redukovati konflikte, olakšati koordinaciju i kontrolu funkcionisanja organizacije, a sa druge strane, snažna organizaciona kultura sa

pogrešnim pretpostavkama, vrednostima i verovanjima, koje nisu usklađene sa okruženjem može imati negativan uticaj na poslovni uspeh [4].

Posmatranjem organizacione kulture kao bitnog faktora za unapređenje organizacionih performansi, neophodno je istaći da se organizaciona kultura razvija i manifestuje različito u različitim kompanijama i da je nemoguće apsolutno tvrditi da je jedna organizaciona kultura bolja od druge, već samo da je različita od druge organizacione kulture na određen način. Organizacione kulture koje se smatraju kao dobre u određenim okolnostima i određenom vremenskom periodu, mogu biti nefunkcionalne u promenjenim uslovima ili u nekom drugom vremenskom periodu. To znači da ne postoji „idealna kultura“ kao ni univerzalni pristup koji bi odredio potreban sadržaj i jačinu organizacione kulture za povećanje poslovnog uspeha organizacije, već samo odgovarajuća, odnosno neodgovarajuća organizaciona kultura.

3. ORGANIZACIONA KULTURA U SRPSKIM ORGANIZACIJAMA

Zaposleni u organizaciji su istovremeno i pripadnici iste nacionalne kulture, i prilikom dolaska u preduzeće donose određene vrednosti, verovanja, pretpostavke i norme ponašanja koje su im usađene još u detinjstvu. Taj sistem se tada ugrađuje u organizacionu kulturu i čini njen bazičan sloj na koji se kasnije nadograđuju ostali elementi. Iz toga sledi da nacionalna kultura predstavlja bitan faktor koji određuje profil organizacione kulture i njen uticaj se ostvaruje preko zaposlenih u preduzeću. Da bi se u potpunosti istakao značaj organizacione kulture i liderstva u kriznim uslovima poslovanja, neophodno je upoznati se sa karakteristikama i sadržajem nacionalne kulture u čijim se okvirima ona razvija.

Kultura naše zemlje se, prema istraživanjima sociologa i psihologa, svrstava u grupu preindustrijskih kultura, svojstvenih agrarnim zemljama [5]. Bazična pretpostavka na kojoj se zasnivaju ovakve kulture je ograničeno dobro koje se može preraspodeljivati. Ova kultura rađa egalitarizam, tj. podrazumeva jednakost u raspodeli. Još jedna posledica ovakve nacionalne kulture je kolektivizam. Znači da, pored toga što svi treba podjednako da budu nagrađeni, zajednica ili kolektiv treba o tome da brine. Prema ovakvom setu verovanja i vrednosti agrarne kulture, vrhovni autoritet socijalne zajednice ima pravo i obavezu da vrši raspodelu dobra između članova zajednice. Preindustrijska ili agrarna kultura naše zemlje implicira sledeća verovanja i vrednosti o privrednoj aktivnosti: proizvodnja je nešto statično; iskustvo je osnovno; uloga kreativnosti i intelektualnog rada je zanemarljiva; promene su štetne; socijalna zajednica je zatvorena i konformizam unutar kulture, a nepoverenje izvan nje.

Iako je u našoj zemlji od kraja XIX veka počela izgradnja industrijske kulture, bazične pretpostavke, vrednosti i verovanja su toliko duboko ukorenjene da se ljudi teško menjaju. Osim toga, pedesetogodišnja vladavina privrednog sistema baziranog na društvenoj svojini značajno je doprinela zadržavanju agrarne kulture. Jedno od najznačajnijih istraživanja obeležja nacionalne kulture jeste Hofstedovo istraživanje koje je rađeno 1980. godine u Jugoslaviji (Hrvatska, Slovenija i Srbija) i kojim su izdvojena neka obeležja koja direktno utiču na kulturu srpskih organizacija. Našu kulturu karakterišu, prema Hofstedovim mapama nacionalnih kultura, sledeće dimenzije [6]: velika distanca moći, tačnije sklonost ka autoritarizmu; visok stepen izbegavanja neizvesnosti, tj. veliki otpor prema promenama, averzija prema riziku i neizvesnosti; kolektivizam, što znači da je kolektiv odgovoran za svakog člana zajednice; ženske vrednosti – socijalni svet je primaran, materijalni je zapostavljen. Osnovno merilo uspeha je socijalni položaj, a ne sticanje na osnovu rada;

centralizovana organizaciona struktura organizacija; nivo potreba i motiva je socijalni, a razvojne potrebe su svedene na minimum, kao i potrebe postignuća; favorizacija autokratskog stila rukovođenja. Sve navedene karakteristike odgovaraju specifičnostima birokratske organizacione kulture (prema Hendijevoj klasifikaciji kultura).

Tranzicija podrazumeva prelazak bivših socijalističkih preduzeća iz netržišne u tržišnu privredu. Ovaj proces treba sagledati šire od ekonomske reforme preduzeća, odnosno treba posmatrati i njegovu kulturnu transformaciju. U praksi, ovaj pojam se najčešće koristi za propadanje (društvenih) preduzeća „prevaziđene“ birokratske organizacione kulture, koja nisu naviknuta na tržišno poslovanje. Ovaj pojam se koristi i za stvaranje novog, preduzetničkog poslovanja, odnosno za formiranje sasvim drugačije ekonomske i kulturne percepcije poslovne stvarnosti. Analiza organizacione kulture u srpskim organizacijama odnosi se na razmatranje uspešnosti njene tranzicije iz postsocijalističkog privređivanja u tržišno, što podrazumeva preuzimanje rizika, sagledavanje problema kao izazova i mogućnosti koje treba iskoristiti, promovisanje kadrova koji omogućavaju uspon organizacije, primarnost u postavljanju poslovnih ciljeva, akcenat na to „šta radi“ zaposleni a ne na pitanju „ko je on“, isl. Nestajanjem države kao socijalne ustanove mnoge organizacije izgubile su svoj identitet, nenaviknute na tržišno poslovanje [7].

Mogu se razlikovati tri različite kategorije preduzeća, kada se posmatraju organizacione kulture srpskih organizacija, a to su preduzeća koja su u procesu privatizacije prešla u vlasništvo svetskih multinacionalnih kompanija, preduzeća koja su u procesu privatizacije prešla u vlasništvo uspešnih domaćih preduzeća i preduzeća koja su u procesu privatizacije prešla u problematična vlasništva. U preduzećima koja su ušla u sastav svetskih uspešnih kompanija organizaciona kultura se formira pod uticajem tih kompanija. U tom slučaju organizaciona kultura se prosto preuzima, i tu može doći do problema usklađivanja postojećih kulturnih obrazaca sa preuzetim kulturnim obrascima. Preduzeća koja se privatizacijom nisu našla u sklopu velikih svetskih kompanija nastoje da razviju novu organizacionu kulturu, ali i da se razvijaju pod uticajem organizacione kulture upravo tih velikih i uspešnih korporacija. Pored objektivnih problema, sa kojima se naša preduzeća suočavaju, postoje i snažni unutrašnji otpori, koji su često u formi nesvesnog odbijanja novih modela ponašanja, mišljenja i novih vrednosti. Unutrašnji otpori predstavljaju odraz percepcije realnosti zasnovanom na nekim prevaziđenim temeljnim shvatanjima ili navikama. Na osnovu rečenog, uspešnost promena ne zavisi samo od promena strukture, već i od unutrašnjih procesa, od načina na koji preduzeće, kao socijalni sistem, komunicira sa zaposlenima. Promene, koje se dešavaju u našem okruženju, pretpostavljaju i promene organizacionog ponašanja zaposlenih, pa samim tim i promene njihovog vrednosnog sistema. Problem je u tome što se promene ne mogu implementirati brzinom kojom su se spomenute grupe preduzeća privatizovala. Iz navedenih razloga, neuspeh mnogih privatizacija i restrukturiranja, slabih rezultatata borbe sa kriznim uslovima poslovanja naših preduzeća, treba tražiti i u zanemarivanju organizacione kulture kao bitnog faktora koji utiče na ishode organizacionog ponašanja kao i na uspeh promena.

Sistem vrednosti i kultura koja vlada u većini loše privatizovanih srpskih organizacija ne doprinosi poželjnom organizacionom ponašanju zaposlenih (zadovoljstvo poslom, motivacija za rad, posvećenost poslu, inovativnost, produktivnost), jačanju organizacionih performansi i ne olakšava procese interne integracije i eksterne adaptacije. Uspešna preduzeća u Srbiji ne zapošljavaju neke izuzetne ljude, nego se njihova izuzetnost zasniva na načinu kako se sa tim ljudima postupa, kako se u tim preduzećima radi i kakvi su odnosi između zaposlenih i rukovodstva, kao i zaposlenih i klijenata.

Organizacionu kulturu nije moguće jednostavno oblikovati po želji, ali je moguće na nju uticati. Promena nekih stavova i ponašanja može biti izvedena relativno brzo i jednostavno,

ali je promena najdubljih uverenja teško ostvariva. Postoji potreba za redefinisanjem performansi organizacione kulture, koja podrazumeva dinamički proces razvoja postojećih performansi organizacione kulture koje povoljno utiču na uspešnost, sa jedne, i blagovremeno kreiranje novih dimenzija, sa druge strane. Stvaranje određenih uslova u smislu redefinisanja sadržaja organizacione kulture zahteva razmatranje odnosa liderstva i organizacione kulture.

4. ANALIZA ODNOSA LIDERSTVA I ORGANIZACIONE KULTURE

Pregledom relevantne literature iz ove oblasti uočavaju se dva stanovišta o odnosu liderstva i organizacione kulture. Sa jedne strane, je stanovište da lider radi unutar kulture organizacije, odnosno da ona oblikuje lidera i njegov stil, a sa druge da lider radi na kulturi organizacije.

Prvo stanovište, o uticaju organizacione kulture na lidera, polazi od toga da lider ne može da nameće svoje viđenje realnosti sledbenicima ukoliko prethodno nije prihvaćen kao lider. Da bi bio prihvaćen kao lider, njegove poruke koje šalje verbalno, neverbalno i simbolički moraju biti kulturno prihvatljive za zaposlene, odnosno moraju korespondirati sa postojećim kulturnim pretpostavkama, verovanjima i vrednostima do kojih drže zaposleni. Operacionalizacija uticaja organizacione kulture na liderstvo pretpostavlja dovodenje u kauzalni odnos određenih tipova organizacione kulture i stilova liderstva. Osnovna pretpostavka je da će se u određenim tipovima organizacione kulture pojaviti određeni, korisniji ili efikasniji od drugih, stilovi liderstva. Ovo stanovište je u potpunosti u skladu sa kontigentnim pristupom liderstvu jer se izbor stila liderstva dovodi u vezu sa jednim kontigentnim faktorom, sa organizacionom kulturom [8] [9].

Postoji veoma mali broj istraživanja koja su dokazala da određeni tip organizacione kulture proizvodi određeni stil liderstva. Značajni zaključci tih istraživanja su sledeći: prilikom uvođenja i sprovođenja promena lider mora da vodi računa o postojećim, kulturnim obrascima; ljudi ne mogu da menjaju sve odjednom, već postepeno, segment po segment; lider treba da sprovodi promene, nameće neka nova značenja na način na koji ga sledbenici razumeju; pravi lideri pronauđu način da od sledbenika budu percipirani kao deo realnosti dok istovremeno tu realnost menjaju; značenja realnosti koje lider nameće sledbenicima moraju biti razumljiva i prihvatljiva većini, a da bi to bila ona moraju da proizilaze iz njihovih sadašnjih interpretativnih šema i da zatim donose neku promenu.

Prema drugom stanovištu, lider utiče na organizacionu kulturu i to je njegov najvažniji zadatak. Šejn je jedan od najuticajnijih autora u oblasti organizacione kulture i među prvima je istakao ideju da je lider izvor, a time i determinanta organizacione kulture [10]. U literaturi se izdvajaju kognitivno i interpretativno objašnjenje uticaja lidera na organizacionu kulturu [11].

Kognitivno objašnjenje uticaja lidera na organizacionu kulturu promovisao je Šejn, i ono se zasniva na resursnoj moći lidera da donosi odluke i oblikuje funkcionisanje organizacije. Prema Šejnu [10] lideri kreiraju organizacionu kulturu tako što presudno utiču na rešavanje dva osnovna problema sa kojima se organizacije suočavaju, a to su eksterna adaptacija i interna integracija. Njegovo viđenje odnosa liderstva i kulture podrazumeva da je proces njenog kreiranja po prirodi kognitivni ili proces učenja. Proces nastanka organizacione kulture počinje stvaranjem i sistematizacijom vrednosti, verovanja, pretpostavki i normi koje nastaju kontinuiranim ponavljanjem uspešnih rešenja problema eksterne adaptacije i interne integracije. Za izgradnju kulture potrebno je grupno (kolektivno) iskustvo zaposlenih i određeno vreme za rešavanje navedenih problema.

Organizaciona kultura nastaje samo ako su zaposleni dovoljno dugo izloženi zajedničkim problemima koje rešavaju kroz međusobnu socijalnu interakciju, odnosno komunikaciju. Lider je, prema Šejnu, u idealnoj poziciji da nameće rešenja ovim problemima (usmeravajući pravce organizacione akcije) i na taj način oblikuje kulturu organizacije. Bitno je naglasiti da postoji uslov uspešnosti, jer ako se rešenje problema koje lider nametne organizaciji pokaže neuspešnim, ono neće biti legitimno kao poželjno i korisno i neće biti osnova za kreiranje sadržaja organizacione kulture.

Osnova, interpretativnog objašnjenja uticaja lidera na organizacionu kulturu, sastoji se od leaderskog uticaja na interpretaciju realnosti njegovih sledbenika. Odnosno, lider određuje značenje stvarnosti svojim sledbenicima. Lider oblikuje određene vrednosti, verovanja i stavove kao elemente organizacione kulture u preduzeću kreiranjem i nametanjem određenog značenja realnosti. Najčešće lideri to čine putem komunikacije (verbalna, neverbalna i simbolička). Lider svojim ponašanjem i odlukama pokreće ostvarenje ciljeva i time pokazuje svoj odnos prema ciljevima i svoje viđenje načina njihove realizacije.

Mnoga empirijska istraživanja dokazala su opisane mehanizme uticaja lidera na organizacionu kulturu. Dokazala su i da ličnost lidera (njegove osobine i vrednosti) u velikoj meri utiču na organizacionu kulturu. Uticaj ličnosti lidera na organizacionu kulturu može da bude pozitivan ili negativan. Negativni uticaji ličnosti lidera na organizacionu kulturu dovode do nezdrave kulture ili do patologije kulture. Kotler i Heskett [3] naglašavaju sledeća obeležja nezdrave kulture: početni uspeh preduzeća kao rezultat srećnih okolnosti ili povoljne preduzetničke strategije, zanemarivanje potreba klijenata, zaposlenih i akcionara, rezistentnost lidera i kulture na promene, arogancija i samodopadljivost menadžera. Nezdrava kultura kod lidera stvara lažno ubeđenje o izuzetnoj sposobnosti i čini ga "slepim" za signale iz okruženja i nezainteresovanim za potrebe klijenata, zaposlenih i akcionara.

U kriznim uslovima poslovanja uticaj lidera na organizacionu kulturu je od velikog značaja. Krize imaju posebnu ulogu u stvaranju, prenošenju i jačanju kulture, jer pojačano emocionalno učešće u tim periodima povećava intenzitet učenja. U stanju krize pojačava se strah kod zaposlenih, a oslobađanje od straha predstavlja bitan motiv za učenje. Kada organizacija zapadne u krizu lider stvara nove vrednosti, norme i pretpostavke. U kriznim uslovima osnovne pretpostavke lidera se stavljaju na probu, prvenstveno premise u vezi sa ulogom i značajem sledbenika, kao i odnosom prema sledbeniku. Lider omogućava zajedničko iskustvo članova grupe i učvršćivanje zajedničkih pretpostavki. U vezi sa navedenim posebno se ističu mehanizmi izbora kriterijuma zapošljavanja, vrednovanja rada, napredovanja, nagrađivanja i razvoja zaposlenih.

U razmatranju odnosa liderstva i organizacione kulture veoma je značajno sagledati i mogućnost promene organizacione kulture u pravcu njenog prilagođavanja okruženju. Ukoliko dođe do promena u okruženju, javlja se potreba za prilagođavanjem organizacije novim uslovima. Ukoliko lider nije u mogućnosti da sagleda ograničavajuće dejstvo postojećih kulturnih obrazaca i pokrene promene, postojeća organizaciona kultura će postati ograničavajući faktor.

5. ZNAČAJ LIDERA U PROCESU STVARANJA ADAPTIBILNE ORGANIZACIONE KULTURE

Adaptibilna organizaciona kultura može se odrediti kao kultura organizacije koja je adekvatna okruženju i strategiji, podstiče dugoročno izuzetne rezultate samo onda kada

ima norme i vrednosti koje organizaciji mogu pomoći u prilagođavanju promenljivom okruženju [4]. Kulture, koje postaju kočnica daljem razvoju organizacije, koje nisu u skladu sa strategijom, ili koje su neprilagođene promenama u okruženja, moraju podleći temeljnim promenama. Osnova promene organizacione kulture je u snažnom, i kompetentnom lideru koji je prvenstveno u stanju da uoči ograničavajuće dejstvo kulture, a onda i da pokrene promene. Upravljanje kulturom organizacije često se smatra jednim od najvažnijih zadataka lidera, jer je organizaciona kultura značajan faktor prilagođavanja promenama u okruženju.

U procesu stvaranja adaptibilne organizacione kulture, lider svojim aktivnostima doprinosi formiranju pozitivne radne atmosfere i ambijentu spremnosti za promene. Adaptibilna organizaciona kultura se stvara u uslovima u kojima se zna šta je tačan opis poslova, šta su ciljevi, šta su kriterijumi vrednovanja rezultata rada i napredovanja kao i razvoja i nagrađivanja, kao i načini komunikacije među zaposlenima i sl. Potrebno je kod zaposlenih učvrstiti verovanje da je ono što se radi vredno, važno, da postoji širi značaj obavljanja tog posla, razviti njihovu fleksibilnost i spremnost na promene [12].

Organizaciona kultura ne može brzo i lako da se menja. Da bi došlo do trajne i potpune promene organizacione kulture potrebno je učiniti trajnu i potpunu promenu interpretativnih šema i ponašanja zaposlenih. Trajna i potpuna promena individualnih interpretativnih šema dovodi do promene kolektivnih vrednosti, verovanja i pretpostavki, a promena individualnih ponašanja dovodi do promene simboličke komponente. Zato je veoma važno da promene organizacione kulture osmišljeno pokreće snažna i kompetentna ličnost na čelu organizacije, odnosno lider.

Strategija indoktrinacije je direktan metod promene organizacione kulture u kojoj se menjaju interpretativne šeme zaposlenih [13]. Polazna pretpostavka ove strategije je da se prvo mora menjati svest zaposlenih iz koje će slediti i promena njihovog ponašanja. Ljudi nastoje da svoje aktivnosti usklade sa novim verovanjima, vrednostima i pretpostavkama. Prema ovoj strategiji, potrebno je izazvati svest o krizi i neophodnosti promena kod zaposlenih, zatim da zaposleni počnu da uočavaju da modeli rešavanja problema od juče ne funkcionišu za sutra, i uticati na razvoj svesti kojima bi se odnos prema promenama formirao. Sagledavajući promene u načinu stivanja konkurentnosti organizacije, od materijalnog ka nematerijalnom, odnosno sve većem učešću znanja u stvaranju dodatne vrednosti, očigledan je stav da je jedan od najznačajnijih pokazatelja adaptibilne organizacione kulture vezan za odnos preduzeća prema ovom ključnom resursu – zaposlenom. Lider svojim ponašanjem i radom oblikuje adaptibilni sistem vrednosti i uverenja, tako što ustanovljava novo mesto i ulogu svakog zaposlenog u organizaciji. Lider menja uloge zaposlenih, tako što ih pretvara od ljudi koji su stalno kontrolisani do ljudi sa ovlašćenjima (povećanje odgovornosti za sopstveni rad), napredovanje uslovljava sposobnostima i rezultatima zaposlenih, pripreme za posao menja od obuka ka obrazovanju i stalnom usavršavanju. Odnosno, lider stvara kulturu negovanja znanja, sklonu ka pozitivnim promenama, kao i neposrednih uslova za razvoj organizacije u celini.

6. ZAKLJUČAK

U vremenu globalizacije, jake konkurencije, neizvesnosti i krize, opšte prihvaćen stav je da samo one organizacije koje su spremne da se menjaju mogu da opstanu na tržištu. U ovom radu iznet je argumentovan stav da uspešnost promena u velikoj meri zavisi od promene postojećih kulturnih obrazaca u organizaciji, koji predstavljaju kočnicu daljem razvoju i fleksibilnosti organizacije. Organizaciona kultura čiji sadržaj čine učenje,

ekonomija znanja, timski rad, orijentacija prema ljudima, orijentacija prema rezultatima, inovativnost, spremnost na rizik, spremnost na promene, može imati pozitivan uticaj na razvoj preduzeća. Razlozi slabe konkurentnosti i neefikasnosti promena u srpskim organizacijama, kao i neuspešnosti tranzicionih promena mogu se tražiti upravo i u odsustvu ovih vrednosti u njihovim organizacionim kulturama.

U iniciranju promena, kao i u upravljanju sistemom dominantnih vrednosti i verovanja, odnosno organizacionom kulturom, jednu od najznačajnijih uloga ima lider. U ovom radu razmatran je odnos liderstva i organizacione kulture, i istaknut je značaj i uloga lidera u adekvatnom upravljanju i menjanju organizacione kulture u kriznim uslovima poslovanja. Stvaranje adaptibilne organizacione kulture, neophodne za iniciranje i sprovođenje promena, prvenstveno je značajno jer svaka promena zahteva postojanje određenih vrednosti, verovanja i stavova ljudi koji izražavaju njihovu spremnost da se angažuju i podrže program promena, pri čemu je posebno značajna podrška onih koji se nalaze na pozicijama sa kojih mogu da bitno utiču na njihove ishode. Uspešna realizacija promena zahteva visok stepen posvećenosti zaposlenih, koju je teško postići bez organizacionih vrednosti i stavova da su promene apsolutno neophodne. Na osnovu prethodno navedenog, ističe se potreba za redefinisanjem onih kulturnih sadržaja u organizaciji koji predstavljaju kočnicu daljeg menjanja i prilagođavanja novim uslovima poslovanja.

Jedan od izuzetno značajnih zadataka lidera jeste razvoj, održavanje i negovanje organizacione kulture jer ona ima značajnu ulogu u poslovanju preduzeća. Lider uživa i najveće poverenje i autoritet zaposlenih, iz čega sledi da su oni spremni da predložena rešenja prihvate i angažuju se u njihovoj realizaciji. Na kraju, lider je često u mogućnosti da, zbog svog uticaja na zaposlene, direktno oblikuje njihov način razmišljanja, tako što im nameće vlastite stavove i konceptualizaciju događaja i pojava u svetu koji ih okružuje, odnosno interpretira njihovu realnost. Na osnovu navedenog, može se zaključiti da lider ima značajnu ulogu i u promeni dominantnih vrednosti organizacione kulture, koja predstavlja bitan segment promena u kriznim uslovima poslovanja.

REFERENCE

- [1] R. Pascale, A. Athos, *The Art of Japanese Management*, Simon&Shuster, New York, 1984.
- [2] T. Peters, R. Waterman, *In Search of Excellence*, New York, London; Harper & Row, 1982.
- [3] J. P. Kotter, J. L. Heskett, *Corporate Culture and Performance*, New York, Free Press, 1992.
- [4] Ž. Pržulj, *Kultura i preduzetništvo*, Zadužbina Andrejević, Beograd, 2000.
- [5] I. Jošanov, *Neverbalna poslovna komunikacija i organizaciona kultura*, Magistarska teza, Fakultet organizacionih nauka, Univerzitet u Beogradu, Beograd, 2009.
- [6] N. Janićijević, *Organizaciona kultura – kolektivni um preduzeća*, Ulixes, Novi Sad, 1997.
- [7] M. Šljukić, *Organizaciona i nacionalna kultura u kontekstu procesa globalizacije*, Sociološki godišnjak, Sociološko društvo Republike Srpske, Pale, 2 (2008).

- [8] N. Janićijević, Uticaj organizacione kulture na performanse preduzeća, Ekonomske ideje i praksa, Ekonomski fakultet, Beograd, 2011, str.41-54.
- [9] N. Janićijević, Uticaj organizacione kulture na liderstvo u organizaciji, Ekonomske teme, Ekonomski Fakultet, Niš, 4 (2011), str.527-543.
- [10] E. Schein, Organizational culture and Leadership, Jossey-Bass Publishers, San Francisco, 1985.
- [11] N. Janićijević, The impact of leadership on organizational culture, Ekonomika preduzeća, Savez ekonomista Srbije, Beograd, 59 (5-6) (2011). str.215-226.
- [12] L. Grubić, Nešić, Znati biti lider, AB Print, Novi Sad, 2008.
- [13] Ž. Stefanović, Organizacija preduzeća-teorije, strukture, ponašanje i razvoj, Ekonomski fakultet, Beograd, 2000.

AUTHENTIC LEADERSHIP AND ORGANIZATIONAL CULTURE

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Abstract: The global economic crisis causes great changes in leadership. Changes are of such type that within them it is spoken about the great leadership crisis. The most efficient and the most effective ways of leading organizations are demanded from a leader. In the past decade, a dramatic increase has been noted in the field of interest in professional circles for the topic of leadership. In this paper, we are talking about the previous results obtained by the researches in terms of the influence that organizational culture has on authentic leadership as well as the influence that authentic leadership has on organizational culture. Authentic leadership is defined as a behavioural pattern of a leader, relying on promotion of positive psychological capacities and positive ethical climate, where a higher moral perspective is stimulated, data processing is balanced and with a transparency concerning the work of followers and nourishment of positive self-development. The aim of this paper is explaining the construct of authentic leadership and possibility of applying it in organizations which wish to gain excellency at work. The effort is directed at the thought of ethical problems that are representing unavoidable topics in work of organizations. Authentic leadership has been compared to other leadership styles and the conclusion reached is that leadership should be observed as a model for good management of organizations.

Keywords: leader, leadership, authentic leadership, organizational culture

AUTENTIČNO LIDERSTVO I ORGANIZACIONA KULTURA

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Apstrakt: Velike ekonomske krize prouzrokuju velike promene u liderstvu. Promene su takvog tipa, da se u njima govori o velikoj krizi liderstva. Od lidera se traži najefikasniji i najefektivniji način vođenja organizacija. U protekloj deceniji zabeležen je dramatičan porast interesovanja stručnih krugova za temu autentičnog liderstva. U ovom radu govorimo o dosadašnjim rezultatima, do kojih su došli istraživači, o uticaju organizacione kulture na autentično liderstvo, kao i o uticaju autentičnog liderstva na organizacionu kulturu. Autentično liderstvo definisano je kao obrazac ponašanja lidera, koji se oslanja na promociju pozitivnih psiholoških kapaciteta i pozitivne etičke klime, gde se neguje viša moralna perspektiva, uravnotežena obrada informacija, transparentnost u radu sa sledbenicima i negovanje pozitivnog samorazvoja. Cilj rada je da objasni konstrukt autentičnog liderstva i mogućnost njegove primene u organizacijama, koje žele da steknu izvrsnost u radu. Napor je usmeren ka razmišljanju o etičkim problemima, koji sve više predstavljaju nezaobilazne teme u radu organizacija. Autentično liderstvo upoređeno je sa

drugim stilovima rukovođenja, i došlo se do zaključka da se autentično liderstvo treba posmatrati kao model za dobro upravljanje organizacijama.

Ključne reči: lider, autentičnost, autentično liderstvo, organizaciona kultura

1. UVOD

Novi tip autentičnog liderstva zasnovanog na originalnosti i novom tipu vrednosti nastaje kao posledica zabrinutosti oko etičkog ponašanja današnjih lidera. Ideju za još jednu vrstu etičkog liderstva predstavio je u svojoj knjizi *True North* bivši direktor Medtronic-a Bil Džorž [1]. Svoje etičko liderstvo nazvao je autentičnim liderstvom. Slični pristup imao je i poznati konsultant lidera Kevin Kešman, koji je još 1999. u svojoj knjizi *Liderstvo iznutra* [2], kao i 2003. u *Buđenju lidera* [3], pozivao lidere da upražnjavaju novi tip liderstva – autentično liderstvo.

Danas postoji sve veće interesovanje za primenu autentičnog liderstva u poslovnoj praksi kao i u teorijskim razmatranjima u akademskoj literaturi. To potvrđuje i podatak da je tema o autentičnom liderstvu stalno među 25 najtraženijih tema u *ScienceDirect*, gde su oblasti interesovanja menadžment i liderstvo. U periodu od 2003. do 2010. pojavilo se preko 40 radova u naučnim časopisima, a u naučnim istraživanjima na ovu temu učestvovalo je preko 200 autora, što ukazuje na pažnju koja je poklonjena ovom konstruktivnom autentičnog liderstva. Razloga za povećano interesovanje akademske javnosti i lidera ima više. Prvi važan razlog odnosi se na probleme etičkog karaktera u organizacijama i pažnja koju društvo danas pridaje ovim problemima. Drugi se odnosi na prednosti koje daje autentično liderstvo kroz uticaj lidera na sledbenike. Autentično liderstvo je prema većini istraživača pozitivno organizaciono ponašanje i faktor uspešnosti današnje progresivne organizacije. Većina autora se slaže da su autentični lideri ljudi najvišeg integriteta, posvećeni izgradnji trajne organizacije. Autentični lideri su ljudi koji imaju hrabrost da izgrade svoju organizaciju, tako da zadovolje potrebe svih zainteresovanih strana, a istovremeno ne zaboravljaju potrebu da služe društvu. Ovakvi lideri osećaju svrhu svog rada i svoje pozicije ostajući verni svojim osnovnim vrednostima. Ovakav pristup autentičnom liderstvu otvorio je čitav niz istraživačkih pitanja na koja ćemo pokušati da damo odgovor: Šta je autentično liderstvo? Kako se meri autentično liderstvo? Da li autentičan lider može da ima uspeh i opstane u svakoj organizaciji? Kakav je odnos autentičnog lidera i sledbenika i kako on utiče na njihove stavove, ponašanje i performanse?

Snažan uticaj autentični lider ima na organizacionu kulturu u koju dolazi, i iz tog razloga proizilazi pitanje: Da li autentični lider menja organizacionu kulturu organizacije u koju dolazi ili će ona promeniti njega? Danas se organizacije suočavaju sa povećanim pritiskom promena, koje su često u suprotnosti se etičkim načelima. Autentični lider treba da oporavi organizacionu kulturu ukoliko je narušena pritiscima i spolja i iznutra uvodeći poverenje, nadu, optimizam i odgovarajući identitet organizacije.

2. AUTENTIČNOST

Uprkos tome što mislimo da znamo po unutrašnjem osećaju šta je autentičnost, u definicijama o autentičnosti ima mnogo neodređenosti. Rečnici govore da je autentičnost nešto urađeno ili učinjeno, kao i originalno. Drugo određenje kaže da je autentičnost u skladu sa originalom tako da reprodukuju bitne karakteristike. Po trećem, autentičnost

znači biti veran u originalnom, izvornom i posvećenom [4]. Kontrast autentičnosti je imitacija i falsifikat.

Autentičnost se može pratiti unazad do antičke grčke filozofije. Aforizam „Upoznaj sebe“, koji je upisan u Apolonovom hramu u Delfima, odražava pojam autentičnog funkcionisanja, gde je „čovjek majstor svoje ličnosti“ [5]. Po Sokratu, velika je vrednost autentičnog funkcionisanja i samoispitivanja tako da „neispitan“ život nije vredan življenja. Aristotel, sa gledišta etike, vezuje takvu samospoznaju za nečije blagostanje ili „eudaimoniju“, koja se koristi kao termin za najviše ljudsko dobro, pa je cilj spoznati šta je to i kako je postići.

Autori [6] pod autentičnoću podrazumevaju ono u šta čovek iskreno misli i veruje. Harter [7] opisuje autentičnost kao posedovanje ličnih iskustava uključujući naše misli, emocije, potrebe, želje ili verovanja. Erikson [8] govori da osobu treba opisati kao manje ili više autentičnu jer potpuna autentičnost realno ne postoji. U filozofiji egzistencijalizma i fenomenologije, čiji su predstavnici Hajdeger i Sartr, autentičnost je izvorno, pravovažno, onakvo kakvo se prikazuje bez premisa, uprkos spoljnim pritiscima. To je karakteristika ličnosti proizašla iz sebe same, slobodna i bez nametnutih i lažnih sadržaja; svesna sebe i uticaja kojih ima u materijalnom svetu [9].

Autentično funkcionisanje obuhvata četiri ključne komponente [5], i one su: 1. Znanje i poverenje u svoje misli (podizanje svesti); 2. Objektivnost i prihvatanje pozitivnih i negativnih atributa (nepriistrasna obrada); 3. Postupanje na osnovu nečije istinske sklonosti, vrednosti, a ne glume (ponašanje); i 4. Postizanje i vrednovanje istinitosti i otvorenosti (odnosna orijentacija).

3. AUTENTIČNO LIDERSTVO

Autentično liderstvo često se naziva i liderstvo za 21. vek. Kriza liderstva je razlog i za potrebe stvaranja nove generacije lidera, koji će odgovoriti potrebama današnje organizacije. Nepoverenje u lidere može da predstavlja potencijal za katastrofu. Pogrešno postavljani ljudi za lidere, koji zloupotrebljavaju svoju funkciju, predstavljaju osnovni problem. Ljudi koji se postavljaju na mesto lidera, sve češće, umesto da služe sistemu, organizaciji i zaposlenima, najviše su zainteresovani da služe svojim interesima. Razlog lošeg izbora često je u tome što umesto izbora lidera po karakteru i integritetu, izbor se pravi na osnovu harizme i na osnovu slike, koju pravimo o njima. Draker [10] je govorio, da je liderstvo odgovornost i da ga lider mora preuzeti potpuno i bez rezerve.

Lider za 21. vek je lider koji može da osnaži i inspiriše druge. Lider 20. veka je bio lider koji nije učestvovao u borbama nego ih je posmatrao preko brda. Postavlja se pitanje da li je potreban lider koji tretira ljude kao trošak proizvodnje i koji ljude ne prepoznaje kao najvažniji resurs za uspeh. Zaposleni traže da učestvuju i budu odgovorni u odlučivanju, oni ne žele da im ceo radni vek prođe u poslušnosti nekom drugom. Kako je i Kovi [11] rekao: Liderstvo je tvoj izbor!

Džordž [1] u svom delu *True North* govori o pet dimenzija autentičnog lidera, a one su: 1. Sticanje svesti o cilju zbog čega neko postaje lider; 2. Praktikovanje čvrstih vrednosti gde je najvažnija stvar očuvati integritet; 3. Srce - treba uključiti svoje srce i uneti strast u posao uz hrabrost da donosi teške odluke; 4. Odnosi - treba gajiti poverenje u odnosima sa ljudima; 5. Samodisciplina - biti odgovoran za svoj rad, postupke i ponašanje. Lider ne može da glumi i igra tuđe uloge, on mora da se pogleda u ogledalo i da bude ono što jeste. Dok je lider veran sebi i zna ko je, moći će da se nosi sa svim nedaćama i problemima na koje nailazi.

Najvažniji elementi autentičnog liderstva, koji se najčešće koriste u opisivanju autentičnog liderstva i autentičnog lidera su: karakter, unutrašnji kompas, znati ko smo, intenzivno aktivan, osećajan da čuje svoj unutrašnji glas koji ga kontroliše, liderstvo je veliko putovanje kroz svoju dušu, najteže je sebe nagovoriti na nešto, strastveni pristup radu i verovanje da može, balansiranje unutrašnje i spoljašnje motivacije, izgradnja tima za podršku, razumevanje svrhe liderstva i strasti u radu, osnaživanje drugih ljudi da vode.

Zbog svoje kompleksnosti ne postoji jedna definicija autentičnog liderstva. Navešćemo par najznačajnijih definicija, koje su značajne za dalja teorijska istraživanja i praktičnu primenu. Autentično liderstvo je definisano tako što podređeni vide svog lidera kao osobu koja pokazuje prihvatanje odgovornosti za akcije, ishode i greške; čoveka koji ne manipuliše podređenima; shvata da je prvi u organizaciji, koji na sebe prima pritiske [12]. Drugi autori [13] se zalažu za autentično liderstvo na osnovu: autentičnosti lidera, koji podrazumeva otkrivanje sebe kroz smislene veze unutar organizacionih struktura i procesa; kroz vrednosti; vizionarstvo i energiju, posvećenosti, otkrivanje pozitivnog u svakom sledbeniku; težnje i potrebe da se pomogne drugima; snalaženje u multikulturnom svetu. Bigli [14] govori da autentično liderstvo može biti protumačeno kao metafora za profesionalno, efikasno, etički nastrojeno, svesno reflektujuće prakse. Autentično liderstvo, prema autoru, počiva na znanju, vrednostima i informisanosti.

Džordž [15] kaže da autentični lideri koriste svoje prirodne sposobnosti, priznajući svoje nedostatke i naporno radeći na njihovom prevazilaženju. Oni nalaze svrhu liderstva u poštovanju i građenju vrednosti, i grade trajne odnose sa ljudima. Drugi ih slede jer znaju na čemu su. Autentični lider je samodisciplinovan, odbija da pravi kompromise kada su u pitanju njegovi principi. Ovi lideri su posvećeni svom razvoju, jer znaju da lider ima velike odgovornosti na koje mora da odgovori znanjem.

Drugi autori [6] autentično liderstvo definišu kao proces koji crpi snagu iz pozitivnih psiholoških procesa lidera i sledbenika. Autentičan lider podstiče pozitivni samorazvoj, on je samouveren, optimista, fleksibilan, transparentan, moralno i etički okrenut ka budućnosti, daje prioritet razvoju sledbenika. Autentičan lider ne želi da prisiljava sledbenike da prihvate njegove stavove, principe i verovanja, već pokušava da modelira njihov razvoj. Avolio i saradnici [16] navode da su autentični lideri oni pojedinci koji znaju ko su, svesni svojih vrednosti i vrednosti drugih ljudi, sa znanjem koje im stvara prednost, svesni konteksta u kome funkcionišu, samouvereni, puni nade, fleksibilni, i visokog moralnog karaktera. Takođe, na autentično liderstvo se može posmatrati kao na funkciju samospoznaje, osetljivosti na orijentacije drugih, tehničku sofisticiranost koja dovodi do sinergije liderskog delovanja [17]. Drugi autori [18] za autentične lidere kažu da su duboko svesni svojih vrednosti i uverenja, samouvereni, originalni, pouzdani i sigurni, fokusirani na izgradnju jakih sledbenika, šire svoje razmišljanje i stvaraju pozitivnu i privlačnu organizacionu kulturu.

Džordž [1] navodi da su autentični lideri originalni ljudi koji su verni sebi i svojim principima. Lako stiču poverenje drugih i razvijaju istinske i iskrene veze sa drugima. Oni su u stanju da motivišu druge ljude kako bi postigli visok nivo performansi. Umesto da ih drugi vode, vole da idu svojim putem. Više brinu da služe druge, nego što brinu za svoj sopstveni uspeh ili priznanje.

Autentično liderstvo se definiše kao obrazac ponašanja lidera koji se oslanja na promociju pozitivnog psihološkog kapaciteta, pozitivnu etičku klimu, negujućii svest o moralnoj perspektivi, uravnoteženu obradu informacija, relaciju transparentnost u odnosima sa sledbenicima i negovanje pozitivnog samorazvoja [19]. Autentičnog lidera možemo definisati kao: 1. Samosvesnog, skromnog, lidera koji uvek traži poboljšanje, svestan onih koje vodi i stalno gleda na dobrobit drugih; 2. Podstiče visok stepen poverenja

prema izgradnji etičkih i moralnih okvira; 3. Posvećen je organizacionom uspehu i stvaranju okvira vrednosti [20].

4. AUTENTIČNO LIDERSTVO I POVERENJE

Poverenje je najvažniji kvalitet koji proizilazi iz autentičnog liderstva. Biberman [21] definiše poverenje kao pozitivno očekivanje da druga osoba neće svojim rečima, delima ili odlukom delovati oportunistički.

Za autentično liderstvo se vezuje poverenje zasnovano na poistovećivanju. Najviši stepen poverenja se dostiže kada postoji emocionalna povezanost. Tada autentični lider deluje kao zastupnik za drugu osobu. Poverenje postoji zato što obe strane razumeju međusobne namere i svaka poštuje želje, potrebe i interese druge osobe.

Kada se izgubi poverenje to može imati velike posledice i za lidera i za sledbenike. Lider će biti dobar u rešavanju problem onoliko koliko mu sledbenici veruju. Kada sledbenici veruju svom lideru oni su voljni podržavati akcije lidera verujući da njihova prava i interesi neće biti zloupotrebljeni. Ljudi neće slediti nepoštene lidere, a poštenje se redovno stavlja na prvo mesto popisa osobina koje se cene kod lidera [22].

5. AUTENTIČNO LIDERSTVO KAO IGRANJE ULOGA

Većina prethodnih istraživanja liderstva bila su takva da je lider igrao neku ulogu. U autoritarnom liderstvu lider igra ulogu rukovodioca, koji rukovodi snagom autoriteta namećući sledbenicima, velikim pritiskom, model rada koji se zasniva na donošenju unilateralnih odluka i ograničavanju participacije zaposlenih. U demokratskom liderstvu lider igra jednu sasvim drugu ulogu: nastoji da uključi zaposlene u donošenje odluka, podstiče participaciju, koristi povratne informacije kao mogućnost napredovanja sledbenika. U liberalnom stilu lider igra ulogu rukovodioca, koji kako bi stekao što veći broj sledbenika daje potpunu slobodu u donošenju odluka od strane zaposlenih. U transakcionom liderstvu lider igra ulogu motivatora svojih sledbenika, koji treba da ostvare utvrđeni cilj. Kod transformacionog liderstva lider igra ulogu rukovodioca koji uvažava pojedinca i koji svojim sledbenicima pruža intelektualnu stimulaciju.

Autentično liderstvo je prvi model liderstva gde lider igra ulogu samog sebe i gde ne mora da glumi. Dok svi modeli liderstva koriste pet izvora moći (legitimnu moć, moć prinude, moć nagrađivanja, stručnu moć i referentnu moć), autentični lideri koriste samo poslednje dva moći, odnosno stručnu i referentnu moć. Stručna moć autentičnog lidera je zasnovana na znanju i posebnim veštinama koje poseduje. Referentna moć je moć koja nastaje na osnovu poželjnih sposobnosti i resursa koje poseduje ta osoba ili njenih ličnih karakteristika. Želja drugih ljudi je da budu kao ta osoba i zato je i prihvataju.

6. AUTENTIČNO LIDERSTVO I ETIKA

Tema etike i liderstva u preovlađujućoj literaturi nailazi na malo interesa [23]. Tek se u poslednjoj deceniji počelo razmatrati pitanje etike u liderstvu. Koji su razlozi da se sada otvaraju ova pitanja? Jedan od razloga je, svakako, pritisak od strane javnosti da se etika razmatra u celom području menadžmenta. Drugi razlog, je otkrivanje etičkih mana preko biografija mnogih ljudi koji su važili za najbolje i najveće lidere: Martin Luter, Džon

Kenedi, Tomas Džeferson. Treći razlog, je otkrivanje velikog broja neetičkih praksi lidera u organizacijama širom sveta.

Autentično liderstvo i etika imaju mnogo dodirnih tačaka. Sledbenici autentične lidere smatraju etičkim ljudima. Primarni kvalitet koji proizilazi iz autentičnog liderstva je poverenje koje sledbenici imaju u lidera. Autentični lideri će koristiti svoju harizmu kako bi povećali moć nad sledbenicima, usmeravajući ih da se pridržavaju etičkih i moralnih principa. Dok neetični lider koristi svoju harizmu kako bi povećao svoju moć nad sledbenicima radi vlastitih interesa, autentični lider će iskoristiti svoju moć na društveno konstruktivan način da bi služili drugima. Rezultat je stvaranje etičkog okruženja koje pogoduje razvoju organizacije u pravom smeru.

7. AUTENTIČNO LIDERSTVO I ORGANIZACIONA KULTURA

Organizaciona kultura je dinamičan fenomen koji nas okružuje. Kultura stvara interakcije među zaposlenima, ali i oblikuje ponašanje lidera. Organizaciona kultura je skup rutina, pravila i normi koje vode i ograničavaju ponašanje u organizaciji. Kultura utiče na strukturu i smisao članova grupe. Ovi dinamički procesi upućuju da je stvaranje organizacione kulture i upravljanje njome suština liderstva, a kako ih je Šejn nazvao to su dve strane istog novčića [24].

Organizaciona kultura počinje sa liderom koji nameće sopstvene vrednosti i pretpostavke grupi. Ako je grupa uspešna onda imamo kulturu koja će biti određena za kasnije generacije. Kultura će tako definisati naredne generacije liderstva. Ako grupa zapadne u problem onda liderstvo mora ponovo da stupi na scenu i da menjajući kulturu ponovo je učini povoljnom za rad i život organizacije. Lideri moraju biti sposobni da menjaju kulturu u zavisnosti od zahteva okruženja. Ova sposobnost lidera da se izbore sa svojom sopstvenom kulturom i promenama kulture organizacije koju vode je suština i krajnji izazov liderstva. Da bi lideri mogli da menjaju kulturu oni moraju da shvate dinamiku kulture i procese njenog nastajanja, nestajanja i evaluacije.

Povezanost kulture i liderstva je tolika da ne možemo razumeti jedno bez drugog. Sa jedne strane kultura definiše organizaciju i liderstvo, a sa druge lideri kreiraju i upravljaju kulturom. Ovi procesi su od presudne važnosti za lidera: uspostavljanje i održavanje pozitivne kulture i menjanje i uništavanje kulture koja je loša za organizaciju. Kultura je rezultat učenja u grupi i samo je delimično pod uticajem lidera. Konceptualno preplitanje liderstva i kulture dolazi onda kada nastanu problemi i nefunkcionalnost kulture. Tada lider interveniše i menja organizacione kulture grupa, a samim tim i cele organizacije. Organizaciona kultura određuje kriterijume za postavljanje lidera, odnosno kultura određuje ko može biti lider.

Iz svega rečenog proizilazi: 1. autentična kultura će postaviti autentičnog lidera, i 2. autentični lider će dolaskom u organizaciju menjati njenu kulturu dok ne postane autentična kultura. Autentični lider će stvarati organizacionu kulturu koja će imati sledeće važne karakteristike [23]: 1. Snažan osećaj svrsishodnosti. Kultura će se graditi oko neke smislene svrhe. Sledbenici žele da imaju svrhu svog rada, koju smatraju važnom i vrednom truda, a da nije samo u zoni novca i profita. 2. Fokus će staviti na razvoj pojedinca prepoznajući izvrsnost i vrednost ljudi. 3. Poverenje i poštovanje zasnovano na iskrenosti i otvorenosti koje podrazumeva da se menadžeri ne boje da prave greške. 4. Humane radne prakse koje će zadovoljiti interese zaposlenih: fleksibilni radni rasporedi, nagrade, ovlašćenja i delegiranja kao i sigurnost radnog mesta. 5. Trpeljivost prema izražavanju interesa zaposlenih.

8. ZAKLJUČAK

Još je Žan Pol Sartr govorio o autentičnosti tvrdeći da pojedinac mora da bude iskren prema sebi, da mora izbegavati samozavaravanje da bi bio autentična osoba. Autentično liderstvo je predviđeno da obeleži 21. vek. Samo stavljanje akcenta na etičke probleme je veliki korak napred u razvoju lidera. Sa druge strane, autentično liderstvo nas upućuje da će liderstvo zavisi od ličnosti lidera. Treće, da li će biti izabran lider sa autentičnim osobinama zavisi od percepcije ljudi koji ga biraju.

Koncept autentičnog lidera je vrlo kompleksan i može imati problema da zaživi u praksi. Međutim, kada organizaciju vodi autentični lider zaposleni imaju prilike da učestvuju u odlučivanju i da budu uvaženi njihovi interesi. Buduća istraživanja u ovoj oblasti treba da se okrenu praktičnom delu autentičnog liderstva. Ukoliko se autentično liderstvo ne ostvari u praksi i ukoliko ne bude prihvaćeno od većine lidera onda postoji bojazan da će ovakav koncept poslužiti samo kao model koji nikada nije zaživeo i ostvario se.

Jedan od najvažnijih zadataka lidera je promena organizacione kulture ukoliko je ona loša. Sa druge strane lider ulaže napor da se zadrži stara organizaciona kultura ukoliko je pozitivna i dobra. Svakako da je dobra vest da se autentično liderstvo može naučiti. Svrha ovog rada je da obezbedi mapu puta za napredovanje autentičnog liderstva u teoriji i praksi. Na taj način organizacijama je omogućeno da shvate da visok nivo performansi mogu da obezbede autentični lideri koji za to imaju potencijal da obezbede.

REFERENCE

- [1] B. George, True North: Discover Your Authentic Leadership, 1st edition, Jossey-Bass, San Francisco, 2007.
- [2] K. Cashman, Leadership from the Inside Out, Executive Excellence Publishing, 1st edition, Provo, 1999.
- [3] K. Cashman, J. Forem, Awakening the Leader Within: A Story of Transformation, 1st edition, John Wiley and Sons, Hoboken, New Jersey, 2003.
- [4] www.merriam-webster.com/dictionary/authentic
- [5] M. H. Kernis, B. M. Goldman, A multicomponent conceptualization of authenticity: Theory and Research, In M. P. Zanna (Ed.), Advances in experimental social psychology, San Diego, CA: Academic Press, 2006, 283-357.
- [6] F. Luthans, B. J. Avolio, Authentic leadership development, In K. S. Cameron, J. E. Dutton & R. E. Quinn (Ed.), Positive organizational scholarship: Foundations of a new discipline, San Francisco: Barrett-Koehler, 2003, 241-261.
- [7] S. Harter, Authenticity, In C. S. Snyder & S. J. Lopez (Ed.), Handbook of positive psychology, Oxford: Oxford University Press, 2002, 382-394.
- [8] R. J. Erickson, The Importance of authenticity for self and society, Symbolic Interaction, (1995) 18, 2, 121-144.
- [9] A. Baird, E. Forrest, From Plato to Derrida, Pearson Prentice Hall, New Jersey, 2008.

- [10] P. Drucker, (2005). Leading Management Guru, Dies at 95, Bloomberg. Preuzeto sa: www.cgu.edu/pages/292.asp
- [11] S. Covey, (2004). The 7 Habits Of Highly Effective People. Preuzeto aprila 2014 sa: <https://www.stephencovey.com/7habits/7habits.php>
- [12] W. K. Hoy, J. E. Henderson, Principal authenticity, school climate, and pupil-control orientation, *The Alberta Journal of Educational Research*, (1983) 29, 2, 123-130.
- [13] N. Bhindi, P. Duignan, Leadership for a new century: Authenticity, intentionality, spirituality, and sensibility, *Journal of Educational Management and Administration*, (1997) 25, 2, 117-132.
- [14] P. T. Begley, In pursuit of authentic school leadership practices, *International Journal of Leadership in Education*, (2001) 4, 353-365.
- [15] W. George, *Authentic leadership: Rediscovering the secrets to creating lasting value*. Jossey-Bass, San Francisco, 2003.
- [16] B. J. Avolio, F. Luthans, F. O. Walumbwa, *Authentic leadership: Theory building for veritable sustained performance*, Working paper: Gallup Leadership Institute, University of Nebraska-Lincoln, 2004.
- [17] P. T. Begley, Understanding valuation processes: Exploring the link age between motivation and action, *International Studies in Educational Administration*, (2004) 32, 2, 4-17.
- [18] R. Ilies, F. P. Morgeson, J. D. Nahrgang, J. D. Authentic leadership and eudaemonic well-being: Understanding leader-follower outcomes, *The Leadership Quarterly*, (2005) 16, 373-394.
- [19] F. O. Walumbwa, B. J. Avolio, W. L. Gardner, T. S. Wernsing, S. J. Peterson, *Authentic leadership: Development and validation of a theory-based measure*, *Journal of Management*, (2008) 34, 89-126.
- [20] G. Whitehead, *Adolescent leadership development: Building a case for an authenticity framework*, *Educational Management Administration and Leadership*, (2009) 37, 847-872.
- [21] G. Biberman, *Personality and Characteristic Work Attitudes of Person with High, Moderate and Low Political tendencies*, *Psychological Reports*, (1985) 57, 1303-1310.
- [22] M. Valle, P. Perrewe, *Do Politics perceptions Relate to political behaviors? Test of an Implicit Assumption and Expanded Model*, *Human Relations*, (2000) 53, 3, 359-386.
- [23] P. Robbins, T. Judge, *Organizacijsko ponašanje*, Mate d.o.o, Zagreb, 2009.
- [24] E. Schein, *Organizational culture and Leadership*, Jossey-Bass Publishers, San Francisco, 1985.

SOCIAL RESPONSIBILITY OF COST - BENEFIT ANALYSIS (CBA) - THE EXAMPLE OF ENVIRONMENTAL PROTECTION

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Abstract: The CBA is a known technique of evaluating profitability of investment projects and proved to be very convenient when it comes to projects that are crucial for the wider economic field. This paper describes the probability of occurrence of risks and costs during the life of the project, as well as their management and movement in order to timely eliminate the problem. The aim of this paper is to discover the cost-benefit analysis as an important tool in environmental protection. In the study "Assessment of the Economic Value of Environmental Degradation in Serbia" European Agency for Reconstruction using benefit transfer method will attempt to quantify the economic cost of environmental protection in Serbia. Therefore, for almost all types of environmental pressures there are functions of marginal costs of control. Cost-benefit analysis has proved to be adequate for reconstruction of the environment in South Africa, indicating its applicability in practice.

Keywords: cost-benefit analysis (CBA), investment projects, environmental protection.

DRUŠTVENA ODGOVORNOST COST-BENEFIT ANALIZE (CBA) NA PRIMERU ZAŠTITE ŽIVOTNE SREDINE

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Apstrakt: CBA je poznata tehnika ocene isplativosti investicionih projekata i pokazala se vrlo pogodna kada je reč o projektima koji su krucijalni za šire privredno područje. U radu je prikazana verovatnoća nastanka rizičnih događaja i troškova tokom životnog veka projekta, kao i njihovo upravljanje i kretanje u cilju pravovremenog eliminisanja problema. Cilj rada jeste spoznavanje cost-benefit analize kao bitnog instrumenta u zaštiti životne sredine. Evropska agencija za rekonstrukciju definisala je studiju "Assessment of the Economic Value of Environmental Degradation in Serbia" kojom će se uz primenu benefit transfer metode, pokušati da se kvantifikuje ekonomska šteta životne sredine u

Srbiji. S toga, za gotovo sve vrste pritiska na životnu sredinu određene su funkcije graničnih troškova suzbijanja. Primenljivost i korisnost u praksi ova metoda je iskazala kod obnove životne sredine u Južnoj Africi.

Ključne reči: cost-benefit analiza (CBA), investicioni projekti, zaštita životne sredine.

1. UVOD

Prilikom ocene opravdanosti realizacije jednog investicionog projekta treba uvek imati u vidu i efekte koje projekat donosi drugim organizacijama ili širokoj zajednici. Investicioni projekti se na najbolji način mogu ocenjivati ako se analiziraju i uzmu u obzir ukupni efekti koje donosi posmatrani investicioni projekat. Na konto toga, može se izvršiti analiza troškovi - koristi (cost-benefit analiza), koja uzima u obzir sve društvene koristi i troškove, koje jedan projekat donosi u realizaciji.

Cost-benefit analiza, kao vrsta studije, se odnosi na projekte (infrastrukturne projekte), najčešće inicirane od javnog sektora. Specifičnost studije je u tome da se ne uključuje samo ekonomski efekat investicije (profitabilnost), nego i sve ostale direktne i indirektno uticaje na socijalni, društveni i ekološki aspekt zajednice.

Za sam fokus pažnje, programa i projekta, koji preovlađuju u javnom sektoru, potrebno je analogno sprovesti analizu troškova i koristi. Tu se manifestuju dve veoma bitne razlike, koje preovlađuju između analize troškova i koristi i analize profitabilnosti uvođenja novog proizvoda :

1. Analiza troškova i koristi je instrument, koji se koristi za donošenje javnih odluka, a čiji interes nije u tome da su firme individualno profitno orijentisane, nego odluke teže ka ostvarivanju opštedruštvenih interesa;
2. CBA analiza se uglavnom koristi za ocenjivanje politike i programa, čiji su tipovi autputa – netržišni (npr. unapređenje kvaliteta životne sredine).

Cilj rada jeste spoznavanje cost-benefit analize kao instrumenta u zaštiti životne sredine. Ako bismo težili minimizaciji troškova u politici zaštite životne sredine, a maksimizaciji koristi, onda bismo možda i mogli sa sačuvamo planetu Zemlju od nesvesnog uništavanja. U tome leži i hipoteza ovog rada. U prvom delu rada pažnju posvećujemo teorijskim osnovama CBA i njenoj politici zaštite životne sredine. U drugom delu rada govorićemo o tehnikama vrednovanja životne sredine i ekoloških resursa, ali i o ekonomskim aktivnostima i životnoj sredini u Srbiji. Treći deo će predstaviti troškove i koristi u procesu obnove i zaštite životne sredine u Južnoj Africi.

2. TEORIJSKE OSNOVE COST-BENEFIT ANALIZE

CBA je veoma koristan alat u procesu dokazivanja kreatorima ekonomske politike, kako kratkoročno, tako i dugoročno, za povećavanje obima i kvaliteta poljoprivredne proizvodnje i njene efektivnosti i efikasnosti. Prest i Turvey su dali najbolju opštu definiciju cost-benefit analize: “CBA predstavlja praktičan način ocene poželjnosti projekta tamo gde je od značaja dugoročno posmatrati perspektive (u smislu vođenja

računa o reperkusijama u daljoj kao i bližoj budućnosti) i šire posmatrati (u smislu uzimanja u obzir raznovrsnih sekundarnih efekata na mnoga lica, grane, regiona itd.), tj. ona implicira nabranje i evaluaciju svih relevantnih troškova i efekata". [5]

Svrha cost-benefit analiza u samom postupku izbora novog investicionog projekta, pruža relevantne informacije o "ceni", kao žrtvi ostvarivanja ekonomskog cilja. Upravo zbog toga, ona jeste prvi, teorijski i praktični pokušaj, da se sa aspekta društva sagradi kriterijum investiranja i vrednovanja. U skladu sa propisima Evropske unije [4], preporučuje se sprovođenje cost-benefit analize kroz sledećih 6 faza:

1. Definisane ciljeva projekta;
2. Identifikacija projekta;
3. Analiza izvodljivosti i opcija;
4. Finansijska analiza;
5. Ekonomska analiza i
6. Procena rizika.

Osnovna ideja CBA je da se obezbedi analiza, koja treba da poseduje tehniku za investiciono odlučivanje, koja je nepohodna da se ocene troškovi i efekti investicionih alternativa. Ona putem ocene i izbora projekta može da predvidi troškove, ali se koristi ne mogu precizno proceniti. U takvim slučajevima, projekti se ocenjuju samo na osnovu procene očekivanih troškova. [9] Tokom CBA, u obzir treba uzeti uticaje što većeg broja finansijskih, ekonomskih, društvenih i drugih faktora, u cilju procene finansijske i ekonomske isplativosti projekata. Uticaje svih ovih faktora je potrebno monetizovati (izraziti novčano), kako bi bili međusobno uporedivi u okviru CBA. Ekonomski isplativim se smatraju samo oni projekti koji donose više koristi, nego troškova, a preporučuje se izbor onog projekta koji donosi najveće koristi u odnosu na troškove. [4]

2.2. OPŠTE TEORIJSKE OSNOVE COST - BENEFIT ANALIZE U POLITICI ZAŠTITE ŽIVOTNE SREDINE

CBA se vrlo pouzdano oslanja na preferencije, koje su društvenog karaktera. Gde se sasvim zanemaruje, da li se one izražavaju preko tržišta ili se indirektno izračunavaju. Prema tome, razlika između društvenih troškova i efekata je izražena kao ciljna funkcija društva koja se želi maksimizirati. Međutim, tu se i manifestuju dve pretpostavke. Prva pretpostavka je da se maksimiziraju društvene ekonomske prednosti. Pored toga, društvo je u mogućnosti da definiše i druge ciljeve, a ti ciljevi se izražavaju u vidu „prepreke“ ostvarivanja ekonomskih ciljeva – na primer: kod razvoja i zaštite prirodnog kapitala, u slučaju uspostavljanja ravnoteže u regionalnom razvoju, u cilju dostizanja socijalne jednakosti. Druga pretpostavka je definisanje društvenih preferencija kao agregat individualnih preferencija. Upravo taj oblik definisanja praćen je značajnim teškoćama. Međutim, one svakako mogu biti, agregatne „tržišne“ preferencije.

Kod ovog oblika se manifestuje da nepostojanje tržišta za neke proizvode ili usluge i prisustvo neadekvatnih tržišnih cena, izaziva potrebu kod CB analize da definiše preferencije, na takav način, da, polazeći od pretpostavke kada bi postojalo tržište za te

proizvode ili usluge (buka, zagađenje vode, zagađenje biosfere i sl.), uz preteće pitanje, koliko bi subjekat kao potrošač, bio spreman da plati da bi zadovoljio svoju preferenciju. Taj oblik zadovoljavanja potrošačeve preferencije bi se u ovom slučaju odnosio na iskorišćavanje nezagađene vode, čistog vazduha, itd. Prema tome, prisutna je spremnost društva da izdvoje određenu sumu novčanih sredstava, u cilju eliminisanja negativnog efekta, ali i ostvarivanje određenog pozitivnog efekta. Upravo ta spremnost društva da plate određenu cenu, manifestuje se kroz jedan oblik ravnoteže, kao što je :

$$\text{efekat} = \text{spremnost društva da plati} = \text{cena}$$

Prilikom egzistiranja neadekvatnih cena, neophodno je obezbediti surogat tržišnim cenama. Pomenuti surogat tržišnim cenama je neophodan, da bi postojala određena varijanta vrednovanja proizvoda ili usluga. Rešenje za to, jeste kalkulativna cena. Upravo, kada govorimo o proizvodima kao što su buka, zagađenje vode, vazduha i slično, kalkulativne cene su neophodne da bi se izrazila spremnost potrošača da plati cenu za određene proizvode, uz uslov da postoji tržište za pomenutim proizvodima. Na primer, surogatna cena negativnog efekta u obliku zagađenog vazduha bila bi spremnost pojedinca da plati za sprečavanje zagađenja. [5] U praksi, kao prihvatljiva mera za njegovu želju može se uzeti i kompenzacija pojedincu za zagađeni vazduh. Iz ovoga bi mogla da sledi društvena ciljna funkcija formulisana u sledećem: [5]

neto društveni efekat = spremnost društva da plati = potrebna kompenzacija (troškovi), gde se efekti i troškovi izražavaju u monetarnim jedinicama

Pored dveju prethodnih izloženih teorijskih pretpostavki, bitno je govoriti još i o intenzitetu preferencija i o tome da, za pojedinca koji raspolaže sa nižim dohotkom jedan dinar donosi više koristi, nego za pojedinca koji raspolaže sa višim dohotkom.

Sa aspekta blagostanja kao društvene funkcije, kako se neto efekti jedne aktivnosti pozitivno odražavaju na jedan broj ljudi i negativno za drugi broj ljudi, to eksplicitna ciljna funkcija društva pruža odgovor o tome da li se neto efekat na društveno blagostanje povećava ili smanjuje. Uz pretpostavku da dolazi do ujednačavanja blagostanja i dohotka, postoji mogućnost da se društveno blagostanje može izraziti u funkciji dohotka pojedinca, ali i društva u celini.

2.2. JASNO SPECIFICIRANJE PROGRAMA I PROJEKTA

Jasno specificiranje programa ili projekta je instrument odlučivanja o javnoj politici. Izgrađivanje CBA za potrebe nacionalne državne agencije, opravdava shvatanje da reč „javni“ predstavlja skup svih ljudi koji žive u određenoj zemlji. Međutim, ako se ta analiza izgrađuje za potrebe gradske ili regionalne institucije za zaštitu životne sredine, onda je ova analiza u potpunosti usmerena na troškove i koristi onih ljudi, koji su stanovnici tih oblasti.

Kada želimo da pristupimo realizaciji određenog projekta, neophodno je prvo doneti odluku o samoj studiji projekta, a nakon toga definisati glavne elemente samog projekta. Razlikujemo dva osnovna tipa javnih ekoloških programa, za koje se najčešće rade analize troškova i koristi: [8]

- fizički projekti koji direktno uključuju javni sektor: javna preduzeća za tretiranje otpada, projekti obnavljanja obala, spaljivanja opasnog otpada, unapređenja prirodnih staništa, očuvanje poljoprivrednog zemljišta itd;
- regulativni projekti koji se koriste za unapređenje ekoloških zakona i propisa, kao što su standardi kontrole zagađenja, kriterijumi izbora tehnologija, načini odlaganja čvrstog otpada, restrikcije u korišćenju zemljišta itd.

Investitori mogu da budu sigurni u ostvarivanju profita i povraćaj svog uloženog kapitala putem isplate dividendi. [1] Verovatnoća nastanka rizičnih događaja i troškova, kao posledica rizičnih događaja tokom životnog veka projekta prikazana je na slici: [13]

Verovatnoća nastanka
rizičnih događaja



Grafikon br. 1: Verovatnoća dešavanja događaja i troškova [13]

Na prikazanoj slici možemo da konstatujemo da se, na samom početku realizacije projekta manifestuju najrizičniji događaji i poduhvati, koji postepeno tokom daljeg perioda depresiraju. To znači da dobro upravljanje rizikom projekta podrazumeva identifikovanje i procenu što više potencijalnih rizika u početku životnog ciklusa projekta i pažljivo praćenje kritičnih događaja sa ciljem pravovremenog eliminisanja problema u svojim ranim fazama. [11] Troškovi, kao finansijske posledice koje su prouzrokovane nastankom rizičnih događaja, najniži su na početku životnog ciklusa projekta. Ako se troškovi pravovremeno ne prate i ne lociraju sva odstupanja od plana, oni vremenom rastu, tako da nastaju gubici kao kazna za preduzeća koja loše koriste resurse. [15]

3. COST - BENEFIT ANALIZA KAO INSTRUMENT U ZAŠTITI ŽIVOTNE SREDINE

Cilj upravljanja kvalitetom životne sredine predstavlja kompleks međusobno ravnopravnih ciljeva, od kojih naročito treba istaći: [7]

- a) Zaštitu sredine od negativnog uticaja privrednih delatnosti, naročito industrije;
- b) Sprečavanje šteta, koje mogu biti nanete životnoj sredini nepredviđenim dejstvom na njenu strukturu i kvalitet;

- c) Aktivno menjanje životne sredine za potpunije zadovoljenje potreba razvijenog društva, sadašnjih i budućih pokolenja.

Mere i instrumenti u politici zaštite okoline mogu se okarakterisati kao ekonomske, ukoliko oni utiču na kalkulaciju (procenjivanje i obračun) troškova i koristi alternativnih akcija koje kao mogućnosti stoje pred ekonomskim subjektima, te na proces donošenja poslovnih odluka i njihovo poslovno ponašanje, i to na takav način da se odabere ona alternativa čije će ostvarenje dovesti do povoljnije situacije u pogledu kvaliteta životne okoline u odnosu na onu koja bi inače nastala bez upotrebe takvih mera i instrumenata. [14]

3.1. TEHNIKE VREDNOVANJA ŽIVOTNE SREDINE I EKOLOŠKIH RESURSA

Ekonomski pristup vrednovanju ekoloških promena se zasniva na proceni preferencija ljudi vezanih za promenu stanja sredine u kojoj žive. Ekološki resursi proizvode dobra i usluge, vrlo značajne za ljudsko blagostanje, a za koje u većini slučajeva, ili ne postoje tržišta, ili ona veoma nesavršeno funkcionišu. Bilo da tržište ne postoji, bilo da funkcioniše nesavršeno, rezultat je taj da cene ekoloških resursa ne postoje, te otuda nema ni svesti ljudi o neposrednoj novčanoj vrednosti životne sredine. Da bi se uvelo ekonomsko vrednovanje životne sredine, mora se poći od istih principa kao i pri vrednovanju proizvoda ljudskog rada, a to su: [2]

- “princip voljnosti da se plati” (WTP),
- “princip voljnosti da se prihvati naknada” (WTA).

3.2. EKONOMSKE AKTIVNOSTI I ŽIVOTNA SREDINA U SRBIJI

Raznorodni i kompleksni uslovi održanja života na planeti Zemlji se mogu nazvati jednim imenom, a to je životna sredina. Postoji mnogo dokaza da je ekonomska aktivnost čovečanstva glavni antropogeni faktor sadašnjih poremećaja životne sredine na Zemlji. Veze između stanja životne sredine i ekonomskih aktivnosti postaju predmet posebnih naučnih disciplina, koje se dinamično razvijaju od druge polovine XX veka.

Od februara do septembra 2004. godine, u okviru priprema za izradu Nacionalnog ekološkog akcionog plana, NEAP-a, Evropska komisija za rekonstrukciju inicirala je, kao deo Environmental Capacity Building Programme 2003, izradu studija pod naslovom “Assessment of the Economic Value of Environmental Degradation in Serbia”. [6] Pomenuta studija predstavljala je prvi pokušaj da se kvantifikuje iznos ekonomskih šteta po životnu sredinu u Srbiji. Imajući u vidu vreme i limitirana sredstva, autori su se opredelili za primenu benefit transfer metoda, potpuno svesni svih njegovih ograničenja. Benefit transfer metod se ogleda u tome da se rezultati ranijih studija vrednovanja životne sredine, najčešće sprovedeni u drugim zemljama i regionima, prenesu uz neophodne korekcije, na uslove zemlje u kojoj se vrši istrživanje. Kao faktori korekcije najčešće se uzimaju prosečan dohodak, obračunat prema paritetu kupovnih snaga, veličina i karakteristike stanovništva, geografske okolnosti, nivo uticaja na životnu sredinu, nivo urbanizacije, ranija stanja životne sredine itd. Oslanjanje na rezultate ranijih studija sprovedenih u drugačijim geofizičkim i socioekonomskim uslovima nije uvek ispravno. Opisana procedura daje bolje rezultate ukoliko su lokalni uticaji slabiji. Kada je, pak, reč o

globalnim uticajima, dobijeni rezultati se mogu smatrati validnijim. S toga, za gotovo sve vrste pritiska na životnu sredinu određene su funkcije graničnih troškova suzbijanja, ali treba sagledati i izdatke koji nisu primarno usmereni na životnu sredinu, a imaju indirektno efekte na nju samu.

3.3. EKONOMSKE I EKOLOŠKE KORISTI POGLEDA NA ŽIVOTNU SREDINU

Program "Zelene staze" značajno poboljšava kvalitet života u zajednici kojoj direktno povećavaju ekonomsku dobit. Takođe, privlače biznis, što zajednica i zaposleni i žele. Stepenn rizika i neizvesnosti su stanja koja se uvek budno prate, i na neki način se strepi od njih. Sa aspekta cost-benefit analize, pitanja rizika i neizvesnosti su takođe vrlo bitna. I rizici i neizvesnost se mogu na neki način definisati. Prema tome, rizik je situacija kada je vrednost npr. troškova ili efekata nepoznata, ali je poznata njihova verovatnoća distribucije. A neizvesnost je situacija, gde je verovatnoća distribucije nepoznata.

Promocijom zdravlja smanjuju se troškovi lečenja. Prednosti rekreacije na otvorenom dovodi turiste - a turisti troše novac. One su koridori zaštićenog otvorenog prostora uređenog radi očuvanja, rekreacije ili nemotorizovanog saobraćaja. Prema tome, u svakom poslovanju pa tako i u ekologiji, u cilju očuvanja životne sredine, s jedne strane težnja je da se minimiziraju troškovi, a sa druge strane je da se maksimizira korisnost. Prema tome, ekološke ekonomske koristi sa aspekta životne sredine se mogu manifestovati u vidu povećanja vrednosti nekretnina, povećanja potrošnje, komercijalnom upotrebo, turizmom ali i smanjenjem javne potrošnje - zaštita reka, puteva i "zelenih staza".

4. COST-BENEFIT ANALIZA NA PRIMERU OBNOVE I ZAŠTITE ŽIVOTNE SREDINE U JUŽNOJ AFRICI

Ekonomska analiza se koristi za procenu troškova i koristi od obnove uklanjanja invazivnih stabala u floristički bogatoj Fynbos planinskoj oblasti u Južnoj Africi. [3] Groot Drakenstein, Franschoek i Jonkershoek planine dobijaju više padavina nego okolne oblasti i predstavljaju značajan izvor vode za grad Kejptaun. Troškovi uklanjanja invazivnih biljaka, sprečavanja erozije zemljišta (vododerina) i ponovnog zasađivanja autohtonih biljaka su posmatrani kroz studiju slučaja cost-benefit analize obnove, sa fokusom na koristi od vode kao resursa i turizma. Zaključeno je da bi dalja obnova bila ekonomski opravdana pod određenim pretpostavkama i uslovima.

4.1. OBNOVA PLANINSKOG SLIVA „ASSEGAAIBOS“

Analiza troškovi-koristi je korišćena da se utvrdi da li potencijalne koristi od porasta vode i turizma u Assegaaibos planinskom slivu nadmašuju troškove vraćanja sliva na stanje slično po strukturi, funkciji i sastavu koji je predviđen za netaknut predeo. U cilju obnove ovog sliva, neophodne su tri faze. Prva faza obuhvata uklanjanje stranih invazivnih biljaka, što podrazumeva uklanjanje borovih zasada dugo ustanovljenih na planini. Drugo je eliminisanje jaruga erozije koje su se razvile tokom vremena i treće je zasađivanje vrsta izgubljenih kroz negativne uticaje aktivnosti šumarstva i visokog intenziteta požara. Svaka od ovih operacija i njihovi troškovi su objašnjeni. [3]

Troškovi krčenja invanzivnih biljaka su zasnovani na standardima rada „Working for Wate

r Programme“ za veće površine od 7640,32 hektara. Troškovi uključuju početno krčenje i prateće aktivnosti i obračunavaju se po osobi po danu u iznosu od 18,5 američkih dolara uključujući zaradu, zaštitnu odeću i prevoz. Troškovi upravljanja projektom (plate, prevoz, telefon, kompjuter i drugi svakodnevni troškovi upravljanja) i troškovi regionalnog upravljanja obračunavaju se standardno kao 10% operativnih troškova i uključuju regionalne usluge koje pruža Odeljenje za poslove voda i šumarstva, Kancelarija provincije Zapadnog Kejpa. Međutim, troškovi upravljanja su izolovani i posmatraju se odvojeno i ne uključuju se u date troškove uklanjanja. Troškovi su smanjeni na cenu po hektaru, a onda ekstrapoliraju na području lokacije od 806 hektara. Stvarni CPI (indeks potrošačkih cena) za period od 1996. do 2006. godine bio je korišćen da eskalira ukupnu cenu od 1996. do bazne 2006. godine. Ukupni troškovi uklanjanja stranih invazivnih biljnih vrsta u periodu od 6 godina je 124.761 američkih dolara u 1996. godini i primenom stvarnog CPI je povećan na 215.257 američkih dolara u 2006. godini. Ukupni troškovi pratećih aktivnosti uklanjanja stranih invazivnih biljaka u periodu od 8 godina su izračunati u iznosu od 1.047 američkih dolara u 1996. godini i eskalirali su primenom stvarnog CPI, [12] do 1806 američkih dolara u 2006. godini. Opšti troškovi i troškovi upravljanja izračunati su na ukupno 29.586 američkih dolara u 1996. godini. Ova cifra se povećala primenom stvarnog CPI za godine od 1996. do 2006. i povećana je na 51.047 američkih dolara za punih osam godina trajanja projekta uklanjanja stranih invazivnih biljaka.

Troškovi u vezi smanjenja erozije zasnivaju se na troškovima rada od 18,50 američkih dolara po osobi dnevno za izgradnju ukupno 7.348 metara brane i materijalnih troškova potrebnih za njihovu konstrukciju. Kontrola erozije zahteva petogodišnji prateći program, po ceni od 20% od ukupnih troškova operacije (4% godišnje). Utvrđeno je da će troškovi rada za sanaciju osam jaruga erozije iznositi 2.843 američkih dolara, a materijalni troškovi korišćenja ek situ materijala će iznositi 25.193 američkih dolara u poređenju sa korišćenjem in situ materijala po ceni od 5.200 dolara. Praćenje programa će koštati 323 američkih dolara godišnje u periodu od pet godina koristeći in situ materijal.

Troškovi u vezi sa sadnjom obuhvataju procese žetve, pripreme (čišćenje, sušenje ili tretiranje dimom da se podstiče klijanje) i kompletnu realizaciju. Zasad zahteva petogodišnji prateći program. Troškovi pratećeg programa su izračunati i iznose 20% od ukupne cene zasada, 4% godišnje za pet godina. Sveobuhvatni zasad će koštati 6 miliona američkih dolara i troškovi praćenja će iznositi 241.208 dolara godišnje za period od pet godina.

4.2. ZNAČAJ I KORISTI OBNOVE ZA VODOSNADBEVANJE I TURIZAM

Neto prinos vode, koja potiče iz planinskog sliva Assegaaibos, dobijen je na osnovu evidentirane količine vode na brani na reci Berg. Lokacija brane pruža priliku da se izoluje i meri samo voda iz Assegaaibos planinskog sliva. I istorijski i aktuelni podaci su korišćeni za određivanje srednjeg godišnjeg oticaja. Monetarna korist, koja je izvedena iz koristi od vodosnabdevanja iz pomenutog planinskog sliva, izračunata je da iznosi 44.395 američkih dolara u 2006. godini pre uklanjanja stranih invazivnih biljaka i posle toga 46.021 američkih dolara u 2007. godini.

Prilika da se vide endemske vrste životinja i biljaka privlači veliki broj turista na Fynbos područje u Južnoj Africi. Procenjena korist za turizam isključivo se zasniva se na prihodu stečenom od prodaje dozvola za pristup Assegaaibos planinskom slivu. Dnevna i godišnja dozvola prodaje se za biciklizam, planinarenje i jahanje. Zabeležena prodaja je korišćena za određivanje rasta prosečnog godišnjeg udela između 2001. i 2004. godine. Realno

povećanje od 10% u 2003. godini koristi se za ekstrapolaciju podataka do i uključujući 2036. godinu u cilju utvrđivanja očekivanih budućih prihoda od turizma za ove godine. Koristi za turizam izračunati su u iznosu od 322 američkih dolara u 2006. godini, sa povećanjem od 10% godišnje u narednim godinama. [3]

5. ZAKLJUČNA RAZMATRANJA

Svest ljudi je uvek fokusirana u smeru da se teži ka tome, da se novčana sredstva investiraju u one aktivnosti, projekte i ona dobra, koja obezbeđuju što veću korist, za njih same. Crpi se bezbroj resursa, kojima se preobražava prirodna okolina u razne investicione projekte, preduzeća, saobraćajnice, obradivu površinu i slično, a opet u cilju dobijanja koristi od tog oblika preobražavanja i stvaranja obrtnog kapitala.

Cost-benefit analiza prema njenom izvođenju, pokazuje da je podrška posmatranim subjektima kroz subvencionisanje proizvodnje zaista potrebna. Iako neophodna, u nekim slučajevima pokazuje slabije rezultate od alternativnih mera podrške za povećanje investicije određenog objekta. CBA takođe pokazuje da izdaci za savetodavnu službu imaju pozitivan uticaj koji je održiv na duži period.

Problem narušavanja kvaliteta životne sredine predmet je proučavanja brojnih nauka. Povećanje brojnosti svetskog stanovništva, uz istovremeno naglo smanjivanje raspoloživih prirodnih sirovina i nagomilavanje otpadnih i zagađujućih materija, preteći nagoveštavaju nastanak krize naše životne sredine (pojava prekomernih troškova).

Analizu troškovi-koristi treba koristiti kao pomoć u odlučivanju: ona ne može da ponudi konačnu presudu. Kao što Rees i saradnici [10] navode u našem primeru obnove i zaštite životne sredine planinskog sliva Assegaaibos, obnova i konzervatorske odluke moraju da se zasnivaju na više od monetarne vrednosti. Ravnoteža između socijalnih, ekoloških i ekonomskih ciljeva mora se pronaći ako kako bi se jedan ekološki projekat smatrao uspešnim. Širok spektar ciljeva treba uvažiti, kao što bi trebalo analiza troškova koristi da se suoči sa tehničkim izazovima prilikom projekata obnove.

REFERENCE

1. Bešlić I., Bešlić, D., Izveštavanje o tokovima gotovine preduzeća u skladu sa MRS 7, Ekonomski pogledi, 3 (2012), str. 94.
2. Brown K., Moran D., Valuing, B., The Scope and Limitations of Economic Analysis, CSERGE, 1993.
3. Currie B., Milton S., J., Steenkamp J. C., Cost-benefit analysis of alien vegetation clearing for water yield and tourism in a mountain catchment in the Western Cape of South Africa, Ecological Economics, 68 (2009), str. 2574-2579.
4. Čupić M., Cost – benefit analiza, Business Start-up centre, Kragujevac, 2009, str. 6-7.
5. Drašković B., Ekonomija prirodnog kapitala, Beograd, 1998, str. 119-125.

6. Jantzen J., Pešić R., Assessment of the economic value of environmental degradation in Serbia, Univerzitet u Beogradu, 2004. Preuzeto 16.04.2013. sa sajta:[http://www](http://www.itme.nl/pdf/final%20report%20damage%20assessment%20env%20degradation%20serbia%20fin.pdf)
7. [.itme.nl/pdf/final%20report%20damage%20assessment%20env%20degradation%20serbia%20fin.pdf](http://www.itme.nl/pdf/final%20report%20damage%20assessment%20env%20degradation%20serbia%20fin.pdf).
8. Lješević M., Sistem upravljanja kvalitetom životne sredine, Direktor, 4-5 (1995), Beograd, str. 8.
9. Milenović B., Ekološka ekonomija, Niš, 2000, str. 214-215.
10. Petrović N., Đedović B., Petrović D., Ocenjivanje i izbor projekta primenom analize troškovi - efekti i višekriterijumske analize, Military technical courier, 2012, str. 177. Preuzeto 21.04.2013. sa sajta: http://aseestant.ceon.rs/index.php/vtg/article/download/1439/pdf_1.
11. Rees W., Farley J., Vesely, E., Valuing natural capital and the costs and benefits of restoration, 2007. Citirano u: Currie, B., Milton S. J., Steenkamp J.C., Cost-benefit analysis of alien vegetation clearing for water yield and tourism in a mountain catchment in the Western Cape of South Africa Ecological Economics 68 (2009), str. 2574–2579.
12. Sroder R., Operations management – Decision Making in the Operations Function, Zagreb, 1999.
13. Statistics South Africa, 2008. P0141.1 – Consumer Price Index (CPI): Preuzeto 22.10.2008. sa sajta: <http://www.statssa.gov.za/publications/statspastfuture.asp?PPN=p0141.1&SCH=93>
14. Citirano u: Currie, B., Milton S. J., Steenkamp J.C. , Cost-benefit analysis of alien vegetation clearing for water yield and tourism in a mountain catchment in the Western Cape of South Africa Ecological Economics 68 , 2009, str. 2574–2579.
15. Stevenson W., Operations management, McGraw-Hill, New York, 2005.
16. Tatić K., Tržišne strukture i ekonomska efikasnost, Ekonomski fakultet, Sarajevo, 2003, str. 107.
17. Wisniewski M., Quantative Methodos for Decision Makers, Prentice Hall, 2009.

IMPACT OF QUALITY TOOLS APPLICATION ON BUSINESS PROCESSES AND PERFORMANCE OF THE COMPANY

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Abstract: The application of quality tools in companies with certified quality system (QS) according to the requirements of ISO 9001 standard, means their daily use in all business processes in order to improve the performance of the company. This paper presents a research in manufacturing companies in Serbia with QS introduced, according to the requirements of ISO 9001, about utilization of basic quality tools and influence of certain tools application on the continuous improvement of business processes and performances of the company. The results show that many companies use only some quality tools and techniques, which is one of the causes of inadequate results of improvement business processes and performances of the company, as the benefit of the implemented QS.

Keywords: quality tools, ISO 9001, processes, performances of the company.

UTICAJ PRIMENE ALATA KVALITETA NA POSLOVNE PROCESSE I PERFORMANSE KOMPANIJE

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Abstrakt: Primena alata kvaliteta u kompanijama sa sertifikovanim sistemom kvaliteta (QS) prema zahtevima standarda ISO 9001, podrazumeva njihovo svakodnevno korišćenje u svim poslovnim procesima u cilju unapređenja performansi kompanije. U radu je izvršeno istraživanje u proizvodnim kompanijama u Srbiji, sa uvedenim QS prema zahtevima ISO 9001, o stepenu korišćenja osnovnih alata kvaliteta i uticaja primene pojedinih alata na kontinuirano unapređenje poslovnih procesa i performansi kompanije. Dobijeni rezultati pokazuju da se u mnogim kompanijama koriste samo neki alati i tehnike kvaliteta, što je jedan od uzroka neadekvatnih rezultata unapređenja poslovnih procesa i performansi kompanije kao benefita implementiranog QS.

Ključne reči: alati kvaliteta, ISO 9001, procesi, performanse kompanije

1. UVOD

Kvalitet mora biti sastavni deo poslovanja. Posedovanje sertifikovanih sistema kvaliteta (QS) omogućava primenu tehnika i alata kvaliteta u cilju stalnog poboljšanja svih poslovnih procesa i unapređenja performansi kompanije. Uticaj primene alata i tehnika

kvaliteta na procese i performanse kompanije može biti direktan i indirektan, što su ispitivale četiri studije uz korišćenje strukturnih modela i TQM pristup. [1], [2], [3], [4]

Uprkos velikom broju dokaza koji upućuju na pozitivnu korelaciju [5] i dalje postoje pogrešna shvatanja da treba žrtvovati performanse da bi se unapredio kvalitet. MB i EFQM modeli ističu vezu između prakse upravljanja kvalitetom i performansi kompanije. U prilog tome idu i određena empirijska istraživanja. [6], [7], [8] Međutim, neka istraživanja i nisu pronašla takvu vezu. [9], [10] Polazeći od ovih protivurečnosti, u ovom radu je vršeno ispitivanje u kom stepenu se koriste alati i tehnike kvaliteta u proizvodnim kompanijama sa sertifikovanim QS, kao i uticaj njihove upotrebe na upravljanje procesima i kontinuirano unapređenje performansi.

2. TEORIJSKE OSNOVE, HIPOTEZE I DEFINISANJE MODELA

Da bi se došlo do odgovora na pitanje da li primena alata i tehnika kvaliteta zaista ima uticaja na upravljanje procesima i kontinuirano unapređenje performansi kompanije, postavljene su hipoteze usmerene na utvrđivanje veza između alata i tehnika kvaliteta i upravljanja procesom i unapređenja performansi, i definisan je istraživački model. Cilj istraživanja jeste da se utvrdi u kojoj se meri praksa kvaliteta primenjuje u proizvodnim kompanijama sa sertifikovanim sistemom kvaliteta (QS) u Srbiji i da li postoji pozitivan uticaj na performanse kompanija.

Osnovni principi koji moraju da budu implementirani u svakoj kompaniji kako bi se ostvarilo kontinuirano poboljšanje su: tehnike i alati kvaliteta, upravljanje procesom i kontinuirano unapređenje. Na osnovu njih su definisane hipoteze i analiziran uticaj sistema kvaliteta (QS) na performanse kompanije.

2.1. ALATI I TEHNIKE KVALITETA

Godine 1968., *Kaoru Ishikawa* napisao je knjigu pod nazivom *Gemba no QC Shuho* u kojoj je predstavljeno sedam tehnika i alata za kontrolu kvaliteta. [11] Knjiga je 1971. godine prevedena na engleski jezik i objavljena pod nazivom *Vodič za kontrolu kvaliteta (Guide to Quality Control)*. Sedam osnovnih alata za kontrolu kvaliteta su: kontrolni listovi, dijagrami, histogrami, pareto dijagrami, dijagrami uzrok-posledica, dijagrami rasipanja i kontrolne karte. Ovo su tradicionalni alati kojima se mogu dodati i veoma rasprostranjeni dijagrami tokova, benčmarking, interni audit,...

Kada su zaposleni obučeni za korišćenje tehnika i alata kvaliteta, mogu da razumeju pitanja u vezi sa kvalitetom, da prate varijacije kvaliteta i da identifikuju područja daljih unapređenja. [5] Sistematskim korišćenjem navedenih alata i tehnika unapređuju se poslovni procesi [5], [12] i performanse kompanije. [13], [14], [15] Primena alata kvaliteta je neophodna da bi se unapredio kvalitet. Oni utiču na performanse kompanije, jer omogućavaju određivanje uzroka promena kvaliteta, tako da se otklanjanjem uzroka smanjenja kvaliteta stvaraju mogućnosti za unapređenje. [2], [16]

Navedene činjenice omogućavaju da se definišu sledeće hipoteze:

H₁ – Primena alata i tehnika kvaliteta u proizvodnim kompanijama sa sertifikovanim sistemom kvaliteta u Srbiji ima pozitivan uticaj na upravljanje poslovnim procesima.

H₂ – Primena alata i tehnika kvaliteta u proizvodnim kompanijama sa sertifikovanim sistemom kvaliteta u Srbiji ima pozitivan uticaj na kontinuirano unapređenje performansi kompanije.

2.2. UPRAVLJANJE PROCESOM

Menadžment u kompanijama upravlja brojnim međusobno povezanim procesima. Sistematska identifikacija i upravljanje različitim procesima unutar organizacije predstavlja “procesni pristup” upravljanju, što predstavlja suštinu standarda ISO 9001.

Upravljanje procesom kontrole kvaliteta podrazumeva sistematsko ispitivanje procesa koje kompanija koristi da bi dostigla još veći kvalitet i bolje performanse. Upravljanje procesom se direktno odnosi na to da koliko dobro se upravlja procesima, toliko će i oni direktno ili indirektno doprinosti kvalitetu na način koji je definisan od strane kupca.

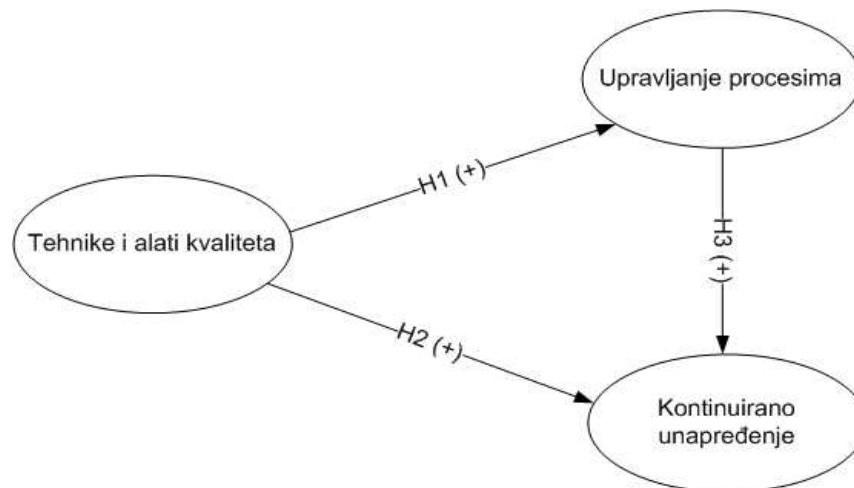
Upravljanje procesom pomaže da se varijacijom parametara procesi održavaju u prihvatljivim granicama i da naponi usmereni na neprekidno smanjenje tih varijacija vode ka unapređenju kvaliteta, kao i kontinuiranom poboljšanju. [5], [17], [1] Efektivno upravljanje procesom ima direktan uticaj na izlazni kvalitet i performanse kompanije smanjenjem varijacija ključnih parametara procesa. [3], [4]

Standard ISO 9001 ne traži neprekidno uvećanje poboljšanja procesa, već mehanizam za identifikovanje gde poboljšanja treba da se naprave u sistemu upravljanja i veze sa onim operativnim karakteristikama koje organizacija želi da poboljša.

Na osnovu svega navedenog, moguće je definisati sledeću hipotezu:

H₃ – Upravljanje procesom ima pozitivan uticaj na kontinuirano unapređenje performansi kompanije.

Na osnovu teoretskih razmatranja korišćenja osnovnih alata i tehnika kvaliteta i uticaja primene pojedinih alata na kontinuirano unapređenje poslovnih procesa i performansi kompanije, za proizvodne kompanije sa sertifikovanim sistemom kvaliteta, definisan je hipotetički model uticaja primene alata i tehnika kvaliteta na poslovne procese i performanse kompanije (Slika 1).



Slika 1. Teoretski model uticaja primene alata i tehnika kvaliteta na poslovne procese i performanse kompanije

3. METODOLOGIJA ISTRAŽIVANJA

Za istraživanje, čiji su rezultati prikazani u ovom radu, korišćen je upitnik (Prilog A). Upitnik je kreiran u odnosu na relaciju između sistema kvaliteta i performansi kompanije,

na osnovu EFQM modela i empirijskih studija koje su vršili mnogi autori. [18], [19], [20], [21], [7], [22], [23], [24] U upitniku se nalazi 10 vrsta alata i tehnika kvaliteta, zasnovanih na brojnim istraživanjima. [25], [26], [27], [28], [29], [30], [31]

Ciljna populacija se sastojala od proizvodnih kompanija iz istočnog i južnog dela Srbije koje imaju uvedeni sertifikovani sistema kvaliteta prema ISO 9001. Čitavu populaciju čini 15 proizvodnih kompanija: 3 male, 4 srednje i 8 velikih kompanija. Podaci su prikupljeni pomoću zatvorenog upitnika koji su popunjavale osobe zadužene za kvalitet u kompanijama. Ukupno je dobijeno 65 odgovora, od kojih je nepotpuno bilo 9, pa su eliminisani iz daljeg istraživanja. Tako je istraživanje izvršeno na osnovu 56 odgovora.

Za istraživanje čiji su rezultati prikazani u ovom radu, korišćena je sedmostepena Likertova skala (od 1 – potpuno neslaganje sa tvrdnjama do 7 – potpuno slaganje). Na ovaj način su ispitanici iskazali svoje stavove u odnosu na primenu sistema kvaliteta u svojim kompanijama. Na taj način su dobijeni polazni podaci na osnovu kojih je izvršena dalja analiza uz pomoć softverskih paketa SPSS v.17 i LISREL (Linear Structural Relationship) v. 8.8.

4. DISKUSIJA REZULTATA

Za ispitivanje validnosti teorijskog modela prikazanog na Slici 1, deskriptivnom statistikom definisani su osnovni elementi statističkog skupa korišćenog u ovom istraživanju (Tabela 1).

Tabela 1. Zbirna deskriptivna statistika

Varijable	Srednja vrednost	Standardna devijacija	Min frekvencija		Max frekvencija	
TEH1	5.375	4.496	1.000	1	7.000	19
TEH2	5.696	1.361	1.000	1	7.000	21
TEH3	5.500	1.673	1.000	3	7.000	21
UP1	5.982	1.471	2.000	3	7.000	30
UP2	5.929	1.263	2.000	1	7.000	26
UP3	5.857	1.135	3.000	2	7.000	21
UP4	5.339	1.443	2.000	2	7.000	16
UP5	5.464	1.673	2.000	4	7.000	24
UP6	5.821	1.281	3.000	2	7.000	25
UP7	6.089	1.116	3.000	2	7.000	27
KONT1	6.054	1.151	3.000	2	7.000	27
KONT2	5.839	1.218	2.000	1	7.000	22
KONT3	5.982	1.314	2.000	1	7.000	28
KONT4	5.339	1.698	1.000	2	7.000	19
KONT5	5.554	1.426	2.000	3	7.000	18
KONT6	5.857	1.458	2.000	3	7.000	26

Validacija teoretskog modela koji je prikazan na Slici 1 izvršena je pomoću softverskih paketa SPSS v. 17 i LISREL v 8.8. Statističkom analizom validacije definisanog modela, najpre je potvrđena jednodimenzionalnost pomoću faktorske analize (PCA), za sve tri grupe latentnih varijabli u posmatranom modelu. [32] Dobijene vrednosti za % varijanse koji je objašnjen faktorom jednodimenzionalnosti i factor loading su prikazane u Tabeli 2.

Da bi se osigurala pouzdanost i validnost istraživačkog modela definisan je kontrolni merni model na kome je izvedena konfirmatorna faktorska analiza (CFA). Dobijeni

rezultati koji su takođe prikazani u Tabeli 2, pokazuju da su u svim slučajevima t-vrednosti mnogo veće od 2, pa je na ovaj način potvrđeno dobro fitovanje kontrolnog modela, što potvrđuje da svih 16 definisanih varijabli opisuje 3 latentne grupe varijabli, što je definisano u istraživačkom modelu (Slika 1). [33]

Konzistentnost varijabli merena je pomoću koeficijenata pouzdanosti, kao što je α -Cronbach faktor. [34] Rezultati koji su dobijeni su prikazani u Tabeli 2. U tom smislu, Nunnally (1978) predlaže da vrednosti veće ili jednake 0.70 budu smatrane prioriternim, a vrednosti oko 0.60 treba smatrati prihvatljivim [35], [36], pa čak i do 0.55. [37] Dobijene vrednosti α -Cronbach faktora su dosta veće od 0.7 za svaku grupu pitanja, što ukazuje na dobru konzistentciju pojedinačnih varijabli unutar sve tri definisane grupe varijabli u testiranom modelu.

Tabela 2. Rezultati faktorske analize (EFA) i konfirmatorne faktorske analize (CFA) ispitivanog modela

Grupa pitanja	Posmatrana varijabla	Faktorska analiza (EFA)		Konfirmatorna faktorska analiza (CFA)		
		PCA		Pouzdanost	Konvergentna validnost	
		% varijanse objašnjen faktorom jednodimenzionalnosti	Factor loading	Cronbach's alpha	Factor loading	t – vrednosti
Tehnike i alati kvaliteta (TEH)	TEH1	78.411	0.915	0.851	0.92	8.72
	TEH2		0.933		0.92	8.67
	TEH3		0.802		0.63	5.04
Upravljanje procesom (UP)	UP1	74.312	0.822	0.939	0.80	4.78
	UP2		0.893		0.85	7.39
	UP3		0.859		0.83	7.15
	UP4		0.917		0.92	8.21
	UP5		0.874		0.86	7.44
	UP6		0.894		0.87	7.55
	UP7		0.767		0.73	5.98
Kontinuirano unapređenje (KU)	KU1	71.940	0.693	0.919	0.63	5.04
	KU2		0.835		0.76	4.75
	KU3		0.900		0.87	5.24
	KU4		0.855		0.83	5.07
	KU5		0.896		0.89	5.30
	KU6		0.892		0.89	5.31

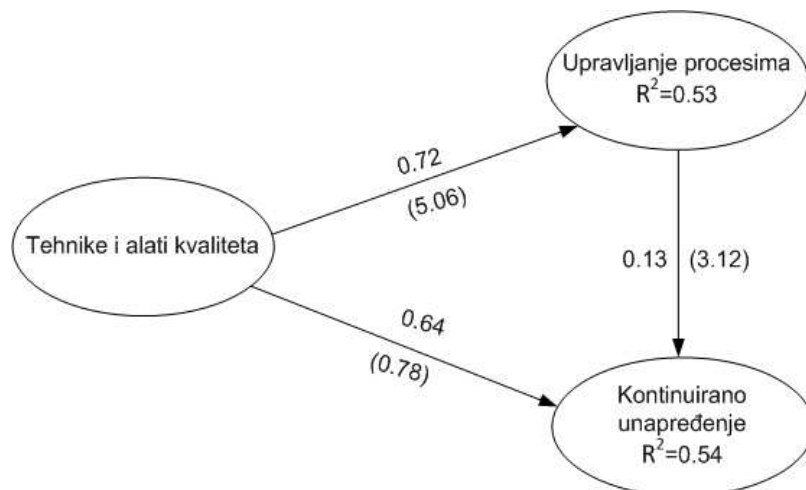
Za testiranje validnosti konceptualnog modela prikazanog na Slici 1, korišćen je softverski paket LISREL v. 8.8 da bi se izvršila statistička analiza podataka pomoću metode struktornog modelovanja jednačina. Dobijene vrednosti indikatora fitovanja koje su prikazane u Tabeli 3 ukazuju da predloženi model adekvatno fituje ulazne podatke.

Tabela 3. Zbirne vrednosti indikatora fitovanja teorijskog strukturnog modela

Indikatori fitovanja	Dobijene vrednosti u modelu	Preporučene vrednosti
Chi-Square (χ^2)	214.30	-
Degree of freedom (d.f.)	101	-
Relative Chi-Square ($\chi^2/d.f.$)	2.12	< 3.0
Root Mean Square Error of Approximation (RMSEA)	0.143	0.08 – 1.0
Goodness-of-Fit Index (GFI)	0.67	> 0.8
Adjusted Goodness-of-Fit Index (AGFI)	0.56	> 0.9
Comparative Fit Index (CFI)	0.92	> 0.9
Incremental Fit Index (IFI)	0.92	> 0.9
Normed Fit Index (NFI)	0.88	> 0.9
Non-Normed Fit Index (NNFI)	0.91	> 0.9
Relative Fit Index (RFI)	0.86	> 0.9

Visoka Chi-Square vrednost od 214.30 (d.f.=101) je takođe veoma značajna, pa je na taj način odbijena nulta hipoteza kontrolnog mernog modela. [38] Takođe je izračunata vrednost Relative Chi-Square (2.12), koja zadovoljava uslov da bude manja od 3. Na ovaj način, sve dobijene vrednosti indikatora fitovanja pokazuju zadovoljavajući nivo fitovanja u definisanom modelu, što ukazuje na to da se mogu izračunati koeficijenti strukturnih putanja definisanih u teoretskom modelu na Slici 1, sa zadovoljavajućom preciznošću.

Korišćenjem softverskog paketa LISREL v. 8.8 utvrđeni su koeficijenti putanja između definisanih latentnih varijabla u modelu i koeficijenti determinacije (R^2). Koeficijenti putanja imaju isto značenje kao i koeficijenti regresije, jer ukazuju na jačinu veze između nezavisne i zavisnih varijabli. Koeficijent determinacije pokazuje procenat varijanse u latentnim zavisnim varijablama, izračunat nezavisnom varijablom. [39] Rezultati dobijenog strukturnog modela su prikazani na Slici 2.



Slika 2. Strukturni model uticaja primene alata i tehnika kvaliteta na poslovne procese i performanse kompanije

Da bi se mogla doneti konačna odluka o prihvatanju teoretskog modela, bilo je neophodno odrediti t-vrednosti za svaku hipotezu, što je takođe prikazano na Slici 2 (vrednosti u zagradama). Dobijene t-vrednosti su za hipoteze H_1 i H_3 veće od 2, za razliku

od hipoteze H₂. Na ovaj način je dalje potvrđena pozitivna korelacija između definisanih latentnih varijabli unutar teoretskog modela koji je definisan na Slici 1.

Dobijene vrednosti na Slici 2 pokazuju da sve hipoteze koje su definisane u modelu imaju pozitivne vrednosti koeficijenata putanje. Hipoteza H₁ pokazuje da primena alata i tehnika kvaliteta ima pozitivan uticaj na upravljanje procesima ($b = 0.72$, $p = 0.14$ i $t = 5.06$). Hipoteza H₂ ukazuje na pozitivan uticaj primene tehnika i alata kvaliteta na kontinuirano unapređenje ($b = 0.64$, $p = 0.16$ i $t = 0.78$). Hipoteza H₃ potvrđuje da upravljanje procesima ima pozitivan uticaj na kontinuirano unapređenje ($b = 0.13$, $p = 0.20$ i $t = 3.12$). Koeficijenti determinacije R² pokazuju da se 54% varijanse u kontinuiranom unapređenju obračunava na osnovu uticaja latentnih prediktora upravljanje procesima i tehnika i alata kvaliteta; a da je 53% varijanse u upravljanju procesima posledica primene tehnika i alata.

Na osnovu ovih rezultata je očigledno da primena tehnika i alata kvaliteta u okviru sertifikovanih sistema kvaliteta u proizvodnim kompanijama u Srbiji zaista ima uticaja na upravljanje procesima i kontinuirano unapređenje i poboljšanje performansi kompanija.

Takođe, izvršeno je ispitivanje frekvencije korišćenja pojedinih alata i tehnika kvaliteta, i to: A1 – Dijagrami; A2 – Statistički proces kontrole; A3 – Benčmarking; A4 – Troškovi kvaliteta; A5 – Interni audit; A6 – Dijagram uzroci-posledice; A7 – Pareto dijagram; A8 – Histogrami; A9 – Dijagram rasipanja i A10 – Metodologija rešavanja problema. Dobijena korelaciona matrica za navedene alate kvaliteta prikazana je u Tabeli 4.

Kao što se može videti iz Tabele 4, najjači koeficijent korelacije (0.833) postoji između tehnika kvaliteta A8 – *Histogrami* i A9 – *Dijagrami rasipanja*, a sledeća po jačini korelacija (0.795) postoji između tehnika A6 - *Dijagrami uzroci-posledice* i A9 – *Dijagrami rasipanja*. Može se zaključiti da se u najvećoj meri koriste Dijagrami rasipanja za kontrolu kvaliteta u proizvodnim kompanijama koje smo ispitivali. Najslabija veza (0.426) se javlja između tehnika kvaliteta A5 – *Interni audit* i A7 – *Pareto dijagram*.

Tabela 4. Korelaciona matrica

	A1	A2	A3	A4	A5	A6	A7	A8	A9	A10
A1	1									
A2	0.542	1								
A3	0.608	0.485	1							
A4	0.614	0.468	0.532	1						
A5	0.537	0.546	0.444	0.476	1					
A6	0.684	0.655	0.613	0.710	0.675	1				
A7	0.560	0.604	0.689	0.592	<u>0.426</u>	0.677	1			
A8	0.720	0.559	0.560	0.494	0.541	0.737	0.660	1		
A9	0.718	0.618	0.622	0.669	0.540	0.795	0.698	0.833	1	
A10	0.528	0.577	0.459	0.582	0.559	0.620	0.478	0.563	0.593	1

Bez obzira na dobro fitovanje predloženog modela (Slika 2), značajna korelacija između grafičkih alata (Histogrami, Dijagrami rasipanja, Dijagrami uzroci-posledica) ukazuje da se suštinski navedeni alati malo koriste. S obzirom da se *Interni audit* svakako mora koristiti da bi se dobio sertifikat QS, korelacija ovog alata sa grafičkim alatima kvaliteta je mnogo veća nego sa sofisticiranijim alatima kao što su: Benčmarking, Troškovi kvaliteta i Pareto dijagram. Ova činjenica ukazuje da obuka kadrova za korišćenje alata i tehnika kvaliteta nije bila adekvatna, bez obzira na dobijene sertifikata QS.

5. ZAKLJUČAK

U ovom radu je ispitana veza između primene tehnika i alata kvaliteta u proizvodnim kompanijama u Srbiji sa uvedenim sistemom kvaliteta prema ISO 9001, upravljanja procesima i kontinuiranog unapređenja u cilju poboljšanja performansi u tim kompanijama. Definisani strukturni model je potvrdio da primena tehnika i alata kvaliteta u proizvodnim kompanijama ima pozitivan uticaj na upravljanje procesima i kontinuirano unapređenje. Upravljanje procesima takođe ima pozitivan uticaj na kontinuirano unapređenje performansi kompanija.

U istraživanju koje je izvršeno u ovom radu postoje određena ograničenja. Istraživanje je bazirano na podacima koji su prikupljeni od menadžera koji su zaduženi za kvalitet u samo 15 proizvodnih kompanija u Srbiji. Radi se uglavnom o uspešnim inostranim kompanijama koje posluju u Srbiji, gde se primena alata i tehnika kvaliteta ne dovodi u pitanje, što pokazuju i njihovi poslovni rezultati. Međutim, ovi rezultati ne predstavljaju realnu sliku sertifikovanih kompanija u Srbiji, s obzirom da ispitivani uzorak predstavlja samo oko 1% ukupnog broja sertifikovanih kompanija.

REFERENCE

1. J.C. Anderson, M. Rungtusanatham, R.G. Schroeder, S. Devaraj, *Decision Sciences*, 26(5) (1995) 637-658.
2. B.B. Flynn, R.G. Schroeder, S. Sakakibara, *Decision Sciences*, 26(5) (1995) 659-691.
3. H. Kaynak, *Journal of Operations Management*, 21(4) (2003) 405-435.
4. S.M. Lee, B.H. Rho, S.G. Lee, *International Journal of Production Research*, 41(9) (2003) 2003-2020.
5. W.E. Deming, *Quality, Productivity and Competitive Position*, MIT Center for Advanced Engineering, Cambridge, MA, 1982.
6. G.S. Easton, S.L. Jarrell, *Journal of Business*, 71(2) (1998) 253-307.
7. T.C. Powell, *Strategic Management Journal*, 16(1) (1995) 15-37.
8. W.A. Taylor, G.H. Wright, *Omega*, 31(2) 97-111.
9. D.M. Boje, R.D. Winsor, *Journal of Organizational Change Management*, 6(4) (1993) 57-70.
10. B. Spector, M. Beer, *Journal of Organizational Change Management*, 7(2) (1994) 63-70.
11. K. Ishikawa, *Guide to Quality Control*, Quality Resources, NY, 1968.
12. S.B. Sitkin, K.M. Sutcliffe, R.G. Schroeder, *Academy of Management Review*, 19(3) (1994) 537-564,
13. H.S. Bunney, B.G. Dale, *The TQM Magazine*, 9(3) (1997) 183-189.
14. B. Stephens, *The TQM Magazine*, 9(3) (1997) 190-200.
15. U. Hellsten, B. Klefsjo, *The TQM Magazine*, 12(4) (2000) 238-244.
16. J. Rene, L. Munoz, M.A. Gutierrez, *International Journal of Production Economics*, 95(1) (2005) 109-121.

17. J.C. Anderson, M. Rungtusanatham, R.G. Schroeder, *Academy of Management Review*, 19(3) (1994) 472-509.
18. J.V. Saraph, P.G. Benson, R.G. Schroeder, *Decision Sciences*, 20(4) (1989) 810-829.
19. M.A. Badri, D. Davis, *International Journal of Quality & Reliability Management*, 12(2) (1995) 36-53.
20. S. Black, L.J. Porter, *Total Quality Management*, 6(2) (1995) 149-164.
21. S. Black, L.J. Porter, *Decision Sciences*, 27(1) (1996) 1-21.
22. S.L. Ahire, D.Y. Golhar, M.A. Waller, *Decision Sciences*, 27(1) (1996) 23-56.
23. J.R. Grandzol, M. Gershon, *International Journal of Quality Science* 3(1) (1989) 80-105.
24. H.A. Quazi, S.R. Padibjo, *International Journal of Quality & Reliability Management*, 15(5) (1998) 489-508.
25. K. Ishikawa, *What is total quality control? The Japanese way*. Prentice-Hall, London, 1985.
26. M. Imai, *Kaizen, the key to Japan's competitive success*. McGraw-Hill, New York, 1986.
27. J. McConnell, *The seven tools of TQC*, third ed. The Delaware Group, NSW, 1989.
28. J.W. Dean, J.R. Evans, *Total Quality, Management, Organization and Strategy*, West Publishing Company, Minneapolis, 1994.
29. D.L. Goetsch, S. Davis, *Introduction to total quality: Quality, productivity, competitiveness* (2nd ed.), New York: Prentice-Hall, 1997.
30. B.G. Dale, *Manging Quality*, Prentice-Hall, New York, 1999.
31. J.R. Evans, W.M. Lindsey, *The Management and Control of Quality*, South-Western College Publishing, Cincinnati, 1999.
32. S. Kingir, M. Mesci, *Serbian Journal of Management*, 5(1) (2010) 59-76.
33. R. Ho, *Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS*, Chapman & Hall/CRC, Taylor & Francis Group, Boca Raton, FL, 2006.
34. L.J. Cronbach, *Coefficient alpha and the internal structure of test*, *Psychometrika* 16 (September) (1951) 297-334.
35. J.F. Hair, R.E. Anderson, R.L. Tatham, W.C. Black, *Multivariate Data Analysis with Reading*, Prentice-Hall, Engelwood Cliffs, NJ, 1995.
36. K.K. Bojer, M. Pagell, *Journal of Operations Management* 18(3) (2000) 361-374.
37. A. Van de Ven, D. Ferry, *Measuring and Assessing Organizations*, Wiley, New York, 1979.
38. J.J. Albright, H.M. Park, *Confirmatory Factor Analysis using Amos, LISREL, Mplus, SAS/STAT CALIS*, University Information Technology Services Center for Statistical and Mathematical Computing Indiana University, Bloomington, 2009.
39. Z. Zivkovic, M. Arsic, Dj. Nikolic, 6th International Working Conference „Total Quality Management – Advanced and Intelligent Approaches“, 7th-11th June, 2011, Belgrade, Serbia.

PRILOG A: UPITNIK

TEHNIKE I ALATI KVALITETA

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. U našoj kompaniji tehnike i alate kvaliteta koristimo u procesu kontrole kvaliteta. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. Korišćenje tehnika i alata kvaliteta povećava kvalitet procesa kontrole u našoj kompaniji. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Korišćenjem tehnika i alata kvaliteta imamo manje defektnih proizvoda. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

UPRAVLJANJE PROCESOM

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. U našoj kompaniji postoji sistem upravljanja procesom koji se koristi za proces kontrole kvaliteta svakog proizvoda kroz dokumentaciju i sistem standarda. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. U našoj kompaniji uspostavljena je neprekidna kontrola i unapređenje ključnih procesa. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Zaposleni koji su direktno uključeni u različite procese znaju kako da ih ocene. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Kod svih unutrašnjih procesa naš program kvaliteta je usmeren na pronalaženje vremenskih gutitaka i smanjenje troškova. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Prevencija škarta je snažna praksa u našoj kompaniji. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Procesi u našoj kompaniji podrazumevaju i merenje kvaliteta. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 7. U našoj kompaniji usaglašeni procesi rezultiraju kvalitetnim proizvodima. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

KONTINUIRANO UNAPREĐENJE

- | | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1. Kompanija naglašava potrebe za unapređenjem svih proizvoda i procesa. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 2. Postoji neprekidno utvrđivanje područja za unapređenje. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 3. Sprovedena unapređenja rezultirala su povećanim zadovoljstvom kupaca. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 4. Sprovedena unapređenja rezultirala su povećanim prihodom. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 5. Sprovedena unapređenja rezultirala su povećanom proizvodnjom. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |
| 6. Sprovedena unapređenja rezultirala su unapređenjem naše konkurentske pozicije. | 1 | 2 | 3 | 4 | 5 | 6 | 7 |

INFRASTRUCTURE QUALITY DEVELOPMENT AND IMPACT ON REGIONAL DEVELOPMENT

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Abstract: Bearing in mind that quality is one of the foundations of balanced regional development (through infrastructure quality) and origin of regional development (through competition and effects on quality of life), the regional aspect of quality has to be an important segment of regional development policy. There are a number of studies that treat the field of regional policy and strategy development, but in them the quality of the area has not been adequately represented. One reason is that the creators of regional development policies are not recognized as an important factor in the quality and outcome of development. The concept of quality in the region is more significant. It first involves a level of quality of all entities in the region (the organization, state of local government, banks, universities, health organizations), and beyond the region through links with the environment and the entities within the region. This means that the quality of the region down to quality of the entities and relationships of entities within and outside the region which will be shown in the example of the Sarajevo Romanija region.

Keywords: quality of infrastructure, legislation, standardization, certification, accreditation, region

RAZVIJENOST INFRASTRUKTURE KVALITETA I UTICAJ NA REGIONALNI RAZVOJ

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Abstrakt: S obzirom da je kvalitet jedan od temelja skladnog regionalnog razvoja (kroz infrastrukturu kvaliteta) i ishodište regionalnog razvoja (kroz konkurentnost i efekte na kvalitet života), regionalni aspekt kvaliteta mora biti značajan segment regionalne politike razvoja. Postoji veliki broj studija koje tretiraju oblast regionalne politike i strategije razvoja, ali u njima oblast kvaliteta nije adekvatno zastupljena. Jedan od razloga je što kreatori regionalne politike razvoja nisu prepoznali kvalitet kao značajan faktor i ishodište razvoja. Pojam kvaliteta u regionu je višeznačan. On najprije uključuje nivo kvaliteta svih entiteta u regionu (organizacija, državne lokalne uprave, banka, univerziteta, zdravstvenih organizacija), ali i znatno šire kroz veze regiona sa okruženjem i entiteta unutar regiona. To znači da se kvalitet u regionu svodi na kvalitet entiteta i relacija entiteta unutar i van regiona.

Ključne reči: infrastruktura kvaliteta, zakonska regulativa, standardizacija, sertifikacija, akreditacija, region.

1. UVOD

Pojam kvaliteta odnosi se na proizvod, proces i/ili organizaciju. Ako se pođe od definicije regiona u državi kao "teritorijalno zaokružen dio države, koji ima neke karakteristike što ga povezuju sa cjelinom zemlje i druge što ga čini specifičnim", vidi se da isti uključuju sve entitete (organizacije, državnu i lokalnu upravu, banke, univerzitete, zdravstvo, školstvo), ali i više od toga, prije svega veze sa okruženjem i veze entiteta u regionu.

Zbog toga je teško definisati kvalitet na nivou regiona. Ovaj akademski zadatak je znatno manje značajan od praktičnog – prepoznavanja regiona kao nosilaca razvoja i saznanja već na početku da postoji neravnomjerna razvijenost regiona. Predmet ovog rada je ukazivanje na značaj kvaliteta kao karakteristike regionalnog razvoja, sa jedne strane, i mogućnosti, prije svega eksterne, koje treba iskoristiti za unapređenje kvaliteta u regionu, a time i poboljšanja kvaliteta života u regionu i državi.

2. REGIONALNI ASPEKT KVALITETA

S obzirom da je kvalitet jedan od temelja skladnog regionalnog razvoja (kroz infrastrukturu kvaliteta) i ishodište regionalnog razvoja (kroz regionalni aspekt kvaliteta) mora biti značajan segment regionalne politike razvoja. Postoji veliki broj studija koje tretiraju oblast regionalne politike i strategije razvoja, ali u njima oblast kvaliteta nije adekvatno zastupljena. Jedan od razloga je što kreatori regionalne politike razvoja nisu prepoznali kvalitet kao značajan faktor i ishodište razvoja.

Pod pojmom „infrastruktura za kvalitet” podrazumjeva se cjelokupan institucionalni okvir, sačinjen od javnih – državnih ili privatnih organizacija, čiji rezultati rada proizilaze iz procesa izrade, izdavanja i primjene standarda i tehničkih ropisa, kao i dokazivanja o usaglašenosti sa njima, a u cilju poboljšanja pogodnosti proizvoda, procesa ili sistema za namjenjenu upotrebu, sprečavanja prepreka trgovini i olakšavanja i ubrzavanja tehnološkog razvoja. Regulativu za infrastrukturu kvaliteta u Bosni i Hercegovini čini set propisa - zakona, uredbi, pravilnika i drugih normativnih akata kojima se uspostavljaju, uređuju i nadgledaju elementi infrastrukture za kvalitet: standardizacija, akreditacija, metrologija i organizacije za ocjenjivanje usaglašenosti. Zakonsko uređenje infrastrukture kvaliteta prema evropskim i međunarodnim pravilima omogućava Bosni i Hercegovini pristupanje i punopravno članstvo u evropskim i međunarodnim organizacijama za standardizaciju. U toku izgradnje infrastrukture kvaliteta u zemlji kao što je BiH, a koja teži priključenju EU, potrebno je sagledati uslove pod kojima se domaće infrastrukturne organizacije trebaju pripremiti i transformisati, kako bi postale članice odgovarajućih evropskih asocijacija i organizacija. Ono što je bitno za BiH, odnosno obezbediti da se dobije adekvatna normativna i institucionalna osnova poslovanja, uzajamno prepoznavanje i priznavanje koje će da olakša razmenu roba i usluga, kao i ravnopravnu komunikaciju na EU tržištu. Globalizacija međunarodne ekonomije kao i povećanje svesti potrošača doprineli su stvaranju novog termina: infrastruktura kvaliteta. Ovaj termin se odnosi na sve oblasti metrologije, standardizacije i ispitivanja, upravljanja kvalitetom i ocene usaglašenosti, uključujući sertifikaciju i akreditaciju. U prošlosti je korišćena skraćenica MSTQ (metrologija, standardizacija, ispitivanje i obezbeđenje kvaliteta) kao kombinacija navedenih pojedinačnih elemenata. To je "ključ" koji samo ekspertima daje informacije o postojećim odnosima. Proizvođači i potrošači se svakodnevno sreću sa komponentama infrastrukture kvaliteta, a da pri tome toga nisu uvek svesni. Ovo je i očekivano obzirom da

delovanje ovih komponenti obično nije vidljivo. Infrastruktura kvaliteta daje suštinski doprinos ekonomskom i socijalnom razvoju zemlje. Ona predstavlja neophodan činilac ekonomije zasnovane na podeli rada, kao i nacionalne, regionalne i međunarodne trgovine. Bez dobrog funkcionisanja infrastrukture kvaliteta, nezamislive su zaštita životne sredine, zaštita zdravlja i zaštita prava potrošača. Što je veći broj preduzeća koja imaju lokalni pristup međunarodno prepoznatoj infrastrukturi kvaliteta, to je veće njihovo učešće u trendovima razvoja globalne trgovine. Pod pojmom infrastruktura za kvalitet podrazumeva se, institucionalni okvir, sačinjen od javnih, državnih ili privatnih organizacija, čiji rezultati rada proizilaze iz procesa izrade, izdavanja i primene standarda i tehničkih propisa, kao i dokazivanja o usaglašenosti sa njima, a u cilju poboljšanja pogodnosti proizvoda, procesa i usluga, sprečavanja prepreka trgovini i olakšavanja tehnološkog razvoja, ili infrastruktura za kvalitet u najkraćem, podrazumeva sistem propisa, dokumenata, institucija, organizacija i asocijacija, koje direktno ili indirektno utiču na kvalitet nekog procesa, usluge ili proizvoda. Dakle, radi se o veoma širokom spektru različitih entiteta i njihovih međusobnih veza. Infrastruktura kvaliteta promovise koncept održivog razvoja na sledeće načine:

- Jačanjem privatne ekonomije preko poboljšanja kompetitivnosti preduzeća;
- Obezbeđivanjem uslova za integraciju zemalja partnera u sisteme globalne trgovine, i
- uticajem na formiranje podstičućeg okruženja na nacionalnom nivou

2.1 INSTITUCIJE KAO DIO INFRASTRUKTURE KVALITETA

Na nivou Republike Srpske, Republički zavod za standardizaciju i metrologiju je upravna organizacija RS, koja posluje u sastavu Ministarstva industrije i tehnologije. Republički zavod je nadležan za oblast standardizacije i metrologije RS u okviru jedinstvenog sistema standardizacije i metrologije BiH. Na nivou države BiH za oblast standardizacije, metrologije i intelektualne svojine, nadležan je Institut za standardizaciju, metrologiju i intelektualnu svojinu BiH, a zakonima BiH je jasno definisana nadležnost Instituta. Oblast akreditovanja je zakonima uspostavljena na državnom nivou i shodno međunarodnoj praksi, propisan je jedinstven sistem akreditovanja u BiH. Definisana je Institut za akreditovanje na nivou BiH, koji treba da uspostavi radne kancelarije u entitetima. Međutim, jedinstven sistem standardizacije, metrologije i akreditovanja u BiH još nije u potpunosti uspostavljen, a kao najčešći razlog do kojeg se došlo u toku istraživanja, navodi se neažurnost državnih organa. U Bosni i Hercegovini ne postoje domaća sertifikaciona tela, odnosno tela za sertifikaciju sistema kvaliteta, sistema zaštite životne okoline, kao ni ljudskih resursa obučeni za ocenjivače sistema kvaliteta, interne i eksterne proverivače. U Bosni i Hercegovini takođe ne postoji asocijacija akreditovanih laboratorija niti kontrolnih tijela, koje treba da pristupe međunarodnim asocijacijama. Prema podacima do kojih se došlo u toku istraživanja, Asocijacija za kvalitet koja je osnovana prije nekoliko godina (13. Novembra 2003. godine, a zvanično registrovana 29.04.2004 godine), nije uspostavljena prema sadašnjim potrebama, što znači da nije dovoljno samo ako se održavaju godišnje konferencije o kvalitetu tj. da se rad asocijacije zasniva i završava na konferenciji. Asocijacija za kvalitet za Bosnu i Hercegovinu je primljena u punopravno članstvo EOQ (European Organization for Quality) u statusu Nacionalnog predstavnika na 110. Generalnoj skupštini Evropske organizacije za kvalitet. I pored ove činjenice AQBiH nema podružnice u svim delovima BiH, a prema izveštajima Upravnog Odbora Asocijacije koji se javno objavljuju na zvaničnom web sajtu Asocijacije, rad

podružnica je nedovoljan i postoji konstantan problem u njihovom radu. Pored ovih institucija, infrastrukturu kvaliteta čini i Ministarstvo za spoljnu trgovinu BiH, Udruženje potrošača, Direkcija za Evropske integracije, Agencija za nadzor nad tržištem BiH i Sekcija za zdravstvo pri AQBiH, kao i Republička agencija za razvoj malih i srednjih preduzeća Republike Srpske, odnosno Agencija za razvoj malih i srednjih preduzeća (MSP) BiH, Nacionalni komitet za kvalitet RS, kao savjetodavno tijelo Vlade RS za oblast kvaliteta, sa vrlo skromnim kapacitetima i rezultatima.

3. OCJENA I PARAMETRI INFRASTRUKTURE KVALITETA U SARAJEVSKO ROMANIJSKOJ REGIJI

Ocjena nivoa kvaliteta organizacija u regiona može se vršiti na osnovu više različitih pristupa. Najčešće je zastupljen pristup pomoću "ekspertskih" ocjena gdje zavisno od autora dominiraju crni ili euforični pristupi. Rezultati ocjenjivanja nisu reprezentativni, jer se za ocjenjivanje prijavljuju organizacije sa visokim ostvarenim nivoom kvaliteta. Ako se sa nivoa države isti pristup primijeni na regione, situacija je, po saznanjima autora, još poraznija.

U okviru projekta pod nazivom „Opravdanost ulaganja u infrastrukturu kvaliteta u Sarajevsko romanijskoj regiji“ izvršeno je istraživanje u okviru kog je sačinjen vrlo obiman upitnik i dostavljen na adrese 150 organizacija, koje su odobrene po: veličini, vrsti djelatnosti, vlasničkoj strukturi, prioritetima regiona. Svrha upitnika je bila da se nepostedno u kontaktima sa vlasnicima i direktorima preduzeća sa područja Sarajevsko-romanijske regije pokuša sa stvaranjem realnije slike o stanju infrastrukture kvaliteta. Rezultati na kraju ovog istraživanja će ukazati na: infrastrukturu kvaliteta, nivo kvaliteta organizacija, probleme u unapređenju kvaliteta, prioritetne oblasti unapređenja kvaliteta i potrebne resurse za unapređenje kvaliteta u regionu.

Ocjena infrastrukture kvaliteta izvršena je na osnovu uvida u infrastrukturu kvaliteta anketiranih preduzeća i ustanova sa stanovišta sistema kvaliteta u Sarajevsko-romanijskoj regiji. Broj preduzeća koja imaju implementiran SQ po modelu ISO 9001 na teritoriji koju pokriva Sarajevsko-romanijska regija je 36 od ukupnog broja registrovanih preduzeća. Najveći broj preduzeća koja imaju implementiran SQ po modelu ISO 9001, je na području Grada Istočno Sarajevo (13 preduzeća), a opštine Čajniče i Rudo nemaju preduzeća koja imaju implementiran SQ po modelu ISO 9001 (slika 1).

(1)



Slika 1. Broj firmi koje imaju implementiran SQ po modelu ISO 9001

Opština Pale i Grad Istočno Sarajevo imaju po 3 preduzeća koja su u fazi implementacije SQ po modelu ISO 9001, a Opštine Han Pijesak i Novo Goražde nemaju započetih

aktivnosti na implementaciji SQ po modelu ISO 9001 niti u jednom preduzeću. Od ukupnog broja anketiranih preduzeća prema „HACCP“ standardu, na području Sarajevsko-romanijske regije, certifikovana su dva preduzeća. Oba preduzeća se nalaze u Opštini Pale

Ovi podaci su pokazatelj niskog nivoa svijesti rukovodilaca, odnosno menadžmenta tzv. "jakih kompanija i preduzeća" kao i nivoa znanja o oblasti kvaliteta, standardima kvaliteta, njihovom značaju, šta donosi jednom srednjem preduzeću uveden sistem menadžmenta kvalitetom, odnosno TQM, koji su benefiti na inostranom tržištu, koji se efekti postižu u polju produktivnosti, profita, efektivnosti i efikasnosti. Sporost u prihvatanju međunarodnih standard postaje velika kočnica u konkurentnosti preduzeća u Republici Srpskoj, sa zahtjevima svojih inostranih partnera da moraju obezbjediti sertifikate o kvalitetu proizvoda, a sertifikat za sistem menadžmenta kvalitetom prema standardu ISO 9001:2000 je postao neophodan preduslov za bilo kakve poslovne aranžmane i konkurentnost na zajedničkom tržištu. U Republici Srpskoj je evidentiran veliki broj preduzeća koja su orjentisana isključivo domaćem kupcu tako da menadžment ovakvih preduzeća ima stav da im sertifikat kvaliteta nije potreban. Republika Srpska, odnosno BiH, kao i naši susjedi, ubrzano preuzima direktive EU i pravila WTO i počinje da ih uvodi u domaće zakonodavstvo. To ima za posledicu, da, oni koji ne zadovoljavaju zahtjeve standarda, uskoro neće moći da posluju ni na domaćem tržištu. Činjenica je da preduzećima nedostaje novca i opreme, ali najveća prepreka je u nedostatku stručnog kadra i inženjera. Na isti način se definiše i činjenica da jako mali broj preduzetnika sa područja Sarajevsko-romanijske regije zadovoljava evropske standarde koji bi njihovim proizvodima garantovali kvalitet i konkurentnost na zajedničkom tržištu. Među činiocima koji negativno utiču na konkurentnost domaće privrede su:

- Neusklađenost domaće prakse sa primjenom standarda serije ISO 9000 i tehničkom regulativom Evropske Unije;
- Mali broj sertifikovanih proizvoda i sistema menadžmenta kvalitetom (QMS) u preduzećima Republike Srpske;
- Nizak, gotovo zanemarljiv stepen primjene standarda serije ISO 14000 u vezi sa sistemima zaštite životne sredine;

U Republici Srpskoj kao i u Sarajevskoromanijskoj regiji je sprovedeno niz mjera i projekata kojima se podstiče primjena standarda, a posebno u oblasti poljoprivrede i proizvodnje industrijskih proizvoda. Kao rezultat riješenosti Skupštine Grada Istočno Sarajevo da poveća poslovnu izvrsnost preduzeća, je i odluka, da dodijeli stimulaturna sredstva malim i srednjim preduzećima, za uvođenje QMS. Pa i pored pomenutih projekata, Sarajevskoromanijska regija kao i Republika Srpska zaostaju za zemljama u okruženju, odnosno za svojim susjedima u ovoj oblasti. Vlasnici domaćih MSP, nisu upotpunosti prihvatili poslovnu filozofiju da je za njihovo poslovanje zadovoljenje kupaca prioritet.

Kao razlog za nedovoljnu primjenu novih tehnologija, vlasnici MSP najčešće uzimaju nedostatak finansijskih sredstava. Važnu ulogu u razvoju ovog segmenta, mora da ima i država, koja putem svojih zakonskih akata može doprinijeti da se u poslovanju MSP sve više primjenjuju nove tehnologije, jer samo na taj način preduzetnici mogu obezbediti sebi ravnopravnu poziciju u odnosu na preduzeća u okruženju (Bugarska, Rumunija, Mađarska, Makedonija, Hrvatska i Srbija). Za unapređenje konkurentnosti MSP moraju primjenjivati savremene menadžment koncepte, kao što su: QMS, benčmarking i sl. Međutim, domaći preduzetnici nove menadžment koncepte neprimjenjuju iz nekoliko razloga i to: nedovoljne informisanosti i nedostataka finansijskih sredstava.

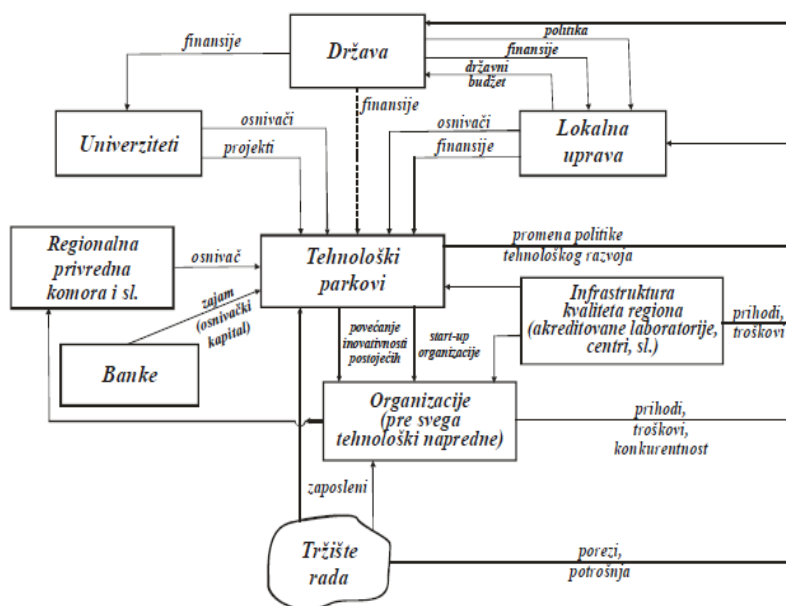
Rješenje za prevazilaženje neadekvatne primjene menadžment koncepta može se naći u većoj angažovanosti u oblasti edukacije Republičke agencije za razvoja MSP i preduzetništva i njenih regionalnih centara, kao i Privredne komore Republike Srpske, odnosno regionalnih privrednih komora. U ovim institucijama, koji predstavljaju servis privrede od obuka koje se nude preduzetnicima najčešće su zastupljeni: obuka za biznis plan, prodaja, poslovno komuniciranje i sl.

Svi navedeni problemi u primjeni međunarodnih standarda se ne mogu vezati samo za određenu teritoriju RS ili BiH, jer su ovi problemi prisutni na cijeloj teritoriji BiH. Ipak, treba napomenuti da je najveći broj sertifikovanih preduzeća u većim industrijskim centrima Republike Srpske kao što su Banja Luka, Trebinje, Bijeljina, Prijedor i Doboj, odnosno tamo gdje se nalaze predratni industrijski giganti koji su u posleratnom period privatizovani i u kojima su postojale osnove za proces sertifikacije. Pojam kvaliteta u regionu uključuje nivo kvaliteta svih entiteta (preduzeća, banaka, univerziteta, zdravstvenih ustanova) kao i veze regiona sa okruženjem, a to znači da se kvalitet u regionu svodi na kvalitet entiteta i relacija entiteta unutar regiona.

Proces dobijanja CE znaka traje do osam mjeseci, a potrebna su i značajna ulaganja. Neke firme su angažovale i strane kuće za dobijanje ovog znaka, ali generalna ocjena je da većina domaćih preduzeća ne zadovoljava evropske standarde kada je riječ o proizvodu, ali i zaštiti radnika i životne sredine.

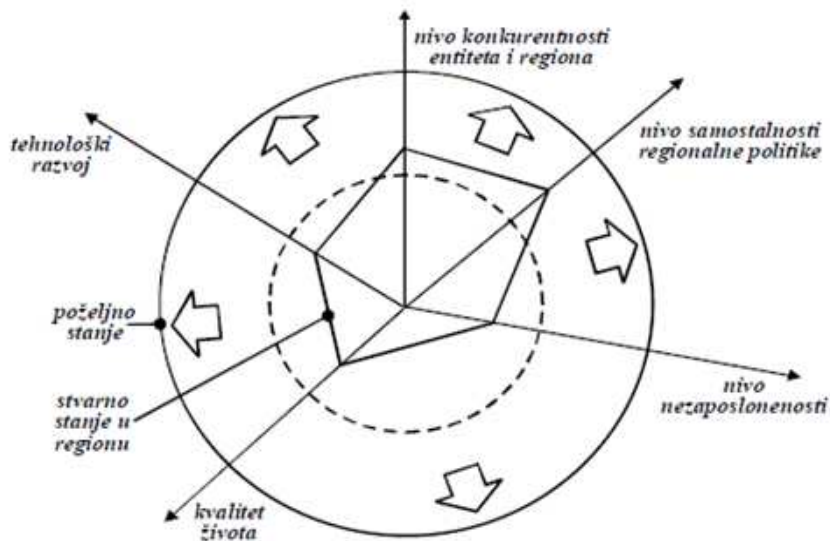
Imajući u vidu da znanje postaje prioritetni resurs u 21. veku, paralelno sa ovim projektom se primenjuju projekti iz oblasti: razvoja klastera, tehnoloških parkova, mreže inovacionih centara, centara za transfer tehnologija i centara izvrsnosti.

Sve ovo treba da poveća integrativnu komponentu regiona u procesu globalizacije, u kome smo htjeli to ili ne. U ovoj fazi projekta teško je govoriti o nivou kvaliteta regiona, jer pored nivoa kvaliteta organizacija, moraju se analizirati, nivo kvaliteta njihovih međusobnih relacija u regionu i van. Rezultati gore navedenog projekta treba da ukažu i na entitete i faktore koji su za nas bili skriveni, a koji mogu imati značajnu ulogu u regionalnoj politici razvoja i unapređenja kvaliteta. Tu očekujemo prije svega "meke faktore" i uticaj za sada nedovoljno istraženih alijansi i strateškog partnerstva sa drugim ino regionima i institucijama. Jedan od puteva za unapređenje kvaliteta entiteta u regionu je izgradnja tehnoloških parkova (slika 2).



Slika 2. Stejkholderi regionalnog razvoj

Nivo nezaposlenosti utiče na kvalitet života, sa jedne strane, a sa druge strane stvara konkurenciju radne snage, a time i pritisak na povećanje kvaliteta u entitetima (slika 3).



Slika 3. Snaga pritiska na regionalni razvoj [1]

4. UTICAJ KVALITETA NA REGIONALNI RAZVOJ

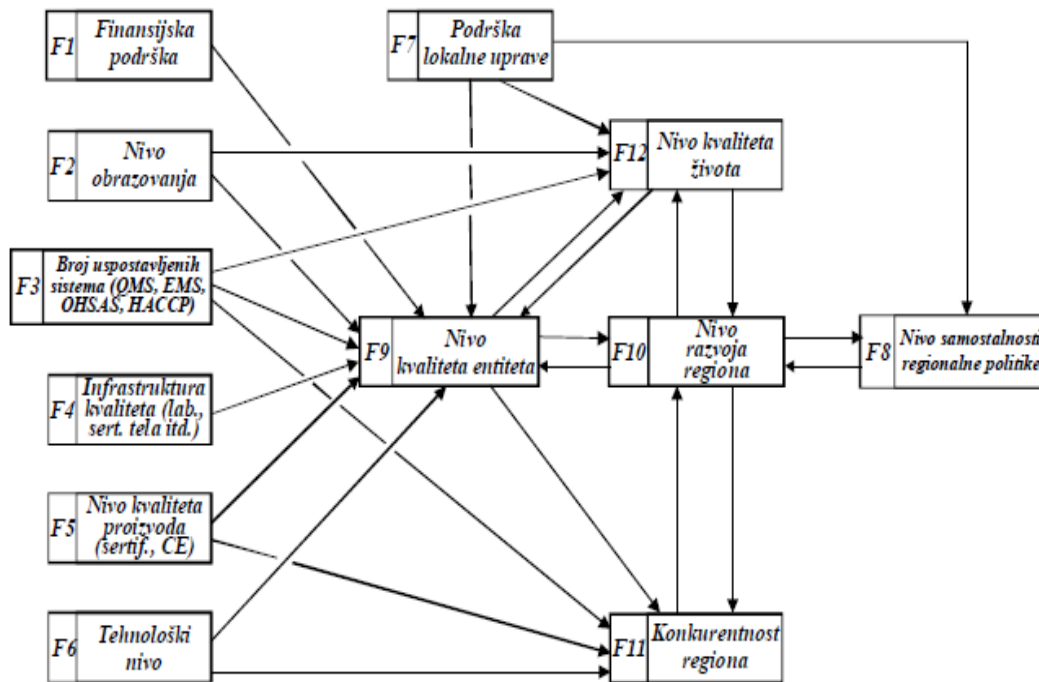
Polazeći od snaga pritiska sa slike 3, korišćenjem metoda *Business Dynamics*, formiran je početni model za simuliranje uticaja kvaliteta na regionalni razvoj (slika 4).

Predmet ovog rada je uticaj kvaliteta na regionalni razvoj. Zbog toga će se razmatrati sljedeći agregirani faktori:

F2: nivo obrazovanja, F3: broj uspostavljenih sistema, F4: Infrastruktura kvaliteta, F5: Nivo kvaliteta proizvoda, F6: Tehnološki nivo, koji utiču na nivo kvaliteta entiteta (F9) i nivo razvoja regiona (F10).

Polaz za simulaciju je analiza početnog stanja ograničenja se prije svega odnose na realnu finansijsku podršku (F1), podršku lokalne uprave (F7) i nivo samostalnosti regionalne politike (F8).

Ograničenja u pogledu finansijske podrške odnose se na nisku likvidnost entiteta i nepostojanje podsticajnih fondova za značajnije unapređenje kvaliteta. Izuzetak je bila podrška Republike Srbije za oblast prehrambene industrije (HACCP, ISO 9001, ISO 14001) i fondovi EU koji su dostupni kroz različite projekte. Nažalost, to su samo izuzeci. Drugo, ne manje značajno ograničenje, je nedovoljna podrška lokalne uprave unapređenju kvaliteta entiteta, prije svega u njenoj integraciji.



Slika 4. Faktori koji utiču na regionalni razvoj

5. ZAKLJUČAK

Rezultati istraživanja u oblasti infrastructure kvaliteta, ukazuju na niz problema, a prije svega treba izdvojiti:

- Nizak nivo obrazovanosti u oblasti kvaliteta (ne postoji registar podataka o tačnom broju edukovanih za oblast kvaliteta; takođe ne postoji obaveza Republičkog Zavoda za standardizaciju Republike Srpske da vodi evidenciju o broju sertifikovanih privrednih subjekata, bez obzira o kojoj se djelatnosti radi); procjene su da je broj obučeni manji od 10% od ukupnog broja zaposlenih na nivou RS;
- Nepostojanje jedinstvenog registra sertifikovanih privrednih subjekata na nivou Republike Srpske i na nivou Bosne i Hercegovine;
- Mali broj sertifikovanih privrednih subjekata;
- Mali broj sertifikacionih tijela u Bosni i Hercegovini;
- Nizak nivo kvaliteta proizvoda (zanemarljiv broj proizvoda sa CE oznakom);
- Nepoznat broj akreditovanih laboratorija;
- Nepoznat broj sertifikovanih privrednih subjekata sa standardima serije ISO 14000, serije ISO 18000 i standardima ISO 22000;

Iako Vlada Republike Srpske preduzima niz aktivnosti u kojima se podstiče primjena međunarodnih standarda iz serije ISO 9000, serije ISO 14000 i serije ISO 18000, Republika Srpska i Bosna i Hercegovina daleko zaostaju za susedima i zemljama bližeg okruženja u ovoj oblasti. Sporost u prihvatanju međunarodnih standarda i loš kvalitet proizvoda, postaju velika kočnica razvoju konkurentnosti domaćih proizvoda i preduzeća.

REFERENCE

- [1] Arsovski S., Pristup unapređenju kvaliteta i regionalnog razvoja, FESTIVAL KVALITETA 2006, Kragujevac, maj 2006.
- [2] Jakšić B., Infrastruktura kvaliteta i evropske institucije, Asocijacija za kvalitet i standardizaciju Srbije, FESTIVAL KVALITETA 2007, Beograd, maj 2007;
- [3] Slavisa M., Istraživanje opravdanosti ulaganja u infrastrukturu u Sarajevsko – romanijskoj regiji, doktorska disertacija Istočno Sarajevo;
- [4] Asocijacija za kvalitet Bosne i Hercegovine,
www.aqbih.ba;
- [5] Raonić D., Istraživanje infrastrukture kvaliteta u centralnoj Srbiji, Asocijacija za kvalitet i standardizaciju Srbije, FESTIVAL KVALITETA 2007, Beograd, maj 2007;

POPULATION AND CADRES AS THE FACTORS OF DEVELOPMENT

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Abstract: In work it to explain problems and significance population and special, a narrower a part of cadres. A human and his intellect are irreplaceable and at information epoch, expansion technique and technology and contemporary strategy and operative management and to operate. The problem of development it departure highly educated and qualified cadres out of Serbia. As and „white plaque“. The demograpfu crisis it flood and to crisis: efficiency and effective management.

Keywords: Human, cadres, strategy, tactics, emigration, management, survival.

STANOVNIŠTVO I KADROVI KAO RAZVOJNI ČINIOCI

Slobodan N. Bracanović

Abstrakt: U radu se osvjetljava problematika i značaj stanovništva i posebno, užeg kadrovskog dijela. Čovjek i njegov um nezamjenljivi su i u informatičkoj eri, ekspanzije tehnike i tehnologije i savremenog strategijskog i operativnog upravljanja i rukovođenja. Razvojni problem je odlazak visoko obrazovanih i kvalifikovanih kadrova iz Srbije. Kao i „bijeje kuge“. Demografska kriza se preliva i u krizu: efikasnog i efektivnog upravljanja.

Ključne riječi: Čovjek, kadrovi, strategija, taktika, emigracija, upravljanje, opstanak.

1. PRETHODNE OPŠTE NAPOMENE

Ekonomska teorija u konvencionalnom smislu, kategoriju stanovništva posmatra istraživanjem i analizom pojedinih odredišnih elemenata (broj, radnosposobni kontigent, aktivno stanovništvo, nivo urbanizacije, formalno obrazovanje i dr.). U savremenim pristupima razvoju, postoji širi pristup ovim aktuelnim i akutnim: pitanjima, dilemama, problemima, rizicima (nepoznanicama, neizvjesnostima i maglovitostima). Polazi se od ispravnog stanovišta da je čovjek najvažniji i presudni faktor ekonomskog, državnog i društvenog progressa, napretka i prosperiteta. Preciznije, ni najmoćniji računari čiji kibernetički sistemi obavljaju ogroman broj operacija (na bilione u sekundi) u savremenoj informatičkoj eri; nemaju sposobnosti čovjeka i ljudskog uma koji je neistraženih mogućnosti. U navedenom, stanovništvo kao demografsku, ali i ekonomsku kategoriju moguće je posmatrati i analizirati sa različitih stanovišta kao: 1. demografski, ljudski potencijal; 2. istorijsko nasljeđe i tradicija; 3. etnički sastav i struktura i dr. Ove determinante nijesu kruto omeđene, već su povezane u svojim uticajima. U ovom radu,

istraživanju i analizi, primjenjuju se različiti verifikovani i prikladni metodi analize: istorijske, deduktivne, induktivne i kombinovane, filozofske, logičke, strukturne, bilansne, komparativne, prostorno-vremenske, statističke i dr. Nastoji se odvojiti važno od manje važnog i iskristalisati osnovni pojmovi, problemi i načini njihovog prevazilaženja u budućnosti. Težišno se ima u vidu geografski i ekonomski prostor Srbije i srpskih zemalja, ali i širi prostorni gabariti i odrednice.

2. BITNI ASPEKTI LJUDSKOG POTENCIJALA

Posmatrajući stanovništvo kao bitnu demografsku, statističku i ekonomsku veličinu, ovu kategoriju moguće je raščlaniti (dezagregirati) na sljedeće sastavne elemente: 1. ukupan (apsolutni) broj; 2. radnosposobni kontigent; 3. aktivno, zaposleno stanovništvo; 4. obrazovni i kvalifikacioni stepen; 5. zdravstveno stanje i sposobnost.

1) Ukupan broj stanovnika jedne zemlje bitna je sastavna odrednica ljudskog potencijala u smislu i pogledu mnogoljudnosti, (ređe ili više) gustine naseljenosti i sl. Međutim, sa ekonomskog stanovišta posmatrano, mnogo je bitniji pokazatelj koji predstavlja užeg obuhvata radnosposobni kontigent stanovništva. Ali, od ovog svakako važnog činioca, važniji je još uži pokazatelj aktivnog, radno angažovanog stanovništva. Ovo konkretno znači da su važni i izvedeni indikatori koji pokazuju i druge parametre osim apsolutne veličine stanovništva određenog teritorijalnog prostora, područja, (rjona, subregiona, regiona) i države. Isto tako, bitni su indikatori o tokovima kretanja tj. migracijama, ili emigracijama tj: a) prirodnim; b) mehaničkim; v) kombinovanim. Pored ovog, indikativni su trendovi priraštaja (nataliteta) stanovništva, tj. razlike novorođenih (fertiliteta) i umrlih (mortaliteta). Aktuelan problem jeste i „bijele kuge“.

U modernim uslovima poslovanja i privređivanja, efikasnost i efektivnost proizvodnje i ukupne privrede u određenoj državi, u neposrednoj je povezanosti sa postignutim stepenom obrazovanja koje je sa svoje strane u vezi sa naukom, istraživanjem i razvojem. Kategorija znanja postaje opravdano najvažniji faktor razvoja koji vezama međuzavisnosti, međuuzročnosti i međuuslovljenosti utiče na ostale razvojne činioce. Privredni i društveni razvoj se u kontinuirano rastućem trendu temelji na formiranom, izgrađenom i akumuliranom znanju. Osnov i pretpostavka sticanja uporednih (komparativnih) i povezanih konkurentnih (tržišnih) prednosti, posebno u isprepletanim tokovima složene inter-regionalne razmjene proizvoda i usluga; predstavlja: 1) kvalitet i 2) brzina kojom država razvija školski i obrazovni sistem. Visok stepen kvaliteta obrazovanja efektuiru se u sposobnostima pronalazštva i primjene najsavremenijih informacionih tehnika, tehnologija i opreme. Informacione tehnologije su bitne u koracima i stepenicama sticanja izmijenjenih, proširenih i novih znanja i saznanja, kao i širenja (difuzije). Ima se u vidu ne samo formalno, već i neformalno obrazovanje i znanje koje se praktično realizuje u toku čitavog radnog i životnog vijeka pojedinca. Znanje brzo zastarijeva (prosječno ispod 5 godina) i neophodnost je usavršavanje.

Istorijski posmatrano, zdravstvena sposobnost stanovništva, naroda, nacije; uzima se kao bitan elemenat u ekonomskim istraživanjima i analizama (od polovine prethodnog vijeka). Zdravlje je, u ovim gabaritima, od posebnog i prioritarnog značaja. Nužno je uočiti, shvatiti, razumjeti i protumačiti; povezanost i korelaciju, između zdravstvenog stanja i trenda dinamike privrednog rasta. Još uvijek ne postoji razrađena metodološka aparatura kojom bi se mogli (grublje ili preciznije) obuhvatiti, računati i izračunati 1. vrlo složeni i kompleksni; 2. vremenski veoma udaljeni i 3. daleki i teško kvantitativno (numerički, brojčano) mjerljivi i izmjerljivi rezultati poboljšavanja zdravstvenih

sposobnosti stanovništva i indikatora dinamike privrednog rasta i razvoja. Zdravlje populacije je činilac sa jakim i razgranatim višestranim djelovanjima na tokove i trendove privrednog razvoja u prošlosti, sadašnjosti i budućnosti. Veoma je dugoročnih efekata djelovanja u relacijama upoređenja sa drugim činiocima. Kategoriju ljudskog zdravlja ne određuje, smatra se, trend dinamike tehničko-tehnoloških preobražaja i transformacija (mada pesimisti ističu da se tehnološkim razvojem zagađuje prirodna okolina i na ovaj način djeluje nepovoljno i na zdravlje čovjeka). Mi smo realni optimisti.

2) Istorijsko nasljeđe i tradicija mogu da budu od važnog i presudnog uticaja za sagledavanje problematike demografskih tokova, tj. stanovništva. Uočavanje, shvatanje, tumačenje i razumijevanje: a) tehničko-tehnološke i radne discipline; b) organizacijskog reda i proizvodnje; v) utvrđenih radnih obaveza; g) dominantnih oblika i vidova privredne i državne saradnje; d) sklonosti i afiniteta ka intenzivnijoj i većoj saradnji sa pojedinim državama, ili integracionim grupacijama i dr.; elementi su i horizonti koji su bitni za istraživanje i analizu mjesta, uloge i značaja stanovništva kao faktora privrednog rasta i razvoja. U kontekstu uloge tradicije, ovaj činilac ne posmatram kao prevaziđenost, kočnicu i prepreku; već stimulativnu podlogu savremenog razvoja. Navešću prikladni digresivni primjer iz istorije. Pojedini ekonomisti i prosvetni radnici zapadno i prozapadno orijentisani ističu da su gusle: „prevaziđeni muzički instrument; obilježje prošlosti; veličaju zločine“ i dr. Gusle su čuveni i slavni srpski instrument, koji ne samo u prošlosti, već po mom shvatanju i u savremenom i budućem duhu vremena imaju svoj podsticajni, progresivni, motivatorski, nacionalni, državni i društveni značaj. Naime, narodi i nacije bez ishodišnih korijena nemaju ni svijetlih perspektiva svoje budućnosti. Pomenuti ekonomisti logično veličaju značaj zapadnih struja (npr. „rokenrola“) sa svojim, po mom tumačenju i razumijevanju, pogubnim i štetnim posljedicama djelovanja na, posebno, duhovno zdravlje stasalih mladih i mladih generacija.

3) Povezano sa ovim je i pitanje i problematika: a) vjerskog; b) etničkog i v) nacionalnog sastava; kategorije, stanovništva. Ovo je od posebne važnosti i za ekonomske istraživače i analitičare, a ne samo za profesionalne istoričare. U ovom domenu, posebno od značaja za privredni razvoj, s obzirom da smo po profesiji i svom školovanju ekonomisti; nužno je uzeti u obzir: a) nacionalnu pripadnost; b) jezik; v) vjeru i religiju.

Pitanje vjere (ili u određenim užim tumačenjima religije), posebno je bitno i prioritetno u razmatranju etničke komponente stanovništva. Vjera može biti podsticajni i motivišući činilac ne samo u okvirima duhovnog, već i ekonomskog progressa i napretka. Ovdje imam u vidu istočnu pravoslavnu vjeru i duhovnost. Na osnovama prave, istinske vjere kakva je istočno pravoslavna vjera, jačaju moralne, etičke kategorije (poštenja, časti, pridržavanja preuzetih obaveza i zadate riječi, posebno kod ugovora i sl., korektnog odnosa prema poslovnim i finansijskim sredstvima privrednih subjekata i države i dr.); koje su veoma bitne u savremenom poslovnom ponašanju i privređivanju. Naime, suprotne nemoralne i amoralne odrednice uzrokuju: krizu, stihiju, anarhiju i kaos, u privrednim i šire ekonomskim, državnim i društvenim aktivnostima i djelatnostima. Povezano sa ovim, govorilo se u literaturi o vjeri i religiji kao kočnici savremenog poslovnog ponašanja i privređivanja. Navodio se pogrešno primjer vjere država Jugoistočne Azije; odnosno Istoka i Dalekog istoka: Kine, Japana i dr. Preciznije, npr. konfučijanstvo se dokazivalo kao navodni uzrok ekonomskog nazadovanja i propadanja zemalja Istoka. Ali, u savremenim uslovima, potencira se objektivna i realna činjenica da je konfučijanstvo jedan od osnovnih uzroka i temelja industrijskog i ekonomskog napredovanja, prosperiteta i preduzimljivosti nacija i država Istoka. U Japanu, faktor vjere pozitivno i generički djeluje na važne ekonomske kategorije (nivo nacionalne štednje i dr.). Dalje; protestanti (Veber) ukazuju da protestantska etika ima odlučujuću ulogu u razvijanju tržišnog

privređivanja i štednje, a pretpostavljali su pogrešno da su vjere, religije i povezano sa ovim velike kulture istočne Azije: Kine, Japana, Indije i dr., oblikovale filozofski, vjerski i ekonomski pogled na svijet koji je u velikoj mjeri „stran modernom duhu vremena“. Za ulogu, značaj, domete, vidike i horizonte japanske vjere ističe se, od samih japanskih autora, da konfučijanstvo predstavlja jedan od najvažnijih faktora industrijskog i ekonomskog uspjeha, disciplinovanosti i preduzimljivosti nacije. (1) Japanska i ukupa dalekoistočna civilizacija i kultura, već u istorijskoj prošlosti, formirala je originalni složeni obuhvat, vlastitih: idejnih, ideoloških, stimulacionih, motivacionih sistema vrijednosti, ciljeva i stavova, kriterijuma i mjerila i dr; koji se u najdubljoj suštini, teorijski i praktično, pragmatično, posebno po efikasnosti i efektivnosti, razlikuju od zapadnih i drugih određujućih obilježja; kao prednosti istoka. Na drugoj strani, istočna pravoslavna vjera, jak je motivacioni i podsticajni faktor posebno moralnog obilježja; kao i ekonomskog napredovanja i uspjeha pravoslavnih država.

Nacionalna pripadnost, sljedeći je određujući elemenat etničke strukture stanovništva. Naciju možemo shvatiti kao ukupnost: duhovnih, vjerskih, istorijskih, tradicionalnih, prostornih, jezičkih, ekonomskih, kulturnih i drugih odrednica. Nacija predstavlja uži pojam od heterogenog pojma naroda. Kao istorijski ilustrativni i prikladni primjer mogu navesti koliko je ogromne društvene energije, u dnevno političke i jeftine politikantske svrhe, utrošeno u dokazivanju: a) da li su Crnogorci Srbi; b) ili nijesu Srbi?! U sadašnjem vremenu sve više dobija na značaju važna nacionalna dimenzija.

Dalje; u domenu jezika, može se istaći da jezik predstavlja temeljnu, bitnu i suštinsku i odrednicu jednog naroda. U ovom pogledu, indikativno je zavještanje Stefana Nemanje kasnije Svetog Simeona Mirotočivog; svom najmlađem sinu Rastku zatim Svetom Savi prvom Arhiepiskopu srpskom; u smislu: „Narod koji izgubi svoje riječi prestaje biti narod....Tamo gdje odzvanja naša riječ, gdje se još glagolja i gdje se još, kao stari zlatnik, obrće naša riječ, znaj, čedo moje, da je to još naša država bez obzira ko u njoj vlada. Carevi se smjenjuju, države propadaju, a jezik i narod su ti koji ostaju, pa će se tako osvojeni dio zemlje i naroda opet, kad-tad vratiti svojoj jezičkoj matici i svome matičnom narodu.“(8)

Veća homogenost, monolitnost i kompaktnost navedenih bitnih etničkih kategorija stanovništva, predstavlja pogodniju osnovu i temelj za privredni razvoj u dugom horizontu.

U daljem: 1) logičnom; 2) organskom i 3) kombinovanom slijedu analize, prelazeći na konkretnije i bliže odrednice; uočava se, shvata, razumije i tumači, da u Srbiji postoje nepopovoljni aktuelni i akutni trendovi i tokovi u mnogim segmentima društveno-ekonomskog života i njegove organizacije. Ovo se (načelno) konstatuje i objašnjava u domenima: a) veličine (broja) stanovnika; b) obrazovanja i kvalifikacija; v) zaposlenosti i nezaposlenosti, g) siromaštva; d) emigracije i dr. Obrazovanje i kvalifikovanje je, u totalitetu objektivne stvarnosti, a) rastućih troškova i b) manje dostupno. Prirodni priraštaj, realno je u silaznom trendu. Kod mladih, školovanjem za rad osposobljenih ljudi; koji su oslonac ekonomije, države i društva; u rastućem je trendu nazadovoljstvo, apatija i nepostojanje indentifikacije sa sopstvenom zemljom; a ovo će reći da raste odlazak (emigracija) iz zemlje. Populacija neumitno stari. Država nužno mora blagovremeno da preduzima: svrsishodne, racionalne, svjesne i razumske; strateške i operativne; mjere i aktivnosti, tehnike postupke i procedure; u cilju i svrhu umanjivanja, prevazilaženja i ublažavanja, posebno, demografskih razvojnih rizika, nepoznanica i neizvjesnosti za budući: 1. fizički; 2. biološki i 3. duhovni opstanak sopstvenog naroda.

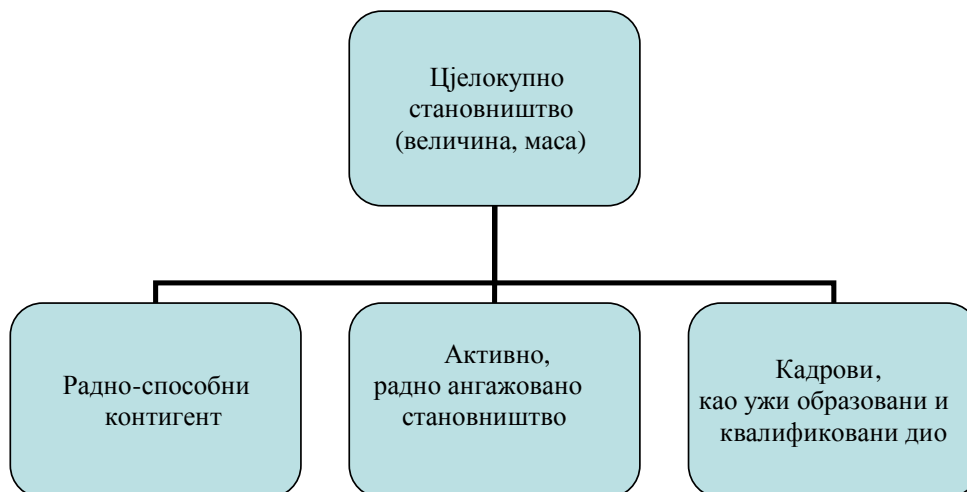
Ističu se npr. pokazatelji, da su, istorijski posmatrano, Srbi po veličini (brojnosti) bili nacija odmah nakon: Rusa i Poljaka (a tokom 18. vijeka bilo ih ne nivou reda veličina Engleza). Kasnije promjene i transformacije nastale su djelovanjima mnogobrojnih faktora

i činilaca: a) prirodnih, tj. nataliteta, mortaliteta i fertiliteta; b) mehaničkih, tj. emigracija i imigracija; v) spoljašnjih (eksternih) kao ratova, sukoba, epidemija i dr. Isto tako, drugi pravoslavni narodi su se uvećavali po brojnosti tokom prethodnog vijeka (Rumuni, Bugari, Grci). Ekspanzivno se povećavaju i drugi narodi u svijet. Ukazuje se na nepovoljnu činjenicu i demografski trend da Srbija postaje prva država na Balkanu po stopi mortaliteta ali posljednja po stopi nataliteta (4).

U literaturi, preovladava stanovište da odlučujući uticaj na umanjenje fertiliteta imaju: socioekonomski, sociopsihološki, kulturni i drugi povezani faktori i elementi, u kojima se odvija razvoj stanovništva; mada je fertilitet jasno i biloški proces i fenomen. Uslovi života i standard logično djeluju na ovakve tendencije.

Pod pretpostavkom (hipotezom) nastavljanja ovakvih demografskih tokova u budućem dugoročnom periodu (tj. do 2032. god.), Srbija će doći na alarmantni nivo (približno istog broja stanovnika kao poslije završetka Drugog svjetskog rata, ali sa ogromnom razlikom tj. dvostruko više starih osoba u odnosu na najmlađu populaciju). U ovoj situaciji, krajem ovog vijeka, postoji realan rizik da postanemo nacionalna manjina u svojoj državi; preciznije prijeti nam biološko izumiranje. Država i njena politika je presudnog značaja.

Demografska obilježja i odrednice moguće je ilustrativno prikazati, dijagramski:



Dijagram 1.: Osnovne demografske i ekonomske kategorije

U teoriji se naglašava, da najnepovoljnije perspektive jednog naroda i horizonti, vizije bliže i dalje budućnosti nastaju otpočinjanjem rušilačkog i razarajućeg trenda (tj. dostizanjem mjerila, da stanovništvo iznad 65 godina starosti bude 2 i po puta brojnije u upoređenju sa ostalim stanovništvom). Statistički posmatrano, prosječna starost u Srbiji tj. Srba relativno je niža (u rasponu od 73 do 74 godine; u komparaciji sa drugim državama Evrope gdje se živi duže u prosjeku, tj. 79 godina). U porastu su i oboljenja (posebno kardio-vaskularna; kao i od zloćudnih tumora). Realnost je, iako, još uvijek nema zvanično publikovanih jasnih i ozbiljnih izvještaja, činjenica i konkretnih, preciznih dokaza da je od posljedica bombardovanja srpske zemlje (devedesetih godina prethodnog vijeka i posebno 1999. god.) zabranjenim radioaktivnim oružjem (po međunarodnim konvencijama) dugoročno porasla smrtnost stanovništva na bombardovanom o kontaminiranom prostoru, prvenstveno od zloćudnih tumora. Isto tako, u porastu su i kardio-vaskularna i nervno-psihička oboljenja - nerveze i dr. (posebno akutno kod mladih i najmlađih naraštaja). Uočavaju se, shvataju, razumiju i tumače, dugoročne posljedice: zagađivanja atmosfere, prirodne okoline, ambijenta, sredine, poljoprivredno-stočarskih prehrambenih proizvoda, vode i dr. Za ove zločine sjeveroatlanske vojno političke

alijanse NATO pakta još niko nije odgovarao, a ovi i ostali najmonstruozniji zločini su za njih kolateralna šteta. Na drugoj strani, mi Srbi smo lažno satanizovani u svijetu kao navodni zločinci. Istorijski je poznata praksa da napadom na drugoga najbolje braniš sebe.

Dalje, po ekspertskim; ali ekstremno pesimističkim procjenama, prognozama i ocjenama demografskih stručnjaka; predviđa se da, pod pretpostavkom nastavka ovakvog trenda, u narednih pola milenijuma; mi Srbi ćemo fizički i biološki izumrijeti. Ovo se dijelom već ostvaruje na selu kao posebnoj prostornoj homogenoj i organizacionoj jedinici.

Tabela 1. Dinamika kretanja ukupnog broja stanovnika Srbije

Ред./број :	Елемент и	1999.	2002.	2005.	2008.	2011.	Пас т (%)
1.	2.	3.	4.	5.	6.	7.	8.
1.	Становн.	7.540.401	7.500.031	7.440.769	7.350.222	7.258.753	- 0,34

Izvor: Statistički godišnjak Republike Srbije, 2012. str. 30.



Grafikon 1. Pregledni grafički prikaz prezentovanih demografskih tokova u Srbiji

Uočava se i potvrđuje navedeni srednjoročni i dugoročni tok kontinuranog silaznog trenda ukupnog broja stanovnika u Srbiji, tj. cjelokupnog demografskog potencijala (za period od 12 godina, smanjenje u apsolutnoj vrijednosti iznosi 281.648 stanovnika; ili po prosječnoj godišnjoj stopi od 3,4%). Ovo praktično podrazumijeva da se ne ostvaruje tzv. „prosta reprodukcija“ stanovništva tj. na istom nivou; da i ne ukazujemo o eventualnoj „proširenoj reprodukciji“ tj. povećanju broja stanovnika. Na ovaj način se dokazuje opadajuća stopa fertiliteta u dužem vremenskom periodu. Iznosi se pored ostalih i aktuelni i akutni podatak da veliki broj supružnika u Srbiji (oko 1/3) još uvijek nije formirao porodicu, tj. stvorio potomstvo. Mnogi mladi ljudi i ne namjeravaju i ne razmišljaju, u osnovi da stvaraju potomstvo i započinju novi život navodeći kao uzroke: a) stambene probleme; b) finansijsku i ekonomsku obezbijedenost i saturiranost; v) život na lagodnijim

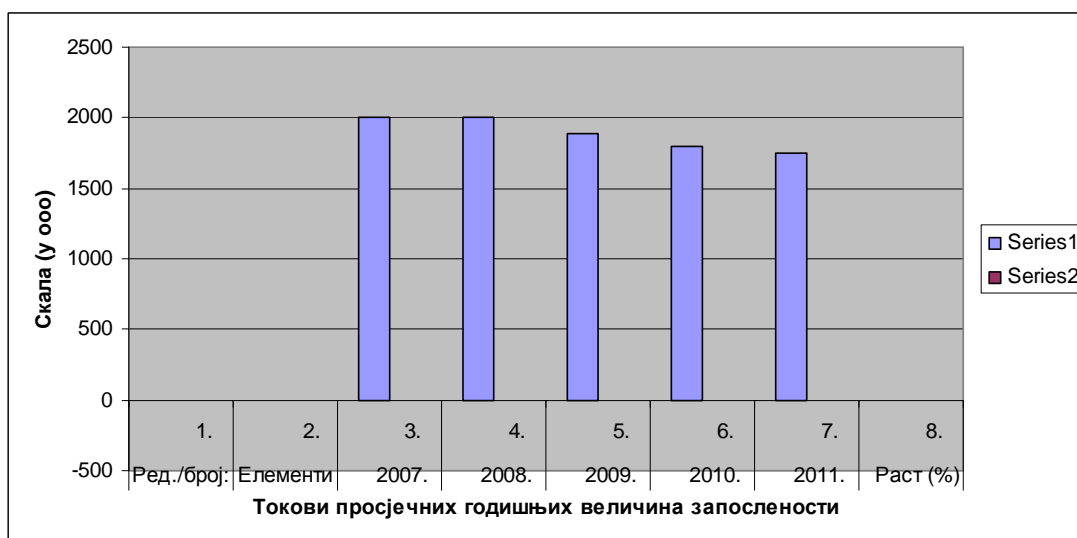
način; g) traganje za radnom i profesionalnom karijerom i napredovanjem; d) savremenu krizu zajedničkog života (braka) i dr. U suštini, prisutna je velika, ili potpuna sebičnost (egoizam; umjesto altruizma). Kada se posmatra stratum mladih ljudi, na osnovi istraživanja i analiza, ističe se da manji dio (8% do 10% supružnika) u Srbiji ima realne, stvarne, faktičke razloge i uzroke nepostojanja uslova za zasnivanje potomstva.

Kretanja zaposlenosti u Srbiji prikazaćemo podacima u narednom tabelarnom pregledu:

Tabela 2.: Trendovi zaposlenosti stanovništva u Srbiji (godišnji prosjek, u 000)

Ред./број:	Елементи	2007.	2008.	2009.	2010.	2011.	Раст (%)
1.	2.	3.	4.	5.	6.	7.	8.
1.	Запослени	2.002	1.999	1.889	1.796	1.746	-3,42

Izvor: Statistički godišnjak Republike Srbije, 2012. str. 51.



Grafikon 2. Grafički prikaz prezentovanih pokazatelja tokova zaposlenosti u Srbiji

Konstatuje se opadajući trend dinamike veličina (obima, opsega) zaposlenosti u Srbiji, u posmatranom srednjoročnom razvojnom periodu. Tokovi zaposlenosti silaznog trenda, na ovaj način prate i opadajuću dinamiku kretanja ukupnog stanovništva u Srbiji. Međutim, izraženiji je silazni tok veličine zaposlenosti (po prosječnoj godišoj stopi od 3,42%), u upoređenju sa intenzitetom umanjivanja veličine ukupnog stanovništva u Srbiji u istraživanom i analiziranom periodu (po stopi od 0,34%). U ovom domenu, posebno je aktuelan i akutan problem stvarne i produktivne (a ne formalne, fiktivne) zaposlenosti.

U ovom aspektu, planski i razvojni cilj povećanja zaposlenosti (kao obilježje ekstenzivnog razvoja), u kratkom i kraćem roku, u protivrječnosti je i konfliktu sa nužnošću uvođenja savremene tehnike i tehnologije i produktivnošću rada i sredstava (kao određenjima intenzivnog razvoja); imajući u vidu da najmodernija tehnologija neminovno istiskuje i umanjuje potreban broj produktivne i nove zaposlenosti. Međutim, sa teorijskog stanovišta, polazi se od pretpostavke da primjenom savremene i najsavremenije tehnike i tehnologije, u dužem i dugom vremenskom periodu, stvaraju se neophodna sredstva (akumulacija i dobit) za formiranje i otvaranje novih radnih mjesta, tako da se dugoročno relativizuje suprotnost i konfliktnost ovih ciljeva privrednog rasta. Stopa radne angažovanosti (zaposlenosti) mogla bi biti znatno viša (iznosi 45,4% u 2011. god.). Problem zaposlenosti postaje jedan od najsloženijih u društveno-ekonomskom

razvoju Srbije. Prostori, zapošljavanja postoje u: a) poljoprivredi; b) maloj privredi i dr. Stopu privrednog rasta računamo metodom zbira stopa zaposlenosti i produktivnosti rada.

$$Spr = spr + sz$$

Gdje je:

Spr = stopa privrednog rasta;

spr = stopa rasta produktivnosti rada i sredstava;

sz = stopa zaposlenosti.

U pogledu trendova nezaposlenosti, ilustrativni su podaci u sljedećem pregledu:

Tabela 3. Tokovi srednjoročne dinamike nezaposlenosti u Srbiji

Ред./бр.	Елементи	2007.	2008.	2009.	2010.	2011.	Раст (%)
1.	2.	3.	4.	5.	6.	7.	8.
1.	Незапосл.	850.003	755.934	746.605	744.222	752.838	- 2,87
2.	Стопа(%)	26,8	24,6	26,0	26,9	27,7	0,74

Izvor: Statistički godišnjak Republike Srbije, 2012. str. 57 (stopa nezaposlenosti, računata je po izmijenjenoj široj metodologiji sa obuhvatom osiguranih poljoprivrednika).



Grafikon 3. Tabela prikazani prikazani preglednim grafičkim metodom

Uočavamo tendenciju porasta broja nezaposlenih lica u najnovijem istraživanom periodu (iako je u srednjoročnom vremenu indikativan statistički opadajući trend). Povezano sa prethodnim; nezaposlenost radno-sposobnog stanovništva (realna tj. stvarna, faktička; strukturna, frikciona; potencijalna, latentna i dr.) postaje akutan, aktuelan i sve teži problem društveno-ekonomskog razvitka Srbije; koji zahtijeva pravce rešavanja.

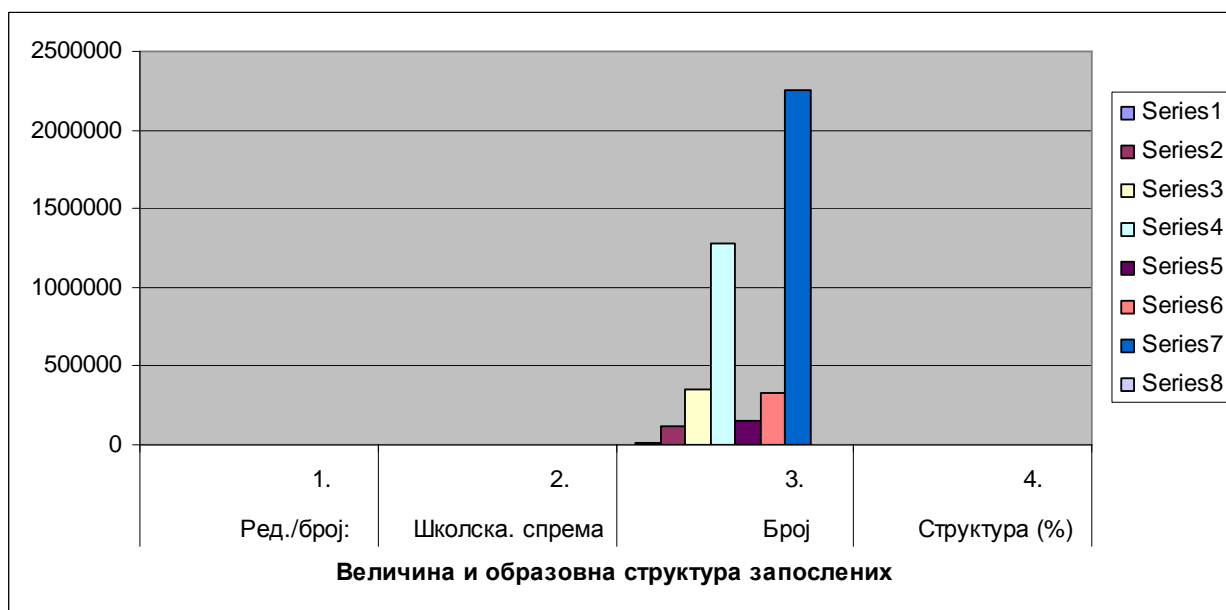
3. OSTALE DEMOGRAFSKE I KADROVSKE ODREDNICE

Istražujući i analizirajući formiranu obrazovnu strukturu zaposlenih u Srbiji, u najnovijem periodu; uočavaju se, shvataju i razumiju; sljedeće bitne strukturne odrednice:

Tabela 4. Strukturna obilježja obrazovne strukture zaposlenih u Srbiji (2011. god.)

Ред./број:	Школска. спрема	Број	Структура (%)
1.	2.	3.	4.
1.	Без школе	14.590	0,65
2.	Непотп. основ. школа	119.840	5,32
3.	Основна школа	350.705	15,56
4.	Средња школа	1.280.692	56,84
5.	Виша школа	157.061	6,97
6.	Факул. акад. вис. шк.	330.321	14,66
7.	Укупно (1-7):	2.253.209	100,00

Izvor: Statistički godišnjak Republike Srbije, 2012., str. 56.



Grafikon 4. Pregledni prikaz prezentiranog broja i obrazovne strukture zaposlenih:

Uočava se relativno niže učešće lica sa visokom školskom spremom (VSS) preciznije visoko obrazovanih i visoko stručnih kadrova u ukupnom kontingentu zaposlenih (14,66%). Na drugoj strani u strukturi dominira učešće lica sa srednjom školskom spremom (SSS, tj. sa više od polovine, preciznije 56,84%). Pored ovog, broj lica sa osnovnom školom je viši u upoređenju sa brojem osoba sa visokom stručnom spremom (konkretno, broj lica sa osnovnom školom, NS, iznosi u strukturi 15,56% i prevazilazi broj osoba sa visokom školskom spremom, VSS, za 0,9 strukturnih poena). Isto tako, kumulativni broj lica sa: 1) osnovnom i 2) srednjom školom, predstavlja u strukturi najveći dio (72,4%, tj. više od dvije trećine ukupnog broja zaposlenih). Nužno je istaći da zbir (kumulativ) broja lica sa: a) višom stručnom spremom (VŠS) i b) fakultetom, akademijom i visokom školom (VSS); iznosi manji dio u strukturi zaposlenih (petinu, ili 21,63%). Podaci ukazuju na nezadovoljavajuću i neoptimalnu kadrovsku strukturu zaposlenih u Srbiji (prema

najnovijim raspoloživim pokazateljima). Proces formiranja kadrova, realno je dugog roka i predstavlja najdragocjeniju: razvojnu i državnu investiciju.

Nepovoljna obrazovna struktura zaposlenih, logično, reperkutuje se i na kvalitet upravljanja i rukovođenja. U savremenoj ekonomskoj teoriji govori se o: a) preduzetništvu i b) menadžmentu. Preduzetništvo je skup odrednica, mjera i aktivnosti: vizije, ulaganja, kombinacija, donošenja strateških i operativnih taktičkih odluka, spremnosti prihvatanja posebno tržišnih rizika, neizvjesnosti i dr. Povezano sa ovim; menadžment, u suštini je proces i tok: planiranja, organizacije, svjesne i razumske koordinacije, usmjeravanja, motivisanja, reagovanja, kontrole i dr; poslovnih, privrednih i ostalih aktivnosti. Privredni subjekt tj. preduzeće kao (mikro) obuhvat činilaca: organizacije, ljudi, kadrova, sredstava, tehnike i tehnologije i dr; svoje efikasno i efektivno poslovanje i privređivanje, ostvaruje preduzetničko-menadžerskom strukturom upravljanja, rukovođenja i odlučivanja. Imaju se u vidu i viši (mezo i makro) nivoi. Dijagram 2.: Procesi upravljanja, rukovođenja i odlučivanja; prikazani metodom dijagrama:

Direktorski, birokratski aparat i mehanizam, transformiše se u nove oblike upravljanja, rukovođenja i odlučivanja, prikladne savremenom duhu vremena. Međutim, potrebno je naglasiti da moderno upravljanje, odnosno menadžment, nije odrednica kapitalističkog društveno-ekonomskog, već i transformisanog i novog društva. Savremeno upravljanje i rukovođenja može biti i najčešće jeste odvojeno od funkcije vlasništva. Upravljanje u osnovi može biti: 1. državno; 2. kolektivno, ili grupno; 3. privatno; 4. kombinovano, složeno. Državno upravljanje, posebno u uslovima krize, presudnog je značaja.

4. OSNOVNE ZAVRŠNE KONSTATACIJE

Uočava se opšti silazni trend kretanja stanovništva Srbije (u 2002. god. broj stanovnika je manji za 24.684 lica, a u 2011. god. 37.337 lica). Stopa priraštaja, fertiliteta je opadajuća (u 2002. god. iznosila je 43,1%, a u 2011. god. 39,4%). Po stručnim procjenama ukupno stanovništvo u narednom dugoročom periodu (do 2030. god.) biće u opadajućem trendu (iznosiće 6.889 hiljada lica, prema 7.258.753 lica u 2011. god. tj. manje za 369.753 lica, ili po opadajućoj dugoročnoj stopi od 0,27%). Gustina stanovništva je rjeđa (u 2011. god., jeste 82,15 stanovnika po km² prema 84,88 stanovnika po km², u 2002. god.).

Dalje, konstatuje se nepovoljan tok da u velikom broju seoskih naselja u Srbiji (2000) nema ni jednog stanovnika. Populacija stari (u 200 sela nema mlađih naraštaja od 20 godina). U selima živi znatan broj (260 hiljada) muških osoba koji su se približili životnom graničniku od pola vijeka, a nisu još uvijek zasnovali porodični život. Pod pretpostavkom nastavka ovakvog trenda, u narednom periodu (za 15 godina) nestaće četvrtina sela i na ovaj način Srbija će postati poljoprivredna, ili šire agrarna zemlja bez sela i stanovnika na selu (nijesu samo seljaci; već poljoprivredni proizvođači). Isto tako, u emigraciji živi veliki broj Srba (svaki sedmi). Odlazi, emigrira, demografski najvitalniji, radno najproduktivniji, najobrazovaniji i najkvalifikovaniji dio stanovništva. Emigracije su: 1. dobrovoljne; 2. prinudne i 3. složene, mješovite. Pored ovog, u istraživanjima i analizama, polazi se od podatka da školovanje i vaspitanje jednog stručnjaka koji je završio fakultet, sa ukupnim prethodnim obrazovanjem, visoke je cijene koštanja (oko 300 hiljada dolara). Od teških i ratnih devedesetih godina 20. vijeka, do sada; procjenjuje se da je iz Srbije emigrirao veliki broj (oko 40 hiljada) mladih školovanjem za rad osposobljenih ljudi. Ukoliko se prihvati opšti pokazatelj (od 300 hiljada dolara po stručnjaku, mada smatram da

je za Srbiju on niži); dolazi se do ekonomskog računa ogromnih gubitaka po osnovu emigracije (12 milijardi dolara). Ovo je pretežak gubitak za nacionalnu produktivnost, uporedne i konkurentske prednosti. Gubi se najdragocjeniji kapital: tj. ljudi i njihovo znanje. Tako isto, gubi se velika dobit od njihovog produktivnog radnog angažovanja u svojoj zemlji. Druge države, posebno zapadne, besplatno dobijaju stručnjake; koji usljed nedekvatne domaće državne politike; tek u inostranstvu, najvećim dijelom, postanu poznati i dožive afirmaciju. Naglašava se da smo često bili pogođeni krvavim ratovima, u kojima je stradao posebno biološki najproduktivniji dio stanovništva. Samo u 20. vijeku izgubili smo veliki broj (više od 4 miliona ljudi). Po optimističkim procjenama; nas Srba bilo bi danas znatno više pod pretpostavkom da nijesmo učestvovali u ratovima (oko 60 miliona). Postoji i znatan stepen siromaštva najviše rasprostranjenog u regionu: jugoistočne Srbije (1/4 stanovnika); zapadne Srbije (više od 13% i dr.). Nužna je nacionalna kohezija i sloga u ovom i drugom pogledu. Racionalno je forsirati razvijanje seoskih područja u državi. Do sada je bila dominantna urbanizacija i naročito razvoj velikih gradova. Prioritet razvoja postaje: poljoprivreda i agrar u širem smislu. Državna centralizacija je pozitivan smjer. Svrsihodno je uskladiti sisteme obrazovanja sa potrebama. Sistem: („Bolonja“) je promašaj.

REFERENCE

1. Dragutinović, D., Filipović M., Cvetanović, S., (2005), Teorija privrednog rasta i razvoja, Centar za izdavačku djelatnost Ekonomskog fakulteta u Beogradu, Beograd;
2. Đurić, Z., (2004), Kina – tajne ekonomskog čuda, Ekonomski pogledi, Ekonomski fakultet, Naučno istraživački centar, Priština, Zubin Potok;
3. Iskustva i perspektive ekonomske saradnje Srbije i Rusije, (2013), Zbornik radova, Međunarodni naučni skup IPES-SR 2013, Ekonomski fakultet Priština, Kosovska Mitrovica;
4. Mitrović P., (2011), Demografska i razvojna ugroženost Srbije, Zbornik radova, Međunarodni naučni skup ES-NBE 2011: „Ekonomska nauka u funkciji kreiranja novog poslovnog ambijenta, Ekonomski fakultet Priština, Kosovska Mitrovica;
5. Mušikić, S., Maksimović, D., Đurić, D., (2011), Aktivne mere tržišta rada-šansa za zapošljavanje u Srbiji, Zbornik radova, Međunarodni naučni skup ES-NBE 2011, Ekonomska nauka u funkciji kreiranja novog poslovnog ambijenta, Ekonomski fakultet Priština, Kosovska Mitrovica;
6. Rikalović, G., (2002), Dugoročni ekonomski razvoj – Način stvaranja bogatstva, Ekonomski zbornik Srpske akademije nauka i umjetnosti, knjiga 12, Beograd;
7. Radovanov, B., Marcikić, A., (2011), Analiza trendova u visokom obrazovanju i tržištu rada, Zbornik radova, Međunarodni naučni skup ES-NBE 2011, Ekonomska nauka u funkciji kreiranja novog poslovnog ambijenta, Ekonomski fakultet Priština, Kosovska Mitrovica;
8. Stojadinović, D., (2003), Osnovi naučnog rada, Ekonomski fakultet Priština, Zubin Potok, Akademska štampa, Beograd, Zemun;
9. Statistički godišnjak Republike Srbije (2012), Beograd.

APPLICATION OF CONTEMPORARY METHODS FOR PROJECTS SELECTION AND PRIORITIZATION IN PORTFOLIO

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Abstract: The key problem of project portfolio management is the proper selection and prioritization of projects whose implementation is planned. Wrong-defined priorities in this process can cause huge problems in the company. As a useful tool in avoiding such situations, managers have at their disposal a number of modern methods of selection. This paper analyzes the three methods and the results obtained by their practical application. It is demonstrated their applicability and domination of some methods in relation to others based on comparative analysis of the obtained results. Due to the imperfections and limitations of most methods, the authors of this study suggest the use of two methods in the selection process and prioritization of projects in their portfolio, one primary and the other for the purpose of verification of the results.

Keywords: methods of selection, projects portfolio, selection, prioritization

PRIMENA SAVREMENIH METODA ZA SELEKCIJU I PRIORITIZACIJU PROJEKATA U PORTFOLIJU

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Abstrakt: Ključni problem upravljanja portfolijom projekata predstavlja adekvatna selekcija i prioritizacija projekata čija se realizacija planira. Loše određeni prioriteti u ovom procesu mogu izazvati ogromne probleme u poslovanju kompanije. Kao koristan alat u izbegavanju ovakvih situacija, menadžerima su na raspolaganju brojne savremene metode selekcije. U ovom radu su analizirane tri metode, kao i rezultati dobijeni njihovom praktičnom primenom. Komparativnom analizom dobijenih rezultata pokazana je njihova primenljivost, kao i to, da su neke od njih manje ili više dominantne u odnosu na druge. Usled nedostataka i ograničenja većine metoda, autori ovog rada sugerišu korišćenje dve metode u procesu selekcije i prioritizacije projekata u okviru portfolija, jedne primarne i druge u svrhu verifikacije dobijenih rezultata.

Ključne reči: metode selekcije, portfolio projekata, selekcija, prioritizacija

1. UVODNA RAZMATRANJA

Upravljanje pojedinačnim projektima u savremenom poslovnom okruženju nije dovoljno efikasan proces. U cilju postizanja dugoročnog uspeha i održavanja konkurentske

predonosti, neophodan je proaktivni menadžment celokupnog projektnog portfolia [1]. Portfolio projekt menadžment, odnosno selekcija i prioritizacija projektnog portfolia, predstavlja dimanamički proces odlučivanja u kome se lista aktuelnih projekata neprestano ažurira. Ovaj proces podrazumeva evaluaciju, selekciju i prioritizaciju novih projekata, pri čemu se aktuelni projekti mogu dodatno podržati alokacijom resursa, ili se od njih može odustati [2,3,4,5]. Otuda Brook i Pagnanelli portfolio projekt menadžment definišu kao dinamički proces inovacije u okviru organizacije [6].

Koncept upravljanja projektnim portfoliom nesumnjivo mora biti usklađen sa strateškim ciljevima organizacije. Svaka inovacija, odnosno projekat koji odstupa od generalne strategije organizacije utiče na disperziju ciljeva. Time ciljevi postaju teže dostižni, vrši se neadekvatna alokacija resursa, a efikasnost organizacije se umanjuje [7,8,9]. Otuda se ističe značaj pravilne ocene, selekcije i prioritizacije projekata u okviru portfolia. Kao ključni element u ovom procesu, Kaiser i njegovi saradnici ističu primenu adekvatnih kriterijuma i metoda za selekciju i prioritizaciju projekata u okviru portfolia [10]. Izbor adekvatnih metoda selekcije projekata u mnogome zavisi od vrste projekata, ali i od subjektivnog stava osobe koja o tome odlučuje. Nakon višedecenijskog razvoja metoda i algoritama, danas su analitičarima i donosiocima odluka na raspolaganju brojne metode za selekciju i prioritizaciju projekata u okviru portfolia [11].

Međutim, na ovom mestu je neophodno naglasiti da projekat nakon selekcije i donošenja odluke o njegovor realizaciji ne napušta portfolio. Naime, projekti čija je reliazacija u toku, zahtevaju periodičnu evaluaciju korišćenjem istih metoda kojima je obavljena njihova selekcija i prioritizacija. Na taj način portfolio projekt menadžment ostvaruje svoj cilj u potpunosti – usklađivanje ciljeva pojedinačnih projekata sa strateškim ciljevima organizacije [12].

2. METODE ZA SELEKCIJU I PRIORITIZACIJU PROJEKATA

Menadžerima su na raspolaganju brojne metode za analizu i selekciju projektnih alternativa. Međutim, postavlja se pitanje kako osigurati da je odabrani metod zaista podesan za odabir najboljeg rešenja. Sa druge strane, odgovor na pitanje šta predstavlja najbolje projektno rešenje je jednostavan. To je ono rešenje koje ima potencijal postizanja komercijalnog uspeha [13,14]. Souder predlaže pet značajnih elemenata koje treba zarmotriti prilikom vrednovanja i odabira metode za selekciju projekata:

- Realizam – Efikasan metod treba da podržava organizacione strateške ciljeve. Stoga i kriterijumi koji se koriste moraju biti u okviru takvih ograničenja i raspoloživih resursa. Konačno, osim performansi projekta, metod treba da uvažava i komercijalne, tehničke i ostale rizike.
- Sposobnost – Odabrani metod treba da bude dovoljno fleksibilan kako bi se odgovorilo na promene uslova pod kojima se projekti realizuju.
- Fleksibilnost – Modifikovanje metode mora biti krajnje jednostavno. To podrazumeva lako unošenje parametara podložnih promenama (promene deviznog kursa, cena, propisa i sl.).
- Jednostavnost korišćenja – Odabrani metod mora biti razumljiv i jednostavan za korišćenje, kako donosiocu odluke, tako i ostalim članovima tima.
- Troškovi – Primena metode pomoću koje se odabiraju najpovoljnija projektna rešenja (troškovi prikupljanja informacija, cena softvera i sl.) mora biti troškovno efektivna [15,16].

Verovatno najvažniju odliku koju odabrana metoda selekcije projekta mora da poseduje, Pinto naziva Compatabilnost. Ako je metoda suviše usko dizajnirana i usmerena, ona može biti beskorisna u pokušaju komparacije više projekata. Primenljiva metoda mora da podržava generalnu komparaciju projektnih alternativa [11].

U nastavku su predstavljene tri metode za selkciju i prioritetizaciju projekata, kao i njihova praktična primena: Metoda spiska (Checklist Model), Metoda zbira bodova (Scoring Model) i Metoda profila (Profile Model).

2.1. METODA SPISKA (CHECKLIST MODEL)

Primena metode spiska podrazumeva odabir adekvatnih kriterijuma na osnovu kojih se vrši selekcija posmatranih projekata. Uobičajeni kriterijumi selekcije projekata su:

- Troškovi razvoja
- Povraćaj investicije
- Rizik projekta
- Stabilnost projekta
- Uticaj okruženja
- Očekivani rezultati

Prilikom evaluacije pojedinacnog projekta, za svaki odabrani kriterijum se određuje preferencija (niska, srednja ili visoka). Ista procedura se ponavlja za sve projekte u portfoliu, te se na osnovu ukupne ocene dobijenih težina razmatranih kriterijuma vrši rangiranje i prioritetizacija projekata.

Prednost ove metode je u jednostavnosti njene primene, dok se kao njen nedostatak može istaći subjektivni uticaj analitičara i donosioca odluke prilikom dodeljivanja preferencija kriterijumima. Takođe, kao bitan nedostatak ove metode se može navesti to da se su svi primenjeni kriterijumi selekcije jednake značajnosti [11].

2.2. METODA ZBIRA BODOVA (SCORING MODEL)

Metoda zbira bodova otklanja nedostatak prethodno opisane metode time što kriterijumi selekcije poseduju različite nivoe znalajnosti. Na taj način se maksimizira uticaj određenih kriterijuma, dok se sa druge strane uticaj nekih kriterijuma minimizira. Time se potencira element realizma metode u procesu selekcije projekata, a koga opisuje Souder u svojim radovima [15,16]. Primena metode zbira bodova se sastoji u sledećem:

- Najpre se određuju težinski koeficijenti za svaki kriterijum u procesu selekcije.
- U narednom koraku se vrši ocena projektnih alternativa prema svakom kriterijumu, dodejivanjem ocena od 1 do 3 (1 – nizak značaj, 2 – srednji značaj, 3 – visok značaj). Prag osetljivosti raspodele ocena se može povećati dodeljivanjem ocena od 1 do 5, ili od 1 do 7, a u zavisnosti od vrste projekata, broja kriterijuma koji se primenjuju ili potreba analitičara i donosioca odluke.
- U trećem koraku se vrši množenje težinskog koeficijenta posmatranog kriterijuma i ocene projekta po tom kriterijumu, čime se dobijaju ponderisane ocene. Prilikom ocene projekta, postupak se ponavlja za svaki kriterijum selekcije. Dobijene ponderisane ocene se sabiraju, što predstavlja konačnu ocenu projekta (broj

bodova) na osnovu svih kriterijuma. Ista procedura se ponavlja za sve razmatrane projekte.

- U poslednjem koraku, projekti se rangiraju na osnovu zbira bodova. Najbolji je onaj projekat čiji zbir bodova ima najveću vrednost [11,17,18].

Metoda zbira bodova poseduje određene prednosti. Jednostavna je za korišćenje i lako je shvataju i usvajaju svi članovi projektnog tima, a njena najbitnija pozitivna odlika je mogućnost povezivanja strateških ciljeva kompanije sa različitim projektnim alternativama. Nedostatak ove metode se može ispoljiti u intuitivnom dodeljivanju ocena od 1 do 3. To može dovesti do relativizacije i nepreciznosti dobijenih rešenja [11].

2.3. METODA PROFILA (PROFILE MODEL)

Metoda profila menadžerima omogućava grafičku prezentaciju prcene odnosa rizik/povraćaj sredstava na skupu projektnih alternativa. Kao najprihvatljiviji projekat, odabira se onaj koji maksimizira povraćaj uloženi novčanih sredstava, a pritom ostaje u opsegu minimalnog rizika. Na grafiku čija je jedna osa nivo povraćaja uloženi sredstava, dok je druga nivo rizika, ucrtavaju se granice minimalno prihvatljivog nivoa povraćaja sredstava i maksimalno prihvatljivog rizika. Na grafik se nanose projektne alternative sa svojim vrednostima pomenutih veličina i odabira se najprihvatljivije rešenje. Analiza diskontovanih neto priliva i interne stope povraćaja predstavlja pouzdan način za određivanje minimalno prihvatljivog nivoa povraćaja sredstava, kao i vrednosti ovog parametra kod svih projektnih alternativa. Problem može predstavljati neuniformna kvantifikacija rizika na projektima. Takva situacija se može preduprediti primenom identičnih kriterijuma evaluacije i pristupa kvantifikacije rizika [19,20].

Jedna od prednosti metode profila je ta što ona nudi direktnu vizuelnu komparaciju odnosa rizik/povraćaj sredstava bilo koje od projektnih alternativa u odnosu na ostale. Stoga, metod profila, u odnosu na mnoge druge metode i modele selekcije, nudi veoma jasne kriterijume za eliminaciju neodgovarajućih alternativa (previsok rizik i/ili nizak nivo povraćaja uloženi sredstava). Sa druge strane, metoda profila ima i određene nedostatke; ograničava kriterijume odlučivanja na samo dva kriterijuma, kao i već pomenuti mogući problemi prilikom kvantifikacije rizika [11,21,22].

3. PORTFOLIO PROJEKATA ZA POVEĆANJE KONKURENTSKE PREDNOSTI KOMPANIJA

U cilju povećanja konkurentnosti kompanija Borsog i Zaječarskog okruga inicirana je ideja u kojoj bi se realizovao portfolio projekata za povećanje sinergije među kompanija koje ostvaruju, ili planiraju da ostvare neki vid međusobne saradnje. Kompanije učesnice projekata bi kao osnovnu tehniku upravljanja koristile listu usklađeni ciljeva. Na taj način bi se u okviru kompanija uspostavljao balans između opštih merila performansi sa jedne (finansijski rezultati prošlih odluka) i njihovih pokretača sa druge strane. Dalje, potrebno je pokrenuti performanse koje potencijalno stvaraju novu vrednost (ulaganjem u potrošače, dobavljače, zaposlene, tehnologiju i dr.). Kao najracionalnije rešenje pokretanja performansi poslovanja u aktuelnoj situaciji, nameće se ulaganje u zaposlene. U tom pravcu je formiran portfolio projekata iz oblasti unapređenja ljudskih resursa, čijom realizacijom bi se ostvarili primarni ciljevi inicirane ideje. Set projekata ovakvog tipa je prihvatljiviji u realnosti u smislu investicionih ulaganja, za razliku od ulaganja u nove

tehnologije i sl. Kao rezultat pripreme pomenute inicijative formulisana su četiri projekta koje je potrebno selektovati u cilju njihove prioritizacije:

- Projekat uvođenja edukacije zaposlenih (Projekat P1)
- Projekat uvođenja seminara za menadžment preduzeća (Projekat P2)
- Projekat nagrađivanja najboljih radnika (Projekat P3)
- Projekat uvođenja virtuelnog odeljenja za istraživanje i razvoj (Projekat P4).
-

Projktne alternative se porede na osnovu njihovih karakteristika, odnosno kriterijuma, koji su u razmatranom slučaju dati u okviru naredne liste:

- ukupni troškovi (EUR)
- ukupno trajanje (godina)
- usklađivanje sa strategijom menadžmenta
- broj učesnika (radnika)
- tehnička izvodljivost i razvoj
- uvažavanje partnera (kompanije učesnice na projektima).

U nastavku su opisani projekti u okviru portfolia kojim se postiže povećanje sinergije među kompanijama u cilju poboljšanja njihovih konkurentskih prednosti, a putem zajeničkog ulaganja u ljudske resurse.

3.1. PROJEKAT UVOĐENJA EDUKACIJE ZAPOSLENIH (P1)

Projekat uvođenja i realizacije edukacije zaposlenih u oblasti tehnologija, opreme, tehničkih potencijala u okruženju, kao i o samom procesu rada i poslovanju, predviđen je da traje tri godine. Edukacija zaposlenih bi se odvijala u kompanijama učesnicama projekta, a njena organizacija i realizacija bi bila poverena menadžerima i ostalim stručnim licima tih organizacija, koja osim potrebnih kompetencija pokazuju i određeni stepen interesovanja za ovakve aktivnosti, kao i želju za napredovanjem u karijeri.

Realizacija projekta edukacije zaposlenih bi se odvijala dva puta tokom godine (trodnevni kursevi), a broj angažovanih radnika bi bio po 20 iz svake organizacije. Troškovi realizacije ovog projekta bi iznosili 22.000,00 EUR na godišnjem nivou, odnosno 66.000,00 EUR za celokupni projekat. Ovi troškovi obuhvataju troškove pripreme projekta, kao i troškove njegove realizacije (smeštaj, dnevnice i ostale troškove lica zaduženih za edukaciju, kao i troškove svih potrebnih materijala, brošura i sl.).

3.2. PROJEKAT UVOĐENJA SEMINARA ZA MENADŽMENT PREDUZEĆA (P2)

Projekat uvođenja seminara za menadžment kompanija predviđa realizaciju jednonedeljnih seminara, dva puta godišnje, dok bi vreme realizacije celokupnog projekta iznosilo tri godine. Seminari su osmišljeni tako da razrađuju strategije menadžmenta i da se tokom njihovog odvijanja ostvari određeni oblik integracije strategija kompanija učesnica ovog projekta. Seminari su prvenstveno namenjeni menadžerima kompanija, ali i određenom broju mladih stručnih kadrova koji bi u perspektivi obavljali rukovodeće funkcije. Kao predavači bi bili angažovan top menadžeri organizacija i njihovi zamenici, savetnici i konsultanti. Seminari bi podrazumevali izlaganje strategija menadžmenta, obrađivanje teme integracije prisutnih kompanija, kao i razvoja (usvajanja) novih tehnologija. Takođe, obavljali bi se formalni i neformalni dogovori oko konkretnih poslovnih poduhvata i sl.

Svaki seminar bi obuhvatao po 20 učesnika (polaznici i predavači), odnosno 120 učesnika na celokupnom projektu. Troškovi realizacije celokupnog projekta bi iznosili 42.000,00 EUR, odnosno 14.000,00 EUR na godišnjem nivou.

3.3. PROJEKAT NAGRAĐIVANJA NAJBOLJIH RADNIKA (P3)

Projekat nagrađivanja najboljih radnika planira vrednovanje i nagrađivanje radnika u okviru svih kompanija učesnica projekta. Vrednovale bi se sledeće kategorije: radnici sa najvećim brojem časova rada ostvarenim u prethodnoj godini; radnici koji su bili inovativni, tj. čija se inovacija smatra prihvatljivom; i konačno, vrednosvala bi se odeljenja prodaje za okupljanje najvećeg broja novih kupaca. Kriterijum broja novih kupaca je odabran kao uniformna veličina svih kompanija, posto su kompanije iz različitih oblasti proizvodnje, te novčani iznosi ostvareni od prodaje nisu komparativna veličina.

Cilj projekta nije favorizovanje pojedinaca, već podsticanje kreativnosti i zalaganja na polu kod svih zaposlenih. Aktivnosti na projektu bi trajale 3 dana, jednom godišnje, kao jedna pozitivna i podsticajna manifestacija, a bilo bi angažovano po 20 zaposlenih iz svake organizacije. Troškovi realizacije projekta bi iznosili 30.000,00 EUR za predviđeno vreme realizacije od tri godina, odnosno 10.000,00 EUR na godišnjem nivou.

3.4. PROJEKAT UVOĐENJA VIRTUELNOG ODELJENJA ZA ISTRAŽIVANJE I RAZVOJ (P4)

Projekat uvođenja virtuelnog odeljenja za istraživanje i razvoj podrazumeva jedno zajedničko R&D odeljenje za sve kompanije učesnice na projektu. Odeljenje bi funkcionisalo virtuelno, kompanije bi angažovale svoje zaposlene u sopstvenim objektima, a komunikacija bi se ostvarivala putem savremenih informacio-komunikacionim sredstvima.

Aktivnosti u okviru virtuelnog R&D odeljenja bi se obavljale u trajanju od osam meseci u toku godine, dok je trajanje projekta predviđeno u vremenskom periodu od 3 godine. U svakoj organizaciji bi bilo angažovano po 5 osoba iz sektora. Troškovi projekta bi iznosili 52.000,00 EUR, a za period realizacije projekta u trajanju od 3 godine. Istraživački deo ovog projekta bi se odnosio na unapređenja na polju zdravlja i bezbednosti na radu. Inovacije bi se odnosile kako na poboljšanje tehničkih sredstava zaštite na radu, tako i na polju organizacije bezbednosti na radu.

4. REZULTATI SELEKCIJE I PRORITETIZACIJE PROJEKATA U PORTFOLIJU

U postupku evaluacije, a potom i selekcije i proritetizacije projekata u portfoliju, najpre je primenjena metoda spiska (Checklist Model). Na osnovu raspoloživih podataka o projektima, korišćeni su sledeći kriterijumi za selekciju: Vrednost investicije, Rizik projekta, Stabilnost projekta, Uticaj okruženja i Očekivani rezultati. U tabeli 1 su prikazani rezultati vrednovanja sva četiri projekta (P1, P2, P3 i P4) prema odabranim kriterijumima.

Tabela 1. Rezultati evaluacije projekata primenom metode spiska (Checklist Model)

Projekat	Kriterijum	Ocena kriterijuma		
		Niska (1)	Srednja (2)	Visoka (3)
Projekat (P1)	Vrednost investicije	✓		
	Rizik projekta		✓	
	Stabilnost projekta		✓	
	Uticaj okruženja			✓
	Očekivani rezultati		✓	
Projekat (P2)	Vrednost investicije		✓	
	Rizik projekta		✓	
	Stabilnost projekta		✓	
	Uticaj okruženja	✓		
	Očekivani rezultati		✓	
Projekat (P3)	Vrednost investicije			✓
	Rizik projekta			✓
	Stabilnost projekta			✓
	Uticaj okruženja		✓	
	Očekivani rezultati			✓
Projekat (P4)	Vrednost investicije		✓	
	Rizik projekta		✓	
	Stabilnost projekta		✓	
	Uticaj okruženja	✓		
	Očekivani rezultati		✓	

Na osnovu podataka iz tebele 1, izvršena je selekcija i prioritizacija projekata u portfoliju, a rezultati su prikazani u tabeli 2.

Tabela 2. Rezultati selekcije i prioritizacije projekata primenom metode spiska

Projekat	Zbir ocene kriterijuma	Rang
Projekat (P3)	14	1
Projekat (P1)	10	2
Projekat (P2)	9	3
Projekat (P4)	9	4

Na osnovu rezultata izvršene selekcije projekata metodom spiska (Checklist Model) (Tabela 2), priortet se daje projektu Nagrađivanja najboljih radnika (Projekat P3) kao najpovoljnijem rešenju. Projekat (P2) i Projekat (4) imaju jednake zbirove ocena, međutim, priortet se daje Projektu P(2) zbog nešto nižih troškova ulaganja.

Kao drugi kriterijum selekcije i prioritizacije projekata u portfoliju primenjena je metoda zbira bodova (Scoring Model). Najpre su određeni težinski koeficijenti za svaki kriterijum selekcije (Tabela 3).

Tabela 3. Težinski koeficijenti kriterijuma selekcije

Kriterijum	Težinski koeficijent
Uticaj okruženja	1
Vrednost investicije	2
Rizik projekta	3
Stabilnost projekta	4
Očekivani rezultati	5

U tabeli 4. je prikazan proces evaluacije projekata primenom metode zbira bodova (Scoring Model), gde se kao rezultat dobijaju ukupne ponderisane ocene projekata.

Tabela 4. Rezultati evaluacije projekata primenom metode zbira bodova (Scoring Model)

Projekat	Kriterijum	(A) Težinski koeficijent	(B) Ocena	(A) × (B) Ponderisane ocene
Projekat (P1)	Uticaj okruženja	1	4	4
	Vrednost investicije	2	2	4
	Rizik projekta	3	4	12
	Stabilnost projekta	4	4	16
	Očekivani rezultati	5	4	20
	Ukupna ocena			
Projekat (P2)	Uticaj okruženja	1	3	3
	Vrednost investicije	2	4	8
	Rizik projekta	3	4	12
	Stabilnost projekta	4	4	16
	Očekivani rezultati	5	4	20
	Ukupna ocena			
Projekat (P3)	Uticaj okruženja	1	4	4
	Vrednost investicije	2	5	10
	Rizik projekta	3	4	12
	Stabilnost projekta	4	4	16
	Očekivani rezultati	5	5	25
	Ukupna ocena			
Projekat (P4)	Uticaj okruženja	1	2	2
	Vrednost investicije	2	2	4
	Rizik projekta	3	3	9
	Stabilnost projekta	4	4	16
	Očekivani rezultati	5	4	20
	Ukupna ocena			

Na osnovu vrednosti ponderisanih ocena sva četiri projekta u okviru portfolia, izvršena je njihova selekcija i prioritetizacija (Tabela 5).

Tabela 5. Rezultati selekcije i prioritetizacije projekata primenom metode zbira bodova

Projekat	Ponderisane ocene	Rang
Projekat (P3)	67	1
Projekat (P2)	59	2
Projekat (P1)	56	3
Projekat (P4)	51	4

Na osnovu rezultata izvršene selekcije projekata primenom metode zbira bodova (Scoring Model) (Tabela 5), priortet se daje projektu Nagrađivanja najboljih radnika (Projekat P3), kao najpovoljnijem rešenju. Najpovoljnije rešenje je identično rešenju koje je dobijeno primenom prethodne metode (metoda spiska).

Metoda profila (Profile Model) uobičajeno stavlja u razmatranje odnos rizika na projektu i povraćaja sredstava. Zbog specifičnosti projekata u okviru portfolia za povećanje konkurentske prednosti kompanija, razmatran je odnos rizika projekta i očekivanih rezultata projekta. Naime, sva četiri evaluirana projekta su takva da oni neće povratiti uložena sredstva direktno tokom svog vremena realizacije, već će indirektno inicirati povećanje priliva sredstava kompaniji (nova tržišta, povećani broj kupaca i sl.), a što je zapravo i cilj svih projekata u okviru razmatranog portfolia. Iz tog razloga je izvršena modifikacija

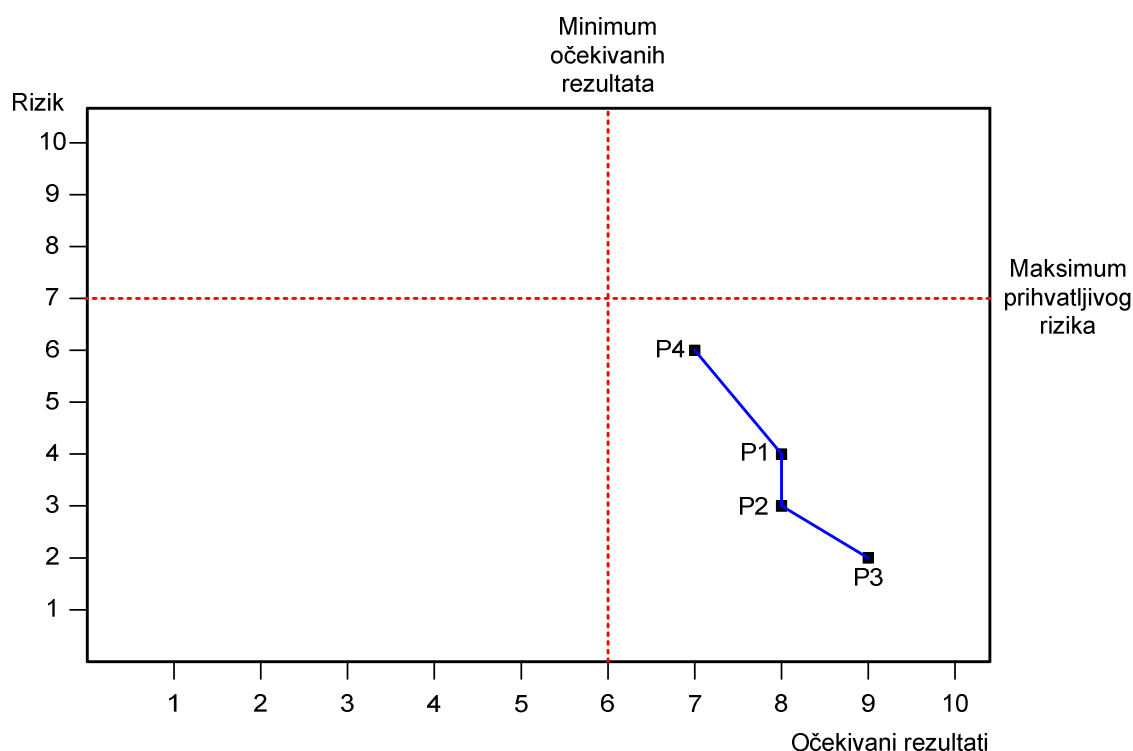
metode profila, tako da vrednosti na x-osi predstavljaju nivo očekivanih rezultata na projektu, dok je y-osa ostala nepromenjena u odnosu na standardni model (rizik projekta).

Nivo rizika je vrednovan na skali od 1 do 10 (1 predstavlja najmanji rizik, dok je 10 ocena najvišeg rizika), a takođe su i očekivani rezultati na projektu vrednovani po istom principu (1 označava najniži nivo očekivanih rezultata, kod 10 predstavlja ocenu najviših očekivanih rezultata). Za nivo maksimalno prihvatljivog rizika je usojena vrednost 7, dok je za nivo minimalno prihvatljivih rezultata usvojena vrednost 6. Nakon toga su procenjene vrednosti rizika i očekivanih rezultata za sva četiri projekta (P1, P2, P3 i P4) (Tabela 6).

Tabela 6. Procenjene vrednosti rizika i očekivanih rezultata projekata

	Projekat			
	Projekat (P1)	Projekat (P2)	Projekat (P3)	Projekat (P4)
Rizik projekta	4	3	2	6
Očekivani rezultati	8	8	9	7

U narednom koraku je kreiran dijagram rizik projekta/očekivani rezultati i na njega su postavljene granice prihvatljivosti kriterijuma selekcije. Konačno, na dijagram su uneti rezultati procene razmatranih kriterijuma za sve projekte u okviru portfolia (Slika 1). Dijagram prikazan na slici 1 se u literaturi naziva i Dijagram prihvatljivosti portfolia [11].



Slika 1. Dijagram prihvatljivosti portfolia

Sa slike 1 se može uočiti da su sve četiri projektne alternative u oblasti prihvatljivosti portfolia. Ovu oblast predstavlja kvadrant desno od granice minimalno očekivanih rezultata projekta (više, odnosno prihvatljive vrednosti ovog kriterijuma) i ispod granice maksimalno prihvatljivog rizika (niže, odnosno prihvatljive vrednosti rizika). Na dijagramu portfolia, profili projektne alternativa se rangiraju na sledeći način: što je alternativa udaljenija od tačke preseka granica prihvatljivosti kriterijuma, to je ona kvalitetnija (prihvatljivija) i obratno. Dodatno, metoda profila putem grafičke prezentacije

projektnih alternativa nudi komparaciju njihove snage u odnosu na kriterijume selekcije. Konačni rezultati selekcije i prioritizacije projekata metom profila su prikazani u tabeli 7.

Tabela 7. Rezultati selekcije i prioritizacije projekata primenom metode profila

Projekat	Rang
Projekat (P3)	1
Projekat (P2)	2
Projekat (P1)	3
Projekat (P4)	4

Na osnovu rezultata obavljene selekcije projekata primenom metode profila (Profile Model) (Tabela 7), priortet se daje projektu Nagrađivanja najboljih radnika (Projekat P3), kao najpovoljnijem rešenju.

5. ZAKLJUČAK

Na osnovu dobijenih rezultata predstavljenih u ovom radu, sve tri primenjene metode za selekciju i prioritizaciju projekata (Metoda spiska, Metoda zbira bodova i Metoda profila) se mogu smatrati praktično primenljivim i pored njihovih slabosti i ograničenja. Uz neznatna odstupanja pri konačnom rangiranju projekata na osnovu ove tri metode, evidentno je da se u sva tri slučaja dobija identično (optimalno) rešenje. Kada je reč o kvlitetu primenjivanih metoda, odnosno rezultata dobijenih na osnovu njih, evidentna je prednost metode zbira bodova i metode profila u odnosu na metodu spiska. Metoda spiska svoju metodološku limitiranost direktno reflektuje na ishod rezultata selekcije projekata. Stoga, autori ovog rada ocenjuju druge dve metode kao dominantnije i praktično primenljivije. Konačno, bilo koja savremena metoda selekcije da se primenjuje, korisno rešenje može predstavljati provera dobijenih rezultata selekcije i prioritizacije projekata pomoću neke druge metode. Na taj način bi se dobijeni rezultati definitivno verifikovali, ili bi se u suprotnom pokazalo da prvobitno primenjena metoda nije najadekvatniji alat selekcije projekata na konkretnom portfoliju.

REFERENCE

1. Heising, W. (2012). The integration of ideation and project portfolio management – A key factor for sustainable success. *International Journal of Project Management*, 30, 582–595.
2. Cooper, R.G., Edgett, S.J., & Kleinschmidt, E.J. (2001). Portfolio Management in New Product Development: Results of an Industry Practices Study. *R & D Management*, 31 (4), 361–381.
3. Shakhsi-Niaei, M., Torabi, S.A., & Iranmanesh, S.H. (2011). A comprehensive framework for project selection problem under uncertainty and real-world constraints. *Computers & Industrial Engineering*, 61, 226–237.
4. Nowak, M. (2013). Project Portfolio Selection Using Interactive Approach. *Procedia Engineering* 57, 814 – 822.

5. Young, M., & Conboy, K. (2013). Contemporary project portfolio management: Reflections on the development of an Australian Competency Standard for Project Portfolio Management. *International Journal of Project Management*, 31, 1089–1100.
6. Brook, J.W., & Pagnanelli, F. (2014). Integrating sustainability into innovation project portfolio management – A strategic perspective. *Journal of Engineering and Technology Management*, <http://dx.doi.org/10.1016/j.jengtecman.2013.11.004>
7. Grundy, T. (2000). Strategic project management and strategic behaviour. *International Journal of Project Management*, 18 (2), 93–103.
8. Srivannaboon, S. (2006). Linking project management with business strategy. *Project Management Journal*, 37 (5), 88–96.
9. Killen, C.P., Jugdev, K., Drouin, N., & Petit, Y. (2012). Advancing project and portfolio management research: Applying strategic management theories. *International Journal of Project Management*, 30, 525–538.
10. Kaiser, M.G., El Arbi, F., & Ahlemann, F. (2014). Successful project portfolio management beyond project selection techniques: Understanding the role of structural alignment. *International Journal of Project Management*, <http://dx.doi.org/10.1016/j.ijproman.2014.03.002>
11. Pinto, J.K. (2012). *Project Management: Achieving Competitive Advantage*, Third Edition, Prentice Hall. New Jersey.
12. Jeffery, M., & Leliveld, I. (2004). Best practices in IT portfolio management. *MIT Sloan Management Review*, 45 (3), 41–49.
13. Wang, J., Xu, Z., & Li, Z. (2009). Research on project selection system of pre-evaluation of engineering design project bidding. *International Journal of Project Management*, 27, 584–599.
14. Dutra, C.C., Duarte Ribeiro, J.L., & de Carvalho, M.M. (2014). An economic–probabilistic model for project selection and prioritization. *International Journal of Project Management*, <http://dx.doi.org/10.1016/j.ijproman.2013.12.004>
15. Souder, W.E. (1983). *Project Selection and Economic Appraisal*. New York: Van Nostrand Reinhold.
16. Souder, W.E., & Sherman, J.D. (1994). *Managing New Technology Development*. New York: McGraw-Hill.
17. Coldrick, S., Longhurst, P., Ivey, P., & Hannis, J. (2005). An R&D options selection model for investment decisions. *Technovation*, 25, 185–193.
18. Artto, K.A. (2001). Management of Project-oriented Organization – Conceptual Analysis. In: Artto, K.A., Martinsuo, M., & Aalto, T. (Eds.), *Project Portfolio Management : Strategic Business Management through Projects*. Project Management Association Finland, Helsinki, Finland.
19. Jafarizadeh, B., & Khorshid-Doust, R.R. (2008). A method of project selection based on capital asset pricing theories in a framework of mean–semideviation behavior. *International Journal of Project Management*, 26, 612–619.
20. Zhang, Z., & Fan, Z.-P. (2014). An optimization method for selecting project risk response strategies. *International Journal of Project Management*, 32, 412–422.

21. Reilly, F.K. (1985). *Investment Analysis and Portfolio Management*, 2nd ed. Chicago, IL: The Dryden Press.
22. Evans, D.A., & Souder, W.E. (1998). Methods for selecting and evaluating projects, in Pinto, J.K. (Ed.), *The Project Management Institute Project Management Handbook*. San Francisco, CA: Jossey-Bass.

RATING AND EMPIRICAL MODELS

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Abstract: There is an ever present dilemma in the banks about how to achieve the necessary liquidity and maximal cost efficiency with minimal risk and uncertainty. The banks are business companies which are profit oriented. The loan activities are the main source of profit in commercial banks. The stated demands lead to inevitable conflict between liquidity and profitability. That conflict is manifested as the central problem for the bank's management. The bank's management does its best to eliminate it by optimization of relation between profitability and liquidity. The scale of this relation is the preference of the security degree i.e. the readiness of the management to take the risk (of either loss or not servicing the liabilities). This dilemma may be found at different levels in small and large banks due to differences in ownership structure which on its part affects different operational aims. Namely, small banks usually have one main shareholder whose managing rights are the greatest whereas the large banks are corporations with huge number of shareholders no one of whom holds the right to the upper position. Therefore, the large bank would try to bring to the greatest value the issued shares, which in itself is the main goal of both the management and the shareholders. On the other hand, the operational aim of the small banks directly reflects the aim of the small group, which is to avoid the risk as much as possible and to increase the profit to the maximum.

Regardless of the fact whether the model of neutral business policy or the policy with dislike to the risk is adopted, the management of the bank exploits the risk/income analysis in all decisions on implementation of the bank's loan potential i.e. for alternative investments (loans, securities, liquidity reserves). The implementation of risk/income analysis is to identify the bank's placements which could bring the highest income with certain level of acceptable risk or to minimize the risk with certain level of income. The basic risk consists of the impossibility of recovering the placement or non realization of the expected income. If the bank opts for average incomes by placing the assets into long-term state securities, it shall be done with high degree of insecurity. If, on the other hand, the banks opt for maximal rate of the income, it shall accept high risk of possible non realization.

For a bank it is optimal to have a diversified placement structure which enables the overtaking of a large scale of alternative investment risk which provides maintaining of the banks portfolio security. A significant rise in tendency towards non-loan placement has been noted although the loan placement still occupies the greatest part of the bank's assets balance. The stated facts have affected the model analyses in order to reduce the loan risk and on the basis of that the statistical models have been emphasized in this study.

Keywords: model, loan risk, analysis, risk.

REJTING I EMPIRIJSKI MODELI

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Apstrakt: Stalno je u bankama prisutna dilema kako postići potrebnu poslovnu likvidnost i maksimalnu rentabilnost, uz minimiziranje rizika i neizvesnosti. Banke su poslovne firme, koje su profitno orijentisane. Kreditna aktivnost je glavni izvor profita u komercijalnim bankama. Navedeni zahtevi dovode do neminovnog konflikta između likvidnosti i profitabilnosti. Taj konflikt se manifestuje kao centralni problem u upravljanju bankom. Uprava banke ga pokušava rešiti optimiziranjem odnosa između profitabilnosti i likvidnosti. Mera ovog odnosa je preferiranje stepena sigurnosti tj. spremnost uprave i menadžmenta banke da prihvati rizik (gubitka ili neizvršavanja obaveza). Ova dilema je različito prisutna na nivou malih i velikih banaka, zbog razlika u vlasništvu, što utiče na različite operativne ciljeve. Naime, male banke najčešće imaju jednog glavnog akcionara, čiji su i upravljačka prava najveća, dok su velike banke korporacije sa velikim brojem akcionara od kojih obično nijedan nema naročito jaku poziciju. Iz tih razloga, velika banka pokušava da maksimalno uveća vrednost emitovanih akcija, što je zajednički cilj i akcionara i uprave. Međutim, operativni cilj malih banaka direktno reflektuje ciljeve male grupe, a to je da se što je moguće više izbegne rizik, a da se profit maksimalno uveća.

Bez obzira na to da li će se opredeliti za model poslovne politike koji je neutralan ili ima averziju prema riziku, uprava i menadžment banke koriste rizik/prinos analiza kod svih odluka o upotrebi kreditnog potencijala banke, tj. za alternativna ulaganja (kredit, hartije od vrednosti, rezerve likvidnosti). Korišćenje rizik/prinos analize treba da identifikuju bankarske plasmane koji mogu doneti maksimalan prinos uz određeni nivo prihvatljivog rizika, ili minimizirati rizik uz određeni nivo prinosa. Osnovni rizik je u nemogućnosti povratka plasmana, ili neostvarenja očekivanog prinosa. Ukoliko se banka opredeli za prosečne prinose, plasirajući sredstva u dugoročne državne hartije od vrednosti, to će biti ostvareno uz veliki stepen izvesnosti. Ukoliko se pak, banka opredeli za maksimalne stope prinosa, ona će prihvatiti visok stepen rizika da se to ne ostvari.

Za banku optimalno je da ima diverifikovanu strukturu plasmana, što omogućava preuzimanje čitave skale rizika alternativnih ulaganja, a da pri tome održi portfolio sigurnosti banke. Uočena je tendencija znatnog porasta nekreditnih plasmana, mada još uvek kreditni plasmani imaju najznačajniji deo u aktivni bilansa banaka. Navedene činjenice uticale su na analizu modela radi smanjenja kreditnog rizika i na bazi toga u radu posvećenja je pažnja statističkim modelima.

Ključne reči: model, kreditni rizik, analiza, rizik.

1. INTERNI REJTING KOD EVROPSKIH BANAKA

Procenjena verovatnoća difolta često uključuje određeni nivo nesigurnosti. Stoga je izuzetno važno verifikovati ili izmeriti kvalitet modela i njegovu adekvatnost parametara. U statističkim modelima kvantitativna validacija predstavlja značajan deo razvoja modela.

Procena modela u skladu sa ovim dokumentom i dogovorenim obimom projekta sadrži:

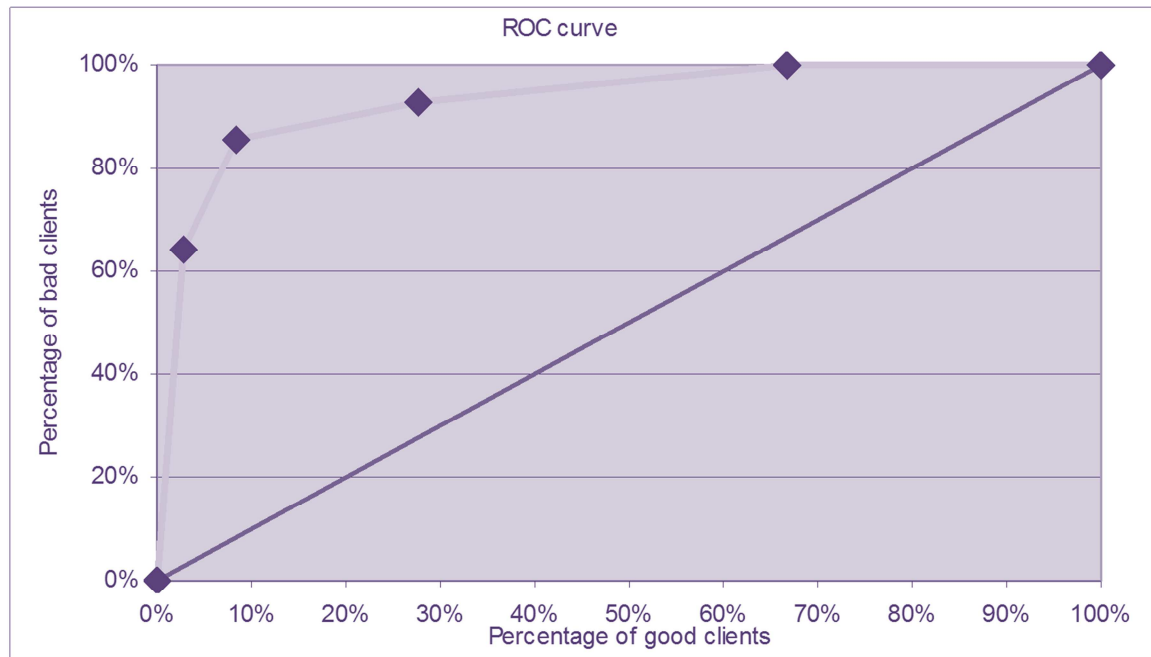
- **test kalibracije,**
- **određivanje moći predviđanja.**

Kalibracija i određivanje moći predviđanja uglavnom se sastoje od upoređivanja predviđenih i posmatranih stopa difolta. Kao posledica toga, moć diskriminacije i kvalitet kalibracije modela mogu da se proveru ex post korišćenjem podataka o slučajevima sa difoltom i bez njega. Kako bi se generisali podaci za kvantitativnu validaciju, potrebno je prvo odrediti dva presečna datuma sa intervalom adekvatnog horizonta (npr. 6 meseci). Na osnovu prosečnih datuma kreira se uzorak slučajeva za koje se zna inicijalni rejting kao i status (dobar/loš) posle dodele rejtinga (sa adekvatnim horizontom, npr. 6 meseci). Presečni datumi određuju period primene rejtinga koji će biti korišćen u validaciji. Pojam «moć diskriminacije» se odnosi na fundamentalnu sposobnost modela rejtinga da napravi razliku između dobrih i loših slučajeva. Pojam se često koristi kao sinonim za tačnost klasifikacije. U ovom kontekstu, kategorije dobrog i lošeg se odnose na to da li se događa difolt kredita (loše) ili ne (dobro) preko horizonta predviđanja pošto je rejting sistem klasifikovao slučaj. Banka koristi AUC (area under curve – područje ispod krive), sa osnovicom za kalkulaciju na ROC krivi, kao indikator moći diskriminacije.

1.1. ROC KRIVA & POKAZATELJ TAČNOSTI

ROC kriva (*ROC – Receiver Operating Characteristic*) se pravi iscrtavanjem kumulativnih frekvencija loših slučajeva kao tačaka na y osi i kumulativnih frekvencija dobrih slučajeva na x osi. Svaka sekcija ROC krive odgovara klasi rejtinga, tako da sa leve strane počinju najgore klase. Idealna rejting procedura bi trebalo da klasifikuje sve stvarne difolte u najgoroj rejting klasi. U skladu sa tim, ROC kriva bi po idealnoj proceduri trebalo da ide vertikalno od donje leve tačke (0%, 0%) nagore do tačke (0%, 100%) i odatle na desno do tačke (100%, 100%). ROC kriva za rejting procedura koja ne pravi razliku između dobrih i loših slučajeva ide dijagonalno (nasumični model).

AUC (area under curve) je grafička mera moći diskriminacije rejting procedure izvedena iz ROC krive i odnosi se na polje ispod ROC krive. Idealni rejting modeli, $AUC = 1$ (100%), za modele koji ne prave razliku između dobrih i loših slučajeva $AUC = 1/2$. Vrednosti gde je $AUC < 1/2$ su moguće, ali daju indicaciju da rejting sistem u pitanju klasifikuje slučajeve bar delimično u pogrešnom redosledu. Što je viša vrednost AUC, to je veća moć diskriminacije rejting modela. Pored geometrijske interpretacije kao polja ispod ROC krive, AUC može da se objasni i kao verovatnoća da će loš slučaj nasumično odabran iz datog uzorka zaista imati niži rejting od nasumično odabranog dobrog slučaja.



Grafikon 1. Oblik ROC krive za primer podataka

Izvor: Deloitte- procedure za analizu rizika

AR (*Accuracy ratio* – pokazatelj tačnosti), poznat i pod nazivom Gini koeficijent, predstavlja alternativnu diskriminatornu meru i varira od 0 do 1. Pokazatelj tačnosti se računa na sledeći način:

$$AR=2 \times AUC-1$$

Gini koeficijent je numerički pokazatelj neravnomernosti raspodele dohotka u društvu.

1.2. TEST KALIBRACIJE

Potcenjena vrednost *PD* može da vodi potcenjenoj vrednosti rezervacija. Stoga se koristi statistički test da bi verifikovao nultu hipotezu “Projektovana verovatnoća difolta u rejting klasi je tačna ili precenjena” nasuprot alternativnoj hipotezi “Projektovana verovatnoća difolta je potcenjena” korišćenjem podataka na raspolaganju za testiranje. Odbacivanje nulte hipoteze zaključuje da je određeni nivo *PD* potcenjen.

U ovom delu opisana su dva alternativna testa (binomialni test i test normalne distribucije). Test koji koristi normalnu distribuciju je brži od binomialnog testa i lakši za izvođenje, ali u slučaju male verovatnoće difolta i malog broja dužnika u određenim rejting kategorijama možda neće dati korisne rezultate. Tabela dole pokazuje najmanji broj dužnika u rejting kategoriji zavisno od različitih verovatnoća difolta koje treba koristiti u testu na osnovu standardne normalne distribucije.

Tabela 2. Teoretski najmanji broj slučajeva za “normalni” test

Stopa difolta koja se testira	Najmanji broj slučajeva za “normalni” test
0.10%	9010
0.25%	3610
0.50%	1810
1%	910
2%	460
3%	310
5%	190
10%	101
20%	57
50%	37

Izvor: Smernice za upravljanje kreditnim rizikom: rejting modeli i validacija, (2010), Narodna banka Austrije, str.122.

1.3.BINOMIALNI TEST

Binomialni test se koristi za validaciju PD procena za određenu rejting kategoriju. Njegova konstrukcija sledi pretpostavku da su događaji difolta u datoj rejting kategoriji nezavisni. Test može da bude koristan kada su male verovatnoće difolta i kada je mali broj dužnika u određenoj rejting kategoriji. Za kategorije sa većim brojem dužnika koristi se test normalne distribucije.

Binomialni test se obavlja na sledeći način:

Nulta hipoteza H_0 : procenjena PD rejting kategorije je tačna ili precenjena

Alternativna hipoteza H_1 : procenjena PD rejting kategorije je potcenjena

Ako je nivo poverenja q , nulta hipoteza se odbija, ako je zadovoljena sledeća nejednakost:

$$\sum_{i=0}^k \binom{n}{i} PD^i (1 - PD)^{n-i} > q$$

Gde je n broj dužnika u rejting kategoriji, k – broj dužnika u difoltu, PD – procenjena verovatnoća difolta i q – nivo poverenja.

1.4.TEST NORMALNE DISTRIBUCIJE

Test zasnovan na standardnoj normalnoj distribuciji se koristi za validaciju procene PD za određenu rejting kategoriju. Njegova konstrukcija sledi pretpostavku da su događaji difolta u rejting kategoriji nezavisni. Test može da verifikuje da li je procenjena PD potcenjena, precenjena ili tačno procenjena. Simboli u sledećoj formuli: N_k je broj dužnika u rejting kategoriji, Φ^{-1} označava inverznu funkciju standardne normalne distribucije, PD_k označava PD procenu i ODR je posmatrana stopa difolta.

Jednostrani test se radi na sledeći način:

Ako je

$$(ODR_k - PD_k) > \Phi^{-1}(q) \cdot \sqrt{\frac{PD_k(1 - PD_k)}{N_k}}$$

Onda je stopa difolta PD_k u rejting kategoriji k značajno potcenjena na nivou poverenja q .

2. EMPIRIJSKI MODELI (Z-SCORE MODEL I ZETA MODEL)

U najnovije vreme banke sve više koriste specijalne pristupe utvrđivanja finansijskih teškoća zajmotražioca i razmera kreditnog rizika, kako bi mogle da donose kreditne odluke i da stvaraju uslove za ograničenje i/ili apsorbovanja rizika. Osnovni naglasak novih pristupa jeste analiza i predviđanje realnosti finansijskih potresa preduzeća na bazi korišćenja preciznih indikatora. Novi pristupi dopunjuju i inoviraju tradiciolne metode.

Najstariji i najpopularniji empirijski model naziva se Z-score model.²⁰ Ishodište svih empirijskih modela je Z-score model koji je konstruisao Edvard Altmant. Altmant je Z-score model predstavio 1968. godine. Model je razvijen na osnovu skupa 66 preduzeća, od kojih je polovina bankrotirala, a druga polovina nije, koja su praćena u periodu od 1946. godine do 1965.godine.

Model je predstavljao logičnu nadgradnju tadašnjeg razvoja stanja razvoja kreditne analize. Finansijski indikatori kojima se meri: profitabilnost, likvidnost i solvetnost preduzeća su se smatrali nezamenjivim i neprocenjivim pokazateljima performansi preduzeća. Tek se u skorije vreme, sa razvojem novih modela kreditnog rizika, dovodi u pitanje potencijal upotrebe finansijskih indikatora u oceni boniteta predviđanja bankrotstva preduzeća.

Sušтина metode jeste premošćavanje jaza između tradicionalne kreditne analize i egzaktnih parametara dobijenih na bazi statističkih multivarijacionih metoda analize boniteta zajmotražioca. Originalna postavka modela Z je data na primeru američkih preduzeća prosečne veličine na bazi sledeće jednačine:²¹

$$Z = 1,2X_1 + 1,4X_2 + 3,3X_3 + 0,6X_4 + 1,0X_5$$

gde je:

X_1 - tekuća aktiva/ukupna aktiva

X_2 - neto dobit/ukupna aktiva

X_3 - bruto dobit/ukupna aktiva

X_4 - tržišna vrednost kapitala/knjigovodstvena vrednost ukupnih obaveza

X_5 - realizacija/ukupna aktiva

Nezavisna varijabla X_1 reprezentuje racio neto sredstava i ukupnih obaveza. Neto obrtna imovina se definiše kao razlika obrtne imovine i tekućih obaveza. Altman se opredelio za ovaj racijo, jer je pokazao da ima najveću upotrebnu vrednost u predviđanju bankrotstva preduzeća. Ukoliko se preduzeće nalazi u finansijskim problemima ovaj racio se smanjuje. Nepostojanje neto obrtnih sredstava ukazuje da je opšti racio likvidnosti manji od jedan, iz čega sledi da preduzeće nema dovoljno obrtnih sredstava za pokriće kratkoročnih obaveza.

²⁰ Lahiri, M., (2013), "Measuring the Financial Health of Indian Oil Corporation Limited using 'Z'Score Model." *FLEET CARD* 32.

²¹ Altman E., (2002), *Bankruptcy, Credit Risk and High Yield Bonds*, Oxford: Blackwell Publisers Ltd.

Nezavisna varijabla X2 reprezentuje racio nerasporedjene dobiti i ukupne imovine. Profit koji preduzeće ostvari u odredjenom periodu može da se isplati akcionarima kroz dividendu ili da se zadrži u obliku nerasporedjene dobiti u preduzeću. Konto nerasporedjene dobiti u bilansu stanja predstavlja reinvestirani profit preduzeća tokom čitavog životnog veka. U vremenu kada je Altman razvio svoj model, upotreba ovog indikatora nije bila standard. Zato ga je Altman i nazvao novim indikatorom. Preduzeća koja posluju tri ili četiri godine nisu imala dovoljno vremena da kumuliraju profit, pa će vrednost ovog racija kod njih da bude relativno niža. Pod pretpostavkom da se vrednost finansijskih indikatora u modelu drže konstantima, mlada preduzeća bi imala relativno veće izgleda da budu klasifikovana u grupu bankrotiranih preduzeća nego starija preduzeća. Preduzeća koja imaju nizak odnos nerasporedjene dobiti i ukupne imovine pre će investirati iz pozajmljenih, nego iz sopstvenih izvora.

Nezavisna varijabla X3 reprezentuje racio neto profit pre plaćanja kamate i poreza sa prosečnom aktivom. Tretira se kao jedan racio profitabilnosti. On izražava produktivnost imovine preduzeća nezavisno od poreskih efekata i efekata zaduženja. Pošto održivost preduzeća direktno zavisi od veličine prihoda i profita koje generiše imovina preduzeća, Altman smatra da je upotreba ovog indikatora pogodna.

Nezavisna varijabla X4 reprezentuje racio tržišne vrednosti akcionarskog kapitala i knjigovodstvene vrednosti ukupnog duga. Ovaj racio pripada grupi racija solvetnosti. On pokazuje koliko se može smanjiti vrednost imovine preduzeća pre nego što vrednost obaveza prevaziđe vrednost imovine i preduzeće postane nesolventno. Ovaj pokazatelj ističe vezu između stepena zaduženosti preduzeća i izloženosti preduzeća riziku bankrotstva.

Nezavisna varijabla X5 reprezentuje racio prihoda od prodaje i ukupne imovine. Ovo je standardni racio efikasnosti preduzeća. Njime se opisuje sposobnost imovine preduzeća da produkuje prihode, a on istovremeno opisuje aktivnosti preduzeća i kapacitet menadžmenta da uspešno vodi preduzeće u konkurentnim uslovima.

Na osnovu dobijenih indikatora Z za odgovarajuća preduzeća moguće je konstruisati zone finansijskih pozicija koje označavaju zdravo poslovanje, minimalne kreditne performanse i slabe kreditne performanse na osnovu kojih sledi bankrotstvo.

Kritičke vrednosti Z indikatora prema Altmanovom istraživanju su sledeće:

$Z < 1,81$ zona bankrotstva

$1,81 < Z < 2,99$ Siva zona

$Z > 2,99$ Preduzeća koja nisu bankrotirala

Preduzeća sa nižom stopom rentabilnosti i većom stopom zaduženosti imaju manji nivo Z indikatora. Osnovna analitička vrednost metode Z jeste mogućnost ranog otkrivanja tendencija kretanja preduzeća prema kritičnoj zoni i upozorenja na potrebu hitnog reformulisanja poslovne strategije.

Z test ima i određene mane što nije imun na računovodstvene greške, ne uzima pokazatelje novčanog toka i nije najprikladniji za analizu novih preduzeća zato što ova nemaju nerasporedjenu dobit. Z test ne treba shvatiti kao zamenu za detaljnu finansijsku analizu, odnosno najbolje je ovaj model koristiti za brzu ocenu finansijskog stanja preduzeća i ako Z test ukaže na potencijalne teškoće u poslovanju preduzeća poželjno je izvršiti detaljnu finansijsku analizu.

Altman je konstruisao još jedan model kreditnog rizika. Zeta model kreditnog rizika²² se smatra drugom generacijom Z indikatora i sastoji se u korišćenju što aktuelnijih podataka, proširenju varijabli na ukupno sedam i uključivanju veoma širokog spektra preduzeća iz oblasti industrije, trgovine, usluga i sl. Smatra se da je posebno pouzdan za dugoročna predviđanja. Zasniva se na korišćenju metodologije diskriminacione analize i formulisanja finansijskog sintetizovanog indikatora kvaliteta zajmotražioca i kredita. Ovaj metod je veoma značajan kod donošenja odluke o (ne)odobravanju kredita preduzeću. Na osnovu dobijenih rezultata banke će određivati nivo kamatne stope, kompenzatorno učešća zajmotražioca, strukturu obezbeđenja i pokrivanja kredita. Zeta metodi utvrđuju poziciju solventnosti zajmotražioca i nivo potencijalnog rizika u slučaju plasiranja kredita. Preduzeća koja ne ispunjavaju utvrđene okvire finansijskog profila ne mogu dobiti kredit. Metodi ranog otkrivanja finansijskih problema preduzeća od strane banaka imaju širu primenu u odnosu na alokaciju bankarskih resursa. To su sistemska upozorenja na obavezu poslovnog prestrukturisanja preduzeća i poboljšanje poslovnih performansi i opšte redukovanje rizika kod korišćenja društvenih resursa.

Primena kvantitativnih metoda u analizi kreditne sposobnosti je sve više rasprostranjena što govori o njenim značajnim prednostima. Produkujući jednoznačno rešenje koje se lako tumači a u velikoj meri je pouzdano, ova analiza omogućava olakšano odlučivanje o odobrenju kredita. Zeta model uključuje sledeće varijable:²³

1. Racio neto profit pre plaćanja kamate i poreza/ukupna imovina (u Z-score modelu varijabli X3)
2. Stabilnost profita-meri se putem standardne greške procene predhodne varijable za period 5-10 godina. Opravdanje za upotrebu ove varijable je da poslovni rizik preduzeća aproksimira fluktuacijom njenog profita;
3. racio pokriva kamate: neto profit pre plaćanja kamate i poreza/kamatni rashodi
4. racio nerasporedjena (zadržana) dobit/ukupna imovina –Altman smatra, na osnovu svojih istraživanja, da ovaj racio ima najveći značaj od svih analiziranih varijabli kao indikator bankrotstva i finansijskih problema preduzeća, kako na nivou indikatora pojedinačno tako i u multivarijacionoj analizi.
5. Racio akcionarski obrtna imovina/kratkoročne obaveze-ovaj racio je faktički zamenio prvu varijablu Z-score modela (neto obrtna imovina/ukupna imovina-X1) u ulozi indikatora likvidnosti;
6. Racio akcionarski kapital/ukupni kapital (pasiva)-akcionarski kapital koji se javlja u brojiocu i imeniocu, iskazan je kao njegova prosečna petogodišnja tržišna vrednost. Petogodišnji prosek tržišne vrednosti akcionarskog kapitala se koristi sa ciljem eliminisanja kratkotrajnih berzansko-tržišnih fluktuacija u pojedinim godinama.
7. Sedma varijabla meri veličinu preduzeća, a reprezentovana je ukupnom imovinom. Kapitalizacija lizing plaćanja je uticala na rast prosečne vrednosti imovine preduzeća.

²²Altman. E., Haldeman R., Narayanan P., (1977), ZETA Analysis: A New Model to identify Bankruptcy Risk of Corporations, Journal od Banking and Finance, str.29-54

²³ Altman. E., Haldeman R., Narayanan P., (1977), ZETA Analysis: A New Model to identify Bankruptcy Risk of Corporations, Journal od Banking and Finance, str.29-54

Altman je kriterijumsku vrednost ZETA modela podesio je tako da bude jednak nuli. Sva preduzeća čiji je ZETA skor veći od nule se smatraju preduzećima čije karakteristike odgovaraju preduzećima koja nisu bankrotirala, i obrnuto kod skoro manjeg od nule.

Identifikacija, merenje i relativizacija rizika uobičajeni su danas u nizu veoma formalizovanih metoda. Svaka nova bankarska operacija ili aktivnost praćena je brižljivom analizom komponenti rizika. Razvijene tržišne privrede poseduju ne samo široki informacioni sistem koji tome doprinosi, već i veoma razudjenu institucionalnu strukturu koja vrši analizu ili podržava analizu rizika. Takođe, na međunarodnom planu se preduzimaju akcije i standardizuju metode posmatranja rizika, kao i odgovarajuća regulisanje bankarskog poslovanja u vezi sa rizicima.

U izradi internih modela za merenje tržišnog i kreditnog rizika učestvovala su vodeće finansijske institucije. Tako je nastao Risk Metrics. Ova metodologija se temelji na savremenoj teoriji portfelja, uz korišćenje standardne devijacije i koeficijenta korelacije. Modeli se međusobno razlikuju, ali se zasnivaju na sličnim teoretskim postavkama. Razlike su u pristupu obrade ulaznih podataka, postupcima predviđanja, pretpostavkama teoretskog rasporeda itd. VaR metodologija počela je da se kasnije primenjuje i kod rizika likvidnosti i operativnog rizika.

Modeli ocene rizika primenjuju se na određivanju rejtinga kao indikatora kreditne sposobnosti zajmotražioca. Rejting utvrđen putem modela kreditnog rizika može se koristiti kao osnova za postavljanje internih kreditnih limita koji tangiraju strukturu kreditnog portfolija banke.

Analiza treba da odgovori na sva ključna pitanja kvalitativnog i kvantitativnog stanja privrede, odnosno sektora. U tu svrhu, mi se kao analitičari opredeljujemo za modele statičke i dinamičke analize privrede i kompanije. Statički modeli su dobro poznati i oni nam trebaju dati odgovore na pitanja o prošlom i trenutnom stanju određenih pozicija preduzeća zasnovanih na bilansim pokazateljima. Dinamička kvalitativna analiza nam daje ključne odgovore o tome kako se može na bazi postojećih računovodstvenih i finansijskih izveštaja projektovati scenario razvoja privrede i kompanija u bliskoj budućnosti.

Proliferacija novih kvantitativnih modela kreditnog rizika koji su promoteri novog pristupa u upravljanju kreditnim rizikom otvara pitanje njihove validnosti i kvaliteta. U radu se nastojala ispitati relevantnost njihove upotrebe u obavljanju kreditnih poslova. Takođe, s obzirom na njihovu brojnost, izložena je njihova sistematizacija u klase modela prema njihovim teoretskim osnovama i drugim srodnim karakteristikama. Strukturni modeli koriste teoriju vrednovanja opcija kao metodološku osnovu. Ovu teoriju je moguće primeniti ako se vlasnički kapital i dug preduzeća modeliraju kao opcija na imovinu preduzeća. U skladu sa tim, vlasnički kapital se identifikuje sa kupovnom opcijom na imovinu preduzeća, a dug preduzeća sa prodajnom opcijom na imovinu preduzeća. Strukturni model, koji je platforma razvoja ostalih modela iz ove klase, je model koji je postavio Robert Merton. Mertonovim modelom je bilo moguće doći do verovatnoće bankrotstva, ali se ona nije smatrala pouzdanom, jer je počivala na predpostavkama stanja realnosti u kome je odnos prema riziku neutralan.

Ovaj problem je prevaziđen u modelu KMB. U njemu je Mertonov model dopunjen određenim novinama, od kojih je najvažnija ona koja se tiče obračuna volatilneta tržišne vrednosti imovine. Ove novine su omogućile procenu stvarne verovatnoće bankrotstva preduzeća preko obračuna udaljenosti od bankrotstva. Kroz empirijsku analizu rezultata Altmanovog Z-score modela potvrđena je njihova pouzdanost.

REFERENCE:

1. Alexander, C. and E. Sheedz, (2004), The Professional Risk managers Handbook, Volume III, PRIMIA Publications, Willmington,(2004).
2. Altman, Edward I; G.Haldeman; and P. Nurajanan,,Zeta Analysis: A New Model to Identify the Bankruptcy Risk of Corporation.“Journal of Banking and Finance,(2000).
3. Altman E., (2002), Bankruptcy, Credit Risk and High Yield Bonds, Oxford: Blackwell Publisers Ltd.
4. Anad, J., Captron, L., Mitchell, W.,Using acquisitions to access multinational diversity: Thinking beyond the domestic versus cross-border M&A comparios, “Industrial and Corporate Change” No14. (2005)
5. Andrić M., Ocena b Bessis, J.„Risk Management in banking, Will Sons Ltd, Chichester, England,(2001).
6. Credit Suisse First Boston,: “Credit Risk”, A Credit Risk Management Framework.(1997).
7. Kahen, K. J. Hamner F.S., “Analytical methods in banking, Rishard D. Irwin inc, Homewood, Illions,(1996).
8. Crouhy, M, D. Galai, R. Mark, Risk Management, McGraw-Hill, New,(2011).
9. Vunjak, N., Finansijski menadžment , Proleter i Ekonomski fakultet, Subotica, (2005).

THEORETICAL CONCEPT OF IDENTIFYING POSSIBLE DEVELOPMENT OPPORTUNITIES OF ENTREPRENEURSHIP IN SERBIA

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Abstract: Modern innovative movements carry obvious and inevitable daily changes. The paper is based on the fact that entrepreneurship is a creative and innovative process dealing with hardly predictable events and changes in the business environment. In the process of globalization, it is necessary to react quickly to these changes, because otherwise, if the window of opportunities is missed, companies are left to lag behind the competition.

The paper is focused on the synthesis of theoretical facts and assumptions, and seeks to identify entrepreneurship development opportunities in Serbia through theoretical development concept, presenting the ideas on the possible creation of conditions and environment for successful market positioning by achieving competitiveness, as well as readiness for launching own business.

Keywords: theoretical development concept, entrepreneurship, identification, possibilities

TEORIJSKI KONCEPT IDENTIFIKOVANJA MOGUĆIH RAZVOJNIH ŠANSI PREDUZETNIŠTVA U SRBIJI

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Apstrakt: Savremena inovativna kretanja donose svakodnevno promene koje su očigledne i neminovne. U radu se polazi od činjenice da je preduzetništvo kreativan i inovativan proces i da se bavi teško predvidljivim događajima i promenama u poslovnom okruženju. U procesu globalizacije neophodno je brzo reagovati na promene, jer u protivnom, ukoliko prozor prilika ne ugledamo odmah, bićemo ostavljeni da kaskamo za konkurencijom.

Cilj rada usmeren je na sintezu teorijskih činjenica i pretpostavki, i teži da identifikuje šanse preduzetništva u Srbiji, kroz teorijski razvojni koncept, pružajući im ideje o mogućem formiranju uslova i ambijenta za uspešniji tržišni nastup, kroz postizanje konkurentske sposobnosti preduzeća, kao i spremnosti za pokretanje sopstvenog biznisa.

Ključne reči: teorijski razvojni koncept, preduzetništvo, identifikacija, moguće šanse

1. UVOD

Svesni smo toga da je naše društvo suočeno sa brojnim teškoćama, gde siromaštvo i izražena nezaposlenost čine ogroman problem i prepreku. Započeti sopstveni posao nije nimalo lako, ali još teže je održati ga i omogućiti mu da raste i razvija se. Ne postoje načini da se eliminiše rizik od neuspeha, ali u svakom slučaju dobro planiranje, priprema i poznavanje situacije na tržištu može pomoći preduzetniku na putu ka uspehu.

Razvoj preduzetništva i malih i srednjih preduzeća značajan je segment šire strategije i programa ekonomskog razvoja i nema alternativu u aktuelnoj stvarnosti naše zemlje. Međutim, značajna funkcija preduzetništva tek će se pokazati pokretanjem privrednih aktivnosti i stvaranjem ambijenta u kome će opstanak biti u direktnoj zavisnosti od ekonomske efikasnosti, odnosno prihvatanja odgovornosti za sopstveni materijalni status [1].

Iako se od 1970-ih istraživanju i praćenju preduzetništva poklanja velika pažnja, s obzirom da se ono smatra "pokretačem ekonomskog i društvenog razvoja"[3], "pokretačem inovacija i ekonomskih promena"[16], osnovom dugoročne održivosti i konkurentnosti nacionalnih ekonomija [12], do sada nije postignuta saglasnost oko teorijskih ili primenjenih definicija ovog pojma. Javlja se u vrlo različitim organizacionim formama; predstavlja ekonomsku, ali i socijalnu aktivnost; ispoljava se i može se proučavati na različitim nivoima – individualnom, grupnom, sektorskom, kao i geografskom [15].

Preduzetništvo, ili ono što zovemo "alhemija", je sposobnost stvaranja nečega ni iz čega. "Alhemičari" su ljudi koji ni iz čega stvaraju kompanije, osnivaju organizacije, inoviraju, bez dozvole od bilo koga i bez ikakvog planiranja [7].

Čarls Hendi, filozof i suosnivač londonske poslovne škole (*London Business School*) smatra da preduzetnici igraju na "kartu promena" i koriste ih na pravi način i u pravo vreme za poslovne prodore [7]. Same promene predstavljaju izazov i obrazac poslovnog ponašanja preduzetnika, dok preduzetničke inovacije predstavljaju one promene koje razbijaju "kružni tok" ekonomske ravnoteže jer uvode "nove odnose". Inovacije stvaralački razaraju postojeće ekonomske strukture, zamenjujući ih novim [8].

Upravljanje preduzetničkim preduzećima u sadašnjim uslovima poslovanja podrazumeva determinisanje adekvatnog sistema i mogućih šansi za njihov razvoj. Moguće šanse razvoja preduzetništva u Srbiji vide se kroz povezivanje strategije preduzeća sa tekućim poslovanjem, kroz pružanje relevantnih informacija o ostvarivanju ciljeva u okviru konkurentskih strategija, kao i kroz delovanja u područjima gde su neophodna poboljšanja.

Strateška perspektiva razvoja preduzetništva u Srbiji definiše procenu onih potencijala sa komparativnim prednostima u odnosu na ostale zemlje, koja može predvideti zavidne uslove, i samim tim identifikovati najefikasnije načine stvaranja konkurentne preduzetničke pozicije.

Za identifikovanje mogućih šansi, u skladu sa pristupom "od dna prema vrhu" (engl. *bottom-up*), neophodno je primeniti sledeće principe:

- ***partnerstvo,***
- ***zajedničko učešće u vlasništvu,***
- ***transparentnost.***

Takođe, potrebno je izvršiti prethodno usaglašavanje sa razvojnom vizijom, strategijom, prioritetnim ciljevima, kao i sa razvojnim merama države. Jer činjenica je da su kod razvoja preduzetništva izostale važne faze (npr. prikupljanje i analiza socio-ekonomskih podataka), što je itekako uticalo na njegov razvoj. Ipak, takva situacija donekle je

prevaziđena istraživanjem i sakupljanjem ulaznih informacija iz raspoloživih zvaničnih izvora i od učesnika u procesu istraživanja.

2. TEORIJSKI RAZVOJNI KONCEPT PREDUZETNIŠTVA

U savremenoj privredi osnova uspešnog poslovanja, pogotovu u globalnim okvirima, bazira se na stvaranju povoljne klime u organizaciji koja forsira preduzetničko ponašanje, inovativnost i fleksibilnost, gde se ističe razvojna podrška, različita za početnike i uhodane preduzetnike.

Primer za nove preduzetnike može da bude **Dorde Vajfert**, koji je bio "nemoguće dete" sa preduzetničkim inovacijama u krugovima prvih srpskih kapitalista. Krajem 19. veka počeo je sa očevom pivarom (BIP) koju je proširio, a za potrebe velike kotlarnice otvorio je rudnik uglja u Kostolcu. Inficiran virusom preduzetništva, prateći tragove rudarstva Rimljana i srednjovekovnih Srba, pokušao je da proizvodi živu na Avali i da oživi proizvodnju obojenih metala. Nekoliko puta je bio na ivici bankrotstva, ali je na kraju uspeo – postao je jedan od glavnih akcionara rudnika i topionice bakra u Boru početkom 20. veka.

Da bi preduzetničko preduzeće bilo sposobno za sistemsko preduzimanje inovacije, ono mora da stvori odgovarajuću organizacionu strukturu koja zaposlenima dozvoljava da se preduzetnički ponašaju. Mora da uspostavi takav sistem veza i odnosa koji će omogućiti fokusiranje na preduzetničko ponašanje, jer je preduzetništvo pre pitanje ponašanja organizacije, definisanja poslovne politike i primene odgovarajuće poslovne prakse, nego pitanje ličnosti.

Iz navedenih razloga razvojni koncept preduzetništva mogao bi se zasnivati na sledećim elementima, gde se razvojna šansa može identifikovati kroz:

- otvorenu mogućnost da pojedinci samostalno obezbeđuju resurse za svoje inovativne delatnosti,
- razumevanje i podršku istomišljenika u trenucima krize,
- slab otpor što dolazi od postojećih konkurenata i onih kojima je interes da održe stanje "status quo",
- saznanje opravdanosti za preduzetnički način razmišljanja i ponašanja,

Dž. B. Kvin (James Brian Quinn) je u svom istraživanju otkrio da uspešna preduzetnička preduzeća pažljivo oslušuju potrebe svojih kupaca. Ona osnivaju timove koji tragaju za kreativnim alternativama, da bi uslužili svoje kupce, razvijajući nove tehnologije koje zahtevaju istrajnost u pretvaranju ideje u stvarnost. Unutrašnji preduzetnici i spoljašnji preduzetnici usmeravaju se na inoviranje i kreativnost [6].

Po Kvinu, osnova uspešnog poslovanja, pogotovo u globalnim okvirima, bazirana je na stvaranju povoljne poslovne klime, koja implementira preduzetničko ponašanje usmereno na inovativnosti i fleksibilnosti. Prema savremenim shvatanjima **preduzetnik više ne mora da bude pojedinac koji je vlasnik malog biznisa**, on zapravo može biti i pojedinac koji je zaposlen kod poslodavca, ali da poseduje osobine koje su karakteristične za preduzetničko ponašanje.

Prema Drakeru, poslovima u organizaciji se, bez obzira na veličinu, mora upravljati na preduzetnički način, da bi preduzeće postalo preduzetnička organizacija. Sve više preduzeća, bez obzira na veličinu, finansijsku snagu i svojinske odnose, počinje da se

ponaša preduzetnički, usvajajući osnovne postulate preduzetničkog poslovanja i koristeći preduzetnički menadžment [13].

Mora se pomenuti činjenica da je preduzetništvo rad, trud, napor. Samim tim, preduzeća u Srbiji moraju *svesno i organizovano da primenjuju preduzetnički koncept i da se preduzetnički ponašaju*, kao i da svesno kreću u proces inoviranja. Da bi postojeće preduzeće bilo sposobno da sistemski preduzima inovacije, ono mora da stvori odgovarajuću organizacionu strukturu koja zaposlenima dozvoljava da se preduzetnički ponašaju. Preduzeće mora da uspostavi takav sistem veza i odnosa koji će omogućiti fokusiranje na preduzetničko ponašanje.

Preduzeća koja žele uspeh u turbulentnom i kompleksnom poslovnom okruženju, najpre moraju u organizacionu kulturu da ugrade preduzetnički duh, odnosno preduzetnički način rukovođenja. Trebala bi da usvoje takvu poslovnu politiku koja će organizaciju učiniti sposobnom za potrebno inoviranje. Proces tranzicije treba da omogući da se ekonomski subjekti u zemlji osposobe za samostalni tržišni nastup, zdravu konkurentsku borbu i poslovanje u međunarodnim okvirima. Ovo podrazumeva značajne promene, kako u organizacionoj strukturi poslovnog subjekta, tako i u načinu razmišljanja rukovodstva i zaposlenih u organizacijama. Ključna uloga u ovom procesu je u rukama izvršnog rukovodstva i domaćih vlasnika kapitala, koji treba da uspostave zdrave tržišne osnove poslovanja, bazirane na stalnom unapređivanju znanja svih zaposlenih i produktivnosti rada.

Da bi se omogućio nesmetani ekonomski razvoj neophodno je da se na svim nivoima prihvati model preduzetničkog ponašanja. Sve poslovne organizacije koje posluju u tranzicionim ekonomijama, trebalo bi da stvore (po osnovu primene preduzetničkog ponašanja) preduslove za uspešnu tržišnu borbu u uslovima globalnog tržišta.

Svoju misiju razvoja neophodnih uslova poslovanja preduzetnika u Srbiji, preduzetništvo ostvaruje strategijom dejstva, sistemom vrednosti i standardima dobrog rada, uključujući i sistem integralnog upravljanja kvalitetom, kao i ocenu relevantnih faktora, koji treba da dovedu do skupa dugoročno određenih ciljeva funkcije misije, u smislu ubrzanog razvoja procesa poslovanja.

Ciljevi ove teorijske koncepcije preduzetništva, zasnovani su na obezbeđenju referenci za razvoj istog, što zavisi najviše od informacija koje se mogu dobiti eksternim i internim skeniranjem. Drugim rečima, informacije koje mogu biti dostupne u pravo vreme i na pravom mestu, što uslovljava donošenje odgovarajućih strategijskih i taktičkih odluka.

Ako se pretpostavi da će se koordinacijom preduzetničkih aktivnosti uopšte, upravljanjem razvoja istog, baviti savremena organizacija, onda se može ustanoviti redosled poteza u pomenutom skeniranju, što podrazumeva:

- identifikaciju postojećih šansi u makro okruženju, i to u svim njegovim domenima;
- identifikaciju relevantnosti postojećih šansi, s obzirom da neke od njih nemaju reperkusije na razvoj preduzetništva;
- detaljno proučen uticaj pojedinih razvojnih šansi na mogućnost poslovanja preduzetništva;
- izvršena kratkoročna i dugoročna predviđanja razvoja, i ako su ona od značaja, identifikaciju novih mogućnosti kroz detaljnu analizu internih promena, tendencija i okruženja.

Iz navedenih teorijskih pretpostavki, gde su glavni ciljevi usmereni na rasprostranjenost preduzetničkih težnji, suština ekonomskog oporavka Srbije zahteva dublju identifikaciju, koja se "nalazi u odnosu koji svako od nas ima prema sebi, prema sopstvenom radu, prema

stvaranju vrednosti i ponajviše prema ličnoj i društvenoj korisnosti, a ponajviše, suština je u osećaju patriotizma koji pojedinac ima i konkretizaciji koja je otelotvorena u nekoj vrsti stvaralaštva"[14].

3. STANJE PREDUZETNIŠTVA U SRBIJI

Imajući u vidu da je preduzetništvo pokretač privrednog razvoja zemlje i regiona, važno je istražiti moguće razvojne šanse na spremnost preduzetnika da pokrenu i razvijaju sopstveno poslovanje [2].

U Srbiji trenutno ima 335 hiljada malih i srednjih preduzeća, koja zapošljavaju oko 67% svih zaposlenih u privredi [9]. Nedavno istraživanje, koje je sprovedla Republička agencija za razvoj malih i srednjih preduzeća u saradnji sa Ministarstvom ekonomije i regionalnog razvoja Republike Srbije, ukazuje na činjenicu da 50% privrednika iz ove grupacije smatra sebe uspešnim u svom poslu i planira nove investicije, trećina želi da proširi delatnost, a preostali imaju poteškoća u radu ili u manjem procentu (<5%) razmišljaju o opstanku [9].

Dalje, rezultati navedenog istraživanja su pokazali i sledeće:

- da je 64.7% vlasnika starosti između 36 i 55 godina (samo 15.6% je mlađe od 35 godina),
- svaki peti vlasnik je žena,
- prema obrazovanju 47% preduzetnika ima samo srednjoškolsko obrazovanje, dok je manje od 40% visokoobrazovanih,
- više od 57% preduzetnika se bavi sopstvenim biznisom duže od 11 godina,
- 66.5% preduzetnika nije imalo nikakvo prethodno iskustvo pri započinjanju sopstvenog biznisa [9].

Treba istaći da je više od 50% svih srpskih MSP locirano u četiri regiona – Beograd, Novi Sad, Niš i Južni Banat, dok je oko 30% privatnih preduzeća locirano u Beogradu [11].

Svetska ekonomija je od 2008. godine uzdrmana krizom, koja je snažno pogodila i uveliko oslabljenu srpsku privredu. Indikatori rasta države su pretežno zaustavljeni, što je rezultiralo time da je u 2009. godini prvi put u 21. veku zabeležen negativni ekonomski rast od 3 posto. Oslabljena privreda je u 2010. godini dovela je do još većeg siromašenja i povećanja broja nezaposlenih [5].

Kao što je navedeno, preduzetnička preduzeća predstavljaju nosioce rasta i konkurentnosti privrede, zapošljavanja i razvoja lokalnih zajednica. Kao takva, planiraju nove investicije i proširenje poslovanja, gde sebe vide kao konkurentne i spremne da ulažu u ljudske resurse, tehničko-tehnološke i druge kapacitete neophodne za uspešno poslovanje. U tom cilju, očekuju i veću podršku države i lokalne zajednice [10].

Značaj preduzetničkih preduzeća ključan je za ekonomsko blagostanje građana u lokalnim samoupravama u Srbiji. U većini lokalnih samouprava preduzetnička preduzeća čine oko 99% ili čak 100% svih preduzeća na konkretnom području. Stoga je od vitalne važnosti da svaka lokalna samouprava u Srbiji pripremi Sektorski plan podrške razvoju malih i srednjih preduzeća i preduzetništva [10].

Položaj malih i srednjih preduzeća i preduzetništva u Srbiji, može se poboljšati putem aktivnosti za podsticanje i kroz analizu postojećih mera. U tom cilju, treba se zalagati za:

- jačanje inovativnog i preduzetničkog duha koji omogućava preduzetničkim preduzećima da se suoče sa novim izazovima;
- postizanje regulatornog, fiskalnog i administrativnog okvira koji je pogodan za preduzetničke aktivnosti i poboljšanje statusa preduzetnika;
- obezbeđivanje pristupa tržištima na osnovu minimalno opterećujućih zahteva koji su u skladu sa glavnim ciljevima javne politike;
- lakše pristupanje najkvalitetnijem istraživanju i tehnologijama;
- bolji pristup izvorima finansiranja tokom celog životnog ciklusa preduzeća;
- kontinuirano poboljšanje efikasnosti time što će Evropska unija ponuditi najbolje poslovno okruženje za mala preduzeća u svetu;
- slušanje glasa i mišljenja malih preduzeća;
- promovisanje vrhunske podrške malim preduzećima.

4. IDENTIFIKOVANJE RAZVOJNIH ŠANSI PREDUZETNIŠTVA U SRBIJI

Nema sumnje da je preduzetnički ambijent u Srbiji značajno pobošljan tokom poslednjih nekoliko godina, iako se slažemo sa konstatacijom da je stanje preduzetništva, zapravo, stabilno loše. Treba priznati da su preduzetnici i dalje suočeni sa otežanim poslovnim okruženjem, čemu najviše doprinosi komplikovan regulatorni okvir i dugotrajne i skupe administrativne procedure.

Puno se radi na usvajanju zakonskih propisa koji podržavaju rast i razvoj preduzetništva, ali za takve stvari su potrebni dodatni naponi kako bi sve to u praksi moglo idealno da funkcioniše. Ne treba naglašavati da države širom sveta kontinuirano kreiraju odgovarajuću podsticajnu politiku za unapređenje tržišta i privlačenje ulaganja u preduzetništvo. Međutim, uklanjanje raznih administrativnih prepreka ne predstavlja univerzalni lek za razvoj preduzetništva, ali svakako može unaprediti tržišnu konkurenciju, obezbediti uspeh većih reformi, kao što je liberalizacija trgovine i privatizacija [4]. Koraci potrebni za uklanjanje ovih prepreka često nisu toliko skupi u finansijskom smislu, već imaju mnogo teži zadatak – menjanje ukorenjenog načina razmišljanja, što identifikuje stanje preduzetništva u Srbiji.

Bez volje za uključivanje zainteresovanih strana, kao što su regionalne razvojne agencije, nacionalne agencije i vlade, i najvažnije, lokalne zajednice MSP, mala je verovatnoća da će bilo koja strategija za razvoj preduzetništva biti uspešna. Osim toga, postojanje strategije nije garancija uspeha. Bitno je da postoji postupak za praćenje i evaluaciju identifikovanih razvojnih šansi preduzetništva, koje u suštini podrazumevaju:

- obrazovanje i obuku za preduzetništvo – koji su vezani za poslovanje i treba da postanu sastavni deo obrazovnih programa u srednjem i visokom obrazovanju [10],
- povoljnije i brže osnivanje preduzeća – gde troškove pokretanja malog biznisa treba uskladiti sa zemljama u kojima se taj postupak najbrže odvija, uz povećanje mogućnosti registracije putem Interneta [10],
- bolje zakonodavstvo i propise – nije dovoljno samo doneti uredbu o uslovima za podsticaj i razvoj privrednih društava i preduzetništva u nedovoljno razvijenim jedinicama lokalne samouprave,
- raspoloživost preduzetničkih veština,
- bolji pristup Internet mreži – gde je moguće uspostaviti elektronsku komunikaciju sa sektorom malih i srednjih preduzeća,

- bolju iskorišćenost prednosti jedinstvenog tržišta,
- oporezivanje i finansijska pitanja – gde bi poreski sistem trebalo prilagoditi sistemu nagrađivanja uspešnih, čime bi se podstaklo osnivanje malih preduzeća,
- jačanje tehnoloških kapaciteta malih preduzeća,
- uspešan model elektronskog poslovanja i prvoklasnu podršku preduzetničkim preduzećima
- razvijanje boljeg i efikasnijeg zastupanja interesa preduzetničkih preduzeća na nacionalnom nivou.

5. ZAKLJUČAK

U Evropskoj uniji najveći broj zaposlenih je u malim i srednjim preduzećima i ona predstavljaju pravi razvojni preduzetnički potencijal. Preduzeće koje nastoji da izgradi savremene preduzetničke dimenzije, mora razviti stimulatívni poslovni ambijent i kulturu, kako bi zaposleni mogli na najbolji način da ispolje svoje talenat. Sa druge strane, zaposleni moraju raditi na stalnom usavršavanju, jer 21. vek je vek brzih tehničkih, ekonomskih i naučnih promena. Samo onaj ko konstantno stiče nova znanja, upoznaje nove strategije, metode, tehnike i alate uspešnog poslovanja, može uspeti.

Uopšte, razvoj malih i srednjih preduzeća i preduzetništva predstavlja ključni deo razvoja bilo koje lokalne privrede i samim tim, preduzetništvo treba da vidi svoj "prozor prilika" u Srbiji, jer "uspeh nacionalne ekonomije leži u preduzetničkoj Srbiji" [14].

Stvaranje kvalitetnog preduzetničkog okruženja u Srbiji treba da predstavlja suštinu celog procesa tranzicije, jer stvara izazov za državu da potpuno izmeni svoju ulogu u privredi – od kontrole i postavljanja normi do olakšavanja rada. Ovo ne znači da država postaje prevaziđena, što ponekad čak ni preduzeća ne razumeju. Nijedno tržište ni preduzeće ne može funkcionisati bez pravila. Ipak, pravila treba pojednostaviti i prilagoditi, odnosno stvoriti takav ambijent u kome će svi učesnici biti ravnopravni i kreirati jednostavan skup pravila – ni više ni manje od onog što je neophodno kako bi preduzetnička preduzeća imala osnovni osećaj udobnosti i poverenja u "sistem".

Dok se sve započete reforme ne sprovedu do kraja, ne može se očekivati brži razvoj preduzetništva, odnosno lakše odlučivanje ljudi da se upuste u preduzetničke poduhvate. Manjak hrabrosti da postanu preduzetnici i podnesu rizike koje preduzetništvo sa sobom nosi, podstiče ljude da svoju budućnost vide u mogućem bankrotstvu, kao i maloj mogućnosti naknadnog vraćanja u posao, što dodatno otežava mogućnost otpočinjanja preduzetničkog posla.

Veštine u pripremi biznis planova, planiranju budžeta, kao i osnovna znanja iz menadžmenta (organizacije, proizvodnog i uslužnog menadžmenta), mogla bi da odigraju veliku ulogu u podizanju svesti o značaju preduzetništva. Da bi se stvorilo povoljno okruženje, moraju se preduzeti mere koje bi pomogle u stvaranju "preduzetničkog društva".

Stabilnost ekonomskog rasta Srbije može se ostvariti jedino kroz razvoj sektora MSP-a i preduzetništva. Ako u svim razvijenim zemljama ovaj sektor ima centralnu ulogu u ekonomiji i smatra se pokretačem razvoja, nema razloga da i Srbija ne prihvati takav model ekonomskog rasta. U stvari, ovaj model načelno i deklarativno je prihvaćen i od strane stručnjaka i Vlade i poslodavaca. Međutim, korenite promene ponašanja, stvaranje adekvatne poslovne klime, olakšavanje i prevazilaženje mnogobrojnih barijera na putu preduzetnika, samo su neki od preduslova za njihov ulazak i opstanak u preduzetništvu. Preduzetništvo u Srbiji suočava se sa velikim rizicima, pa početak mora biti olakšan,

stimulativan, obećavajući. U suprotnom, teorijsko identifikovanje mogućnosti ostaće "mrtvo slovo na papiru".

REFERENCE

1. D. Ivković, M. Čukanović-Karavidić, G. Kvirgić: Preduzetništvo kao faktor privrednog rasta i razvoja, časopis - Trendovi u poslovanju, Beograd, Broj I, Sveska I/2013, p 55-61
2. D. Živković, D. Manasijević, N. Štrbac, I. Mihajlović, Ž. Živković, M. Stevanović: Analiza preduzetničke inicijative na primeru nekih malih i srednjih preduzeća u Leskovcu (Srbija), Technical Faculty in Bor, University in Belgrade, <http://www.fbm.uni-ruse.bg/jei/Issue-2010/11-2010-JEI>, 2010.
3. D.B. Audretsch: Entrepreneurship: A survey of the literature, European Commission Enterprise Directorate-General Enterprise Papers No. 14, 2003.
4. Direkcija za razvoj malih i srednjih preduzeća: Eliminisanje barijera za razvoj preduzetništva u Crnoj Gori, Rezime, Vlada Republike Crne Gore, Podgorica, 2007, p 3-5
5. Evropski pokret Srbija: Razvoj socijalnog preduzetništva u Srbiji, Priručnik za trening, Izgradnja kapaciteta lokalnih institucija za razvoj potencijala alternativne ekonomije u Srbiji, Beograd, 2012.
6. J.Q. Brian: Intelligent enterprise: knowledge and service based paradigm for industry, Includes bibliographical references and index ISBN 0-02-925615-1, The free Press, A Division of Simon & Schuster Inc., N.Y., 1992.
7. L. Ožegović: Preduzetništvo kao strategija bržeg razvoja privrede, Naučni-stručni skup Efikasnost u privredi, UDK 005, ISSN 1452-8800, Vrnjačka Banja, 2008.
8. L. Ožegović, N. Pavlović: Menadžment MSP nosioc razvoja privrede, Škola biznisa, Novi Sad, 1/2012, UDC 005.71-022.5:330.35, Novi Sad, 2012, p 74-84
9. M. Vasić: Where do SMEs go?, Blic, Online, 13-03-2010, 00:02h, (In Serbian), <http://www.blic.rs/Vesti/Ekonomija/180515/Kuda-idu-mala-i-srednja-preduzeca>
10. N. Miles, T. Philpott, Z. Bilic, K. Richter: Izrada planova za podršku razvoja sektora malih i srednjih preduzeća i preduzetnika na lokalnom nivou, Program podrške opštinama IPA 2007, Nacionalna agencija za regionalni razvoj, Beograd, 2012.
11. National Agency for Regional Development (2010), (In Serbian), <http://www.narr.gov.rs/default.aspx>
12. OECD: Measuring Entrepreneurship: A Collection of Indicators, OECD Statistics Directorate, Paris, 2009.
13. P. Drucker: Moj pogled na menadžment, Adižes, Novi Sad, 2003, p 122
14. S. Janičijević: Preduzetništvo-osnovni uslov ekonomskog rasta Srbije, Autorski stav, Centar za istraživanje kreativne ekonomije, Preuzeto sa www.madmarx.rs, 2012.
15. S. Karavidić, D. Ivković: Preduzetništvo, Visoka škola za poslovnu ekonomiju i preduzetništvo, Beograd, 2011, p 16
16. S. Shane, S. Venkataraman: The Promise of Entrepreneurship as a Field of Research, Academy of Management Review, 25(1), 2000, p: 217-226.
17. Službeni glasnik Republike Srbije broj 31/2013, 2013.

INFORMATION SUPPORT FOR THE LEAN CONCEPT OF COST MANAGEMENT

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Abstract: Every successful business system must be based on a quality and effective information system, because the flow of the information must support the flow of the value in the company. Traditional cost accounting systems were unable to provide adequate support to lean manufacturing systems. Developing lean accounting, enabled enterprises availability of accurate, timely and relevant information on the costs and performance of the company. Modern information systems, which have been developed and implemented in the spirit of lean concepts, are indispensable support to production and every other activity in lean company.

Keywords: cost accounting systems, lean manufacturing, value stream, Value Stream Costing, integrated information systems.

INFORMACIONA PODRŠKA LEAN KONCEPTU UPRAVLJANJA TROŠKOVIMA

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Apstrakt: Svaki uspešan poslovni sistem je zasnovan na kvalitetnim informacijama i efektivnom informacionom sistemu, jer tok informacija trebalo bi da podržava tok vrednosti u preduzeću. Tradicionalni sistemi obračuna troškova nisu mogli da pruže odgovarajuću podršku lean proizvodnim sistemima. Razvoj lean računovodstva omogućio je lean preduzećima dostupnost tačnih, pravovremenih i relevantnih informacija o troškovima i performansama preduzeća. Savremeni informacioni sistemi, razvijeni i implementirani u duhu lean koncepta, nezamenljiva su podrška funkcionisanju proizvodnje i ostalih aktivnosti u lean preduzeću.

Ključne reči: obračun i upravljanje troškovima, tok vrednosti, Value Stream Costing, integrisani informacioni sistemi.

1. UVOD

Savremeni uslovi poslovanja dovode do potrebe da se u fokus stavi kupac, a cilj savremenog preduzeća je zadovoljavanje potreba kupaca na što kvalitetniji način, štedeći maksimalno svoje resurse. Identifikovanje i eliminisanje nepotrebnih i rasipničkih

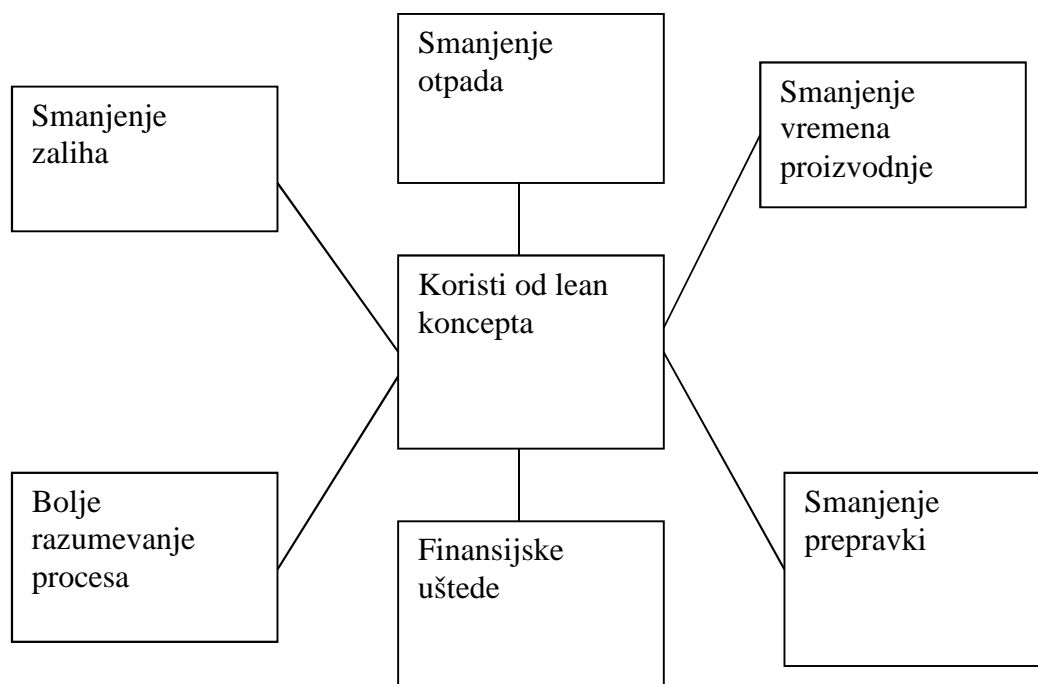
aktivnosti u poslovnom procesu i usmeravanjem pažnje isključivo na aktivnosti koje stvaraju vrednost za kupca, lean koncept omogućava da se postigne maksimalan kvalitet proizvodnih procesa. Prelazak sa ekonomije obima na ekonomiju širine, odnosno put od tradicionalnog ka lean preduzeću, je dugotrajan i zahtevan, ali su koristi velike.

Dugi niz godina, u zavisnosti od potreba prakse, stručnjaci širom sveta usavršavali su ovu poslovnu filozofiju, ne gubeći iz vida da je cilj redukovanje troškova, unapređivanje kvaliteta i povećanje tržišnog učešća. S obzirom na to da turbulentni poslovni uslovi drastično skraćuju životni vek proizvoda, lean metode i tehnike omogućavaju preduzeću da vrlo brzo poboljša i prilagodi svoje performanse u skladu sa postojećim porudžbinama kupaca.

2. ZNAČAJ LEAN KONCEPTA

Uvođenje lean koncepta u preduzeće, dovodi do korisnih promena, ne samo za preduzeće, već i za njegove zaposlene i poslovne partnere. Zato je značaj lean koncepta najbolje posmatrati iz više perspektiva: samog preduzeća, njegovih zaposlenih radnika, kupaca i privrede u celini.

Tradicionalno preduzeće nema jasnu predstavu o tome gde se u preduzeću tačno nalazi sva njegova imovina. Lean preduzeće bolje upravlja sopstvenom imovinom i izvlači maksimalno koristi iz nje, korišćenjem velikog broja metoda i alata od kojih je najvažnije mapiranje toka vrednosti. Eliminisanje aktivnosti iz toka vrednosti koje ne dodaju ili uništavaju vrednost proizvoda, smanjivanje zaliha i uvođenje standardizovanog rada, preduzeće oslobađa veliku količinu kapaciteta, koju može da iskoristi na najefikasniji mogući način, što vodi kako povećavanju produktivnosti, tako i povećavanju profiltabilnosti. Smanjuju se troškovi i vreme potrebno za proizvodnju, eliminišu se nepotrebne transakcije, smanjuje broj neispravnih proizvoda i povećava kvalitet finalnog proizvoda. Poboljšanja u proizvodnji koja se mogu dostići uvođenjem lean koncepta u preduzeće su: smanjenje vremena proizvodnog ciklusa do 90%, povećanje produktivnosti za preko 60%, smanjenje zaliha nedovršene proizvodnje za preko 80%, smanjenje troškova proizvodnje za preko 80%, smanjenje otpada i škarta za preko 80%, smanjenje potrebnog prostora do 70%. Svaki zaposleni u lean preduzeću ima zadatak i odgovornost da pronade izvor rasipanja u preduzeću, tako da za razliku od tradicionalnih, gde nadzor vrši samo menadžment, u lean preduzećima svaki par očiju traži načine kako da poboljša performanse preduzeća. Lean preduzeće je fleksibilno i lako se prilagođava promenama na tržištu. Lean koncept je dizajniran da zahteva stalne promene i poboljšanja, tako da im ne pada teško ukoliko dođe do promena u zahtevima kupaca. Nasuprot njima, preduzeća u kojima je astupljena masovna proizvodnja, imaju velike poteškoće u tim uslovima. Koristi lean koncepta za proizvodno preduzeće su predstavljene na slici 1.



Slika 1. Koristi lean koncepta

Izvor: prilagođeno prema Melton T., (2005). The Benefits of Lean Manufacturing What Lean Thinking has to Offer the Process Industries. Institution of (Technical Engineers. Velika Britanija. str. 663.

Naglašavajući značaj i vrednost zaposlenih, kao i potrebu da se izvrše fundamentalne promene u organizaciji poslovanja, celokupan koncept lean proizvodnje osmišljen je tako da svi nivoi zaposlenih, od menadžmenta do radnika u direktnoj proizvodnji, budu fokusirani na istu viziju definisanu za određeni tok vrednosti. Odgovornost za uspešnost toka vrednosti snosi menadžment preduzeća, ali radnici su ti koji su odgovorni za odvijanja aktivnosti unutar toka vrednosti i za eliminisanje onih aktivnosti koje ne stvaraju vrednost ili izazivaju gubitke. Jasno formulisana uloga svakog zaposlenog, na putu od trenutnog ka budućem stanju, stvara kod njih osećaj ponosa zbog pripadnosti timu koji radi na unapređenju tržišne pozicije preduzeća. Oni nisu samo pasivni učesnici u procesu rada, već učestvuju u rešavanju problema i donošenju odluka. Kroz treninge i kontinuiranu obuku, lean preduzeća razvijaju sposobnosti svojih radnika. Pored toga, rad je timski i zaposleni imaju mogućnost da iskažu svoje kreativne sposobnosti, a hijerarhija nema formu instrukcija, već se ispoljava kroz koordinaciju i savetovanje.

U savremenim uslovima poslovanja, proizvodna preduzeća imaju tendenciju za promenom masovne proizvodnje masovnom kostjimizacijom. Danas, fleksibilna preduzeća proizvode za pojedinca a ne za zalihe ili nepoznatog kupca. Sa stanovišta kupca, kvalitet proizvoda trebalo bi da se podrazumeva i ne treba da bude faktor koji podiže cenu proizvoda, tj. kvalitet bi trebalo da bude besplatan. Ovo može izazvati velike kontraverze unutar proizvodnih preduzeća, ali za kupca ovo je veoma očigledno i fer. Kupci pretpostavljaju da proizvod koji su naručili ima sve atribute koji su zahtevani. Lean proizvodni sistem eliminiše aktivnosti koje ne dodaju vrednost za kupce, čime smanjuje troškove proizvodnje i, istovremeno, povećava kvalitet proizvoda podržavajući aktivnosti

koje dodaju vrednost za kupca. Na ovaj način, preduzeće dolazi do situacije u kojoj kvalitetniji proizvod zapravo izaziva smanjenje troškova. U ovim uslovima, kupci mogu da se oslone na proizvodnju proizvoda po njihovim zahtevima, odgovarajućeg kvaliteta i koji se isporučuje tačno na vreme, što dovodi do razvijanja dobrih odnosa sa preduzećom i dugoročne saradnje.

Sa aspekta privrede, lean koncept je značajan jer omogućava efikasnije upošljavanje svih oskudnih resursa uz maksimalno uvažavanje principa efektivnosti. Pored toga, lean koncept, kada se na ispravan način implementira, stvara preduzeće koje je veoma uspešno i konkurentno, što pozitivno utiče na rast i razvoj privrede u celini.

3. IZAZOVI PRIMENE LEAN KONCEPTA NA GLOBALNOM NIVOU

Mnogi još uvek ne veruju da je japanska industrija razvila proizvodni sistem koji je superiorniji od masovnog proizvodnog sistema, iako je prošio više od četrdeset godina od kada je Tojota počela sa implementacijom lean proizvodnje. Lean je u svojim počecima bio vezan za automobilsku industriju. Nevolja u kojoj se našla Tojota, prouzrokovala je nastanak lean proizvodnog sistema. Nedostatak novca, dugovi i nizak kvalitet proizvoda zahtevale su ekstremne promene. Tojota je konstantnim unapređenjima svog proizvodnog procesa razvila Toyota productive system (TPS), nazvan kasnije lean proizvodnja. Nakon Tojotinog uspeha, lean implementacija je izvršena i u drugim preduzećima automobilske industrije. To znači da se lean koncept uspešno preneo i na zemlje zapadne Evrope i Ameriku. Nisu sve automobilske fabrike podjednako efikasne, ali svuda su dale izvanredne rezultate u smanjenju ciklusa proizvodnje i uštedi.

Danas gotovo sva brodogradilišta koriste lean metode i tehnike, kako bi ubrzali proces proizvodnje, smanjili greške i smanjili broj delova neophodnih za proizvodnju skupih prekookeanskih brodova. Lean pristup se može naći i u preduzećima koja proizvode avionske motore i u elektronskoj industriji. Ubrzo je i vojska SAD-a uvidela koristi od lean metoda i tehnika, tako da sva preduzeća koja saraduju sa vojskom SAD-a koriste lean metode i tehnike. Bolnice, medicinski centri i domovi zdravlja uvode lean koncept i kaizen metodu unapređenja, kako bi eliminali gubitke, a samim tim smanjili troškove i čekanje pacijenata. Lean koncept se koristi za skraćivanje vremena pripreme operacionih sala, totalnom produktivnom održavanju skupih aparata za dijagnostiku i rentabilnosti naručivanja određenih medikamenata.

Postojali su naravno i slučajevi da lean koncept nije mogao uspešno da se implementira u pojedinim preduzećima. Anketa, koju je sproveo časopis Industry Week u 2007. godini, pokazala je da su samo 2% preduzeća koja su implementirala lean koncept dostigla rezultate koje su anticipirali. Nažalost, 80% lean inicijativa je napušteno u toku prve tri godine od njihove implementacije. Razlozi za neuspešnu primenu najčešće su greške menadžera koji su samo sporadično počeli da koriste određene metode lean koncepta i implementirali ih izolovano od drugih principa. Da bi jedno preduzeće postalo lean neophodno je da lean principe, metode i alate kontinuirano primenjuje u svim procesima, da organizacionu kulturu transformiše u kooperantsku, da uspostavi timski rad, da uključi sve zaposlene u lean implementaciju i da stalno vrši njihovo edukovanje. Filozofija koju koriste japanski proizvođači se u velikoj meri razlikuje od filozofije zapadnih zemalja.

Jedan od osnovnih razloga za neuspeh je što preduzeća ne pristupaju lean implementaciji kao strategiji kompanije. Menadžeri preduzeća su bili u zabludi da bi trebalo formirati odeljenje eksperata za lean koncept, koji bi vodili transformaciju i implementirali poboljšanja u svim segmentima preduzeća. Uspešna implementacija lean

strategije zahteva da svi zaposleni promene poslovnu kulturu, u smislu da se uspostavi lean mišljenje i lean ponašanje. Potrebno je otkloniti otpor prema promenama koji se može javiti kod zaposlenih. Ljudi su bića navika, i u obavljanju istih aktivnosti i na isti način dobijaju osećaj sigurnosti i samopouzdanja. Zaposlenima bi trebalo ugraditi nov način mišljenja po kome je promena, ako je na bolje, dobra stvar kojoj treba težiti i od koje ne treba strahovati. Drugim rečima, treba im ugraditi rutinu, ne za obavljanje posla, već za iznalazak načina da se taj posao poboljša. U tom smislu, možemo reći da zaposleni predstavljaju ključni strategijski faktor za kreiranje performansi preduzeća i postizanje konkurentne prednosti. Zato ovaj koncept i podrazumeva stalno usavršavanje znanja, veština i sposobnosti zaposlenih. Preduzeća koja uspešno implementiraju lean koncept biraju zaposlene koji su spremni da uče i da se razvijaju po potrebama njihovog poslovnog sistema.

Važno je da se zaposleni fokusiraju na izvršenje procesa, a ne na njihove rezultate. Željenji rezultati će, svakako, biti ostvareni, ukoliko se zaposleni usredsrede na obavljanje pravih poslova. Da bi se obezbedilo lean ponašanje zaposlenih, mora da se promeni i sistem merenja performansi. Sistem merenja performansi određuju menadžeri i on predstavlja način na koji menadžment vidi doprinos svakog od zaposlenog. Zaposleni zato nastoje da se ponašaju na način koji menadžeri očekuju. Sistem naknade, povezan sa sistemom merenja performansi, ima najveći uticaj na ponašanje zaposlenih. Bitno je za uspešnu Lean implementaciju, da direktor preduzeća pruža sigurnost zaposlenima, da povećana produktivnost neće rezultirati gubitkom njihovog radnog mesta. Treba kreirati, takođe, takvo poslovno okruženje u kome će zaposleni biti slobodni da preduzmu novu akciju, kako bi pronašli bolji način za obavljanje nekog posla, bez straha da će biti kažnjeni ako u tome ne uspeju. U tabeli 1. prikazani su neki od najvažnijih faktora u preduzeću koji podržavaju, ili se suprotstavljaju implementaciji lean koncepta.

Tabela 1. Faktori u preduzeću koji su za i protiv implementacije lean koncepta

Faktori koji podržavaju lean		Faktori koje se suprotstavljaju leanu
- približiti se kupcima u veoma konkurentnim uslovima - bolje razumevanje proizvodnog procesa - smanjenje proizvodnih troškova - bolje razumevanje potreba kupaca - kvalitetniji proizvodi - motivisani zaposleni koji se stalno usavršavaju - veće znanje o svim učesnicima vrednosti	L E A N	- skepticizam prema ispravnosti filozofije - nedostatak vremena da se posvete implementaciji leana - zabrinutost da li su promene u sa važećim propisima i pravilima - strah da se izađe iz funkcionalnih silosa - želja da se nastavi sa masovnom proizvodnjom bez prestanka - strah od nedostatka zaliha

Izvor: prilagođeno prema Melton T., (2005), The Benefits of Lean Manufacturing - What Lean Thinking has to Offer the Process Industries, Institution of Chemical Engineers, Velika Britanija.

Pored promena u samom preduzeću, kao i promena u poslovnoj kulturi preduzeća, lean koncept zahteva i uspostavljanje drugačijih odnosa sa kupcima, dobavljačima i ostalim poslovnim partnerima. Preduzeće mora izgraditi odnose poverenja sa dobavljačima, kako bi osigurali tačne, pravovremene i česte isporuke materijala i sirovina. Takođe, preduzeće

mora razviti dobre odnose sa kupcima, kako bi bilo u mogućnosti da predvidi njihove potrebe i ukuse, i na taj način osigura i obezbedi dugoročnu saradnju.

4. PRIMENA LEAN KONCEPTA U REPUBLICI SRBIJI

U savremenom poslovnom okruženju, koje karakterišu kompleksne i dinamičke promene, neizvesnost i intenzivna konkurencija, razvoj i opstanak bilo kojeg preduzeća nije unapred zagarantovan. Usled toga, preduzeća u našoj zemlji se sve više moraju baviti pitanjem održivosti na globalnom tržištu. U tom smislu, važno konkurentsko sredstvo može biti lean koncept, jer on podjednako uvažava troškove, kvalitet, vreme i inovacije, kao ključne faktore poslovnog uspeha. Polazi od tržišnih trendova i očekivanja kupaca, a proizvodnju organizuje u malim serijama, bez zaustavljanja procesa proizvodnje, bez skladištenja, bez rasipanja.

Lean proizvodnja je nastala u Japanu u Tojoti i lean nije nastao zato što je Tojota imala uspešne godine poslovanja, već iz nužde da se troškovi smanje, a preduzeću povrati rentabilnost. Može se reći da je lean nastao iz nužde, a ne kao usmeren istraživački rad, koji je sproveden godinama, kako bi se rezultati istraživanja implementirali u preduzeće. Trenutno je i Srbija u sličnoj situaciji: osiromašena ratovima, sa sporim prilivom kapitala iz EU i sporim procesom integracije u evropske tokove. Cilj leana je da eliminiše gubitke u procesima. Kako tada nisu imali novca, menadžeri Tojote su metode i tehnike leana prilagođavali trenutnoj situaciji. Sve metode i tehnike i čitava filozofija kaizen unapređenja upravo vodi ka sitnim unapređenjima koja nisu ni skupa ni radikalna. Da bi se implementirao lean koncept u preduzećima naše privrede, neophodne su korenite promene u svim poslovnim procesima, u organizacionoj strukturi, računovodstvu i svim delovima preduzeća. Pored toga, mora da se izvrši edukacija menadžera i svih zaposlenih, njihovo znanje se mora stalno usavršavati, nadograđivati i oni moraju pokazati spremnost da prihvate jedan novi način mišljenja i ponašanja. To znači da mora da dođe do transfera znanja, veština i iskustava preduzeća koja su uspešno implementirala ovaj koncept. Nerealno je očekivati da preduzeća u Srbiji postanu lean preduzeća u jako kratkom roku. Isto tako je činjenica da su preduzeća u Srbiji najčešće glomazna, izrazito neefikasna i niske poslovne kulture. Privatizacijom i prilivom stranog kapitala preduzeća će morati da postanu konkurentnija i efikasnija. Uvođenjem nekih metoda i tehnika leana gotovo trenutno dolazi do vidnog napretka u efikasnosti preduzeća. Strategija Srbije je razvoj malih i srednjih preduzeća, kako bi se nivo nezaposlenosti smanjio. U malim i srednjim preduzećima, koja tek nastaju, je mnogo lakše primeniti metode i tehnike leana. Njihovom implementacijom domaća preduzeća bi povećala efikasnost i produktivnost, minimizirali troškove, dobili bi vrhunske radnike, što bi sigurno doprinelo i konkurentnosti domaćih preduzeća na međunarodnom tržištu.

5. ZAKLJUČAK

Usled promena u savremenom poslovnom okruženju, dolazi do potrebe za promenom poslovne filozofije preduzeća i napuštanju nekadašnjeg vrhovnog cilja poslovanja u vidu maksimiziranja profita. Osnovi cilj poslovanja je postao zadovoljenje potreba sve prefinjenijih kupaca. Lean koncept je kontinuiran proces, i cela filozofija preduzeća se mora prilagoditi konstantnom unapređenju procesa i eliminisanju gubitaka u preduzeću. Jedino na taj način preduzeće će imati dugoročne beneficije od lean koncepta.

Ovim radom su obuhvaćene i objašnjene osnovne metode i tehnike lean koncepta. Potrebno je istaći da metode i tehnike lean koncepta nisu komplikovane, ali traže apsolutno posvećenje svih zaposlenih u preduzeću, kako bi se postigla potpuna korist od implementacije. Sve vrste preduzeća (i proizvodna i uslužna) i sve institucije mogu drastično smanjiti gubitke primenjujući metode i tehnike lean koncepta. Potrebno je izvršiti preciznu analizu svih procesa u preduzeću i ukazati na njihove nedostatke.

Ovaj koncept usmerava preduzeća na proizvodnju samo proizvoda koji su potrebni, u vreme kada su potrebni, uz smanjivanje zaliha i oslobađanje retkih resursa i kapaciteta koji se koriste za dalji rast i razvoj preduzeća. Proizvodnja je visoko automatizovana, mašine i procesi su fleksibilni i omogućavaju brzu kostjumizaciju proizvoda pre i u samom toku proizvodnje. Svi procesi u proizvodnom sistemu su međusobno povezani u jedan kontinuirani tok, od krajnjeg kupca, preko proizvodnje, pa sve do nabavke materijala od dobavljača. Svaki proces u lancu vrednosti proizvodi samo proizvode u količini koja je potrebna za sledeći proces, smanjujući na taj način zalihe i škart. Smanjenje troškova i povećavanje kvaliteta proizvoda na ovaj način, doprinosi boljim performansama preduzeća i zauzimanju šire konkurentske pozicije na tržištu. Identifikovanje i eliminisanje nepotrebnih i rasipničkih aktivnosti u poslovnom procesu i usmeravanjem pažnje isključivo na aktivnosti koje stvaraju vrednost za kupca, lean koncept omogućava da se postigne maksimalan kvalitet proizvodnih procesa. Najveći potencijal lean preduzeća čine njegovi radnici. Jasno formulisana uloga svakog zaposlenog, na putu od trenutnog ka budućem stanju, stvara kod njih osećaj ponosa zbog pripadnosti timu koji radi na unapređenju tržišne pozicije preduzeća. Oni su odgovorni za troškove, kvalitet proizvoda i brzinu proizvodnje i isporuke proizvoda krajnjem kupcu. Preduzeća koja uspešno implementiraju lean koncept biraju zaposlene koji su spremni da uče i da se razvijaju u skladu sa potrebama njihovog poslovnog sistema.

Svaki uspešan poslovni sistem je zasnovan na kvalitetnim informacijama i efektivnom informacionom sistemu, jer bi tok informacija trebalo da podržava tok vrednosti u preduzeću. Razvoj lean računovodstva omogućio je lean preduzećima dostupnost tačnih, pravovremenih i relevantnih informacija o troškovima i performansama preduzeća. Tradicionalni sistemi obračuna i upravljanja troškovima zamenjeni su obračunom toka vrednosti. Bez ove podrške, ne bi bilo moguće izvršiti uspešnu implementaciju lean principa u poslovni sistem. Pored promena u funkciji proizvodnje, dolazi i do korisnih prilagođavanja u funkcijama planiranja i kontrole i nadzora preduzeća. SOFP je glavni proces planiranja u lean preduzećima i predstavlja sveobuhvatan srednjoročni i kratkoročni plan za celo preduzeće. U pitanju je formalni i rigorozan plan koji se postavlja na nivou svakog toka vrednosti i koji koordinira zaposlene nadležne za prodaju, marketing, proizvodnju i nabavku od dobavljača.

Većina savremenih preduzeća mora da se oslanja na elektronske informacione sisteme zbog obima, složenosti i globalnosti njihovih aktivnosti. Lean preduzeća imaju potrebu za pravim informacijama, u pravo vreme i na pravom mestu, kako bi mogla da dobiju maksimalne koristi od lean koncepta. Savremeni informacioni sistemi razvijeni i implementirani u duhu lean koncepta, nezamenljiva su podrška funkcionisanju proizvodnje i svih ostalih aktivnosti u lean preduzeću.

Masovna proizvodnja je predstavljala glavni vladajući sistem proizvodnje XX veka. Može se zaključiti da će lean proizvodnja, kao sredstvo za postizanje i održavanje ravnoteže između kvalitetnog i pravovremenog zadovoljenja potreba kupaca i profitabilnosti savremenog preduzeća, predstavljati vodeći sistem proizvodnje XXI veka.

REFERENCE

1. Antić Lj., (2012), Koncepti obračuna i upravljanja troškovima u poslovnom okruženju, Zbornik radova sa 43. simpozijuma SRRS, Zlatibor, str. 144-165.
2. Arthur J., (2004), Lean Simplified: The Economics of Speed, Lifestar, SAD.
3. Arthur J., (2007), Leau Six Sigma Demistified, McGraw-Hili, SAD.
4. Bell S., (2006), Lean Enterprise Systems: Using IT for Continuous Improvement, John Wiley & Sons, SAD.
5. Bell S., Orzen M., (2011), Lean IT - Enabling and Sustaining Your Lean Transformation, CRC Press, SAD.
6. Cooper R., Stagmulder R., (1997), Target Costing and Value Engineering, Productivity Press, SAD.
7. Davenport T., (2000), Mission Critical - Realizing the Promise of Enterprise Systems, Harvard Business School Press, SAD.
8. George M., (2002), Lean Six Sigma, McGraw-Hill, SAD.
9. Imai M., (2008). Kaizen - ključ japanskogposlovanja, Mono i Manjana, Beograd.
10. Institute of Management Accountants, (2006), Accounting for the Lean Enterprises: Mayor Changes for the Accounting Paradigm, Institute of Management Accountants, SAD, (eiektronsko izdanje - <http://www.imanet.org>).
11. Jablan Stefanović R., (2010), Informacije računovodstva troškova u postizanju i održavanju konkurentskih prednosti preduzeća. Zbornik radova sa 41. Simpozijuma SRRS, Zlatibor, str. 234-254.
12. Jablan Stefanović R., (2012), Interni obračun, CID, Ekonomski fakultet u Beogradu.
13. Jablan Stefanović R., (2012), Lean računovodstvo kao podrška upravljanju preduzećima, Zbornik radova sa 43. simpozijuma SRRS, Zlatibor, str. 186-199.
14. Lalević A., (2005), Obračun ciljnih troškova kao savremeni koncept upravljanja troškovima, Ekonomske teme, Vol. 1-2 II knjiga, Niš, str. 279-286.
15. Levy D., (1997), Lean Production in an International Supply Chain, Sloan Management Revievv - Winter 1997, SAD, (elektronsko izdanje-<http://sloanreview.mit.edu>).
16. Liker Meier D., (2006), The Toyota Way Fieldbook - A Practical Guide to Implementing Toyota 's 4Ps, McGraw-Hill, SAD.
17. Liker Rother M., (201 1). Whv Lean Programs Fail, Lean Enterprise Institut, SAD, (elektronsko izdanje - <http://www.lean.org>).
18. Lukić R., (2006), Računovodstvo trgovinskih preduzeća, CID, Ekonomski fakultet u Beogradu.
19. Lukić R., (2012), Upravljanje kvalitetom materijalnih proizvoda, CID, Ekonomski fakultet u Beogradu.
20. Maskeil B., (2008), What is Lean Accounting?, (elektronsko izdanje h 11 p: //w w vv .maskell.com).

21. Maskell B., Baggalav B., (2006), Lean Accounting: What s it A/l About?. Target volume 22. Number 1, str. 35-43.
22. McCarty D., Rich N., (2004), Lean TPM: A Blueprint for Change, Elsevier Ltd., Velika Britanija.
23. McGravv-Hill, SAD.
24. Radovanović R., (2005), Finansijsko računovodstvo, CID, Ekonomski fakultet u Beogradu.
25. Rother M., Shook J., (2003), Learning to See Value Stream Mapping to Add Va/ue and Eliminate Muda, The Lean Enterprise Institute, SAD.
26. Stankić R., (2012). Poslovna informatika, CID, Ekonomski fakultet u Beogradu.

INNOVATIVE CONCEPTS IN STRATEGIC MANAGEMENT

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Abstract: Strategic management is the organization's response to the challenges in environment. Stable and predictable environment doesn't exist anymore. The environment in which organizations operate every day is more different, more turbulent and complex. Changes are very difficult to predict, so that all organizations need to respond quickly and have to increase their flexibility. Therefore, organizations are no longer able to rely on "old and proven" strategies. In searching for a new solutions, theoreticians and practitioners mix various influences and combine ideas using a modern information tools. On that basis, modified and hybrid approaches were created. Most experts predict that we should expect more of these "mixed" theories and concepts. This process has already begun with affirmation of integrated management systems.

Keywords: Strategic management, Integral model of strategic management, New product development management, Total quality management, Customer relationship management

INOVATIVNI KONCEPTI U STRATEGIJSKOM UPRAVLJANJU

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Apstrakt: Strategijsko upravljanje je odgovor organizacije na izazove koje nameću promene u okruženju. Stabilno i predvidivo okruženje više ne postoji. Sredina u kojoj posluju organizacije je svaki dan drugačija, turbulentnija i kompleksnija. Promene je sve teže predvideti, tako da organizacije sve brže moraju da reaguju, odnosno da povećavaju svoju fleksibilnost. Zbog toga organizacije više nisu mogle da se oslanjaju na "stare i proverene" strategije, već su bile prinuđene da traže nova rešenja. U potrazi za novim rešenjima, teoretičari i praktičari ukrštaju različite uticaje i kombinuju ideje koristeći savremene informatičke alate. Na toj osnovi kreirani su modifikovani i hibridni pristupi strategijskom upravljanju. Većina stručnjaka smatra da u narednom periodu treba očekivati sve više ovakvih upravljačkih "mikseva" sastavljenih od različitih teorija i koncepcija. Ovaj proces je već počeo afirmacijom integrisanih menadžment sistema.

Ključne reči: Strategijsko upravljanje, integralni model strategijskog upravljanja, upravljanje razvojem novih proizvoda, upravljanje ukupnim kvalitetom, upravljanje odnosima sa potrošačima

1. UVOD

Klasično dugoročno planiranje je funkcionisalo u organizacijama sve dok su uslovi u okruženju bili relativno stabilni. Menadžeri su projektovali budućnost na osnovu ekstrapolacije prošlosti. Međutim, ovakav pristup ne funkcioniše u sredini koja se naglo, brzo i radikalno menja. Organizacije su bile prinuđene da traže adekvatnu stratešku orijentaciju, odnosno nova rešenja sa ciljem da poslovanje prilagode dinamičnom i turbulentnom okruženju.

Potruga za novim rešenjima u strategijskom upravljanju vodi u sferu integrisanih menadžment sistema koji predstavljaju novu razinu u razvoju teorije i prakse menadžmenta krajem XX i početkom XXI veka. Nastali su kao rezultat dubokih promena u internoj i eksternoj sredini, odnosno povećanih zahteva koji se u savremenim uslovima postavljaju pred organizacije. Vlasnici su primarno zainteresovani za ostvarivanje profita, odnosno oplodnju uloženog kapitala. Kupci (potrošači) zahtevaju sve viši nivo kvaliteta isporučenih proizvoda i usluga po konkurentnoj ceni. Regulatori insistiraju na primeni različitih propisa i standarda. Isto tako, zaposleni, posredstvom sindikata, nastoje da obezbede svoja prava i interese. Društveni, pokreti, nevladine organizacije, uopšte šira javnost, traže da organizacije zaštite životnu sredinu i da pokažu svoju socijalnu odgovornost. Dakle, sve zainteresovane strane (stakeholderi) pojačavaju pritisak na organizacije da balansiraju između više ciljeva. Integrisani menadžment sistemi omogućavaju organizacijama da uspostave ovu ravnotežu, korišćenjem zajedničkih resursa u organizaciji.

Integrisani menadžment sistemi su prvo afirmisani na osnovu povezivanja različitih standarda kao što su sistem upravljanja kvalitetom (ISO 9001), sistem upravljanja zaštitom životne sredine (ISO 14000), sistem upravljanja zdravljem i bezbednošću na radu (OHSAS 18000), sistem upravljanja informatičkom bezbednošću (ISO 27000) i sl. Ovaj trend je zaokupio pažnju naučne i stručne javnosti, ali i menadžera u praksi, što potvrđuje rastući broj organizacija koje se mogu pohvaliti sa dva ili više sertifikata o ispunjenosti zahteva različitih standarda. Međutim, modeli za integraciju nestandardizovanih menadžment sistema ostali su na periferiji naučne i stručne javnosti. Takvi modeli ne spajaju standarde, već integrišu različite nestandardizovane poslovne koncepcije u jedinstvenu strategiju. Cilj ovog rada je da na konceptualnom nivou predstavi konstrukciju i funkcionalnosti jednog ovakvog modela - integralnog modela strategijskog upravljanja.

U prvom delu rada predstavljen je pregled relevantne literature koja se odnosi na predmet istraživanja. Posebna pažnja usmerena je na empirijske studije na osnovu kojih se mogu sagledati prednosti integrisanih u odnosu na parcijalne menadžment sisteme. U drugom delu objašnjena su načela i osnovni postupci u konstrukciji integrisanih standardizovanih modela, kao i modeli koji su najviše afirmisani u teoriji i praksi. Treći deo posvećen je integraciji nestandardizovanih menadžment sistema. U četvrtom delu prezentiran je integralni model strategijskog upravljanja i rezultati primene ovog modela u praksi. Na kraju su sumirani zaključci i najavljena naredna istraživanja u ovoj oblasti.

2. PREGLED LITERATURE

Predmet ovog istraživanja može se posmatrati u kontekstu integrisanih menadžment sistema. Ovi sistemi su razvijani krajem XX i početkom XXI veka na osnovu povezivanja različitih standarda kao što ISO 9000 (upravljanje kvalitetom), ISO 14000 (upravljanje zaštitom životne sredine), OHSAS 18000 (upravljanje zdravljem i bezbednošću na radu) i sl. Na prvi pogled svaki od navedenih sistema ima drugačije postavljen fokus. Npr. sistem

upravljanja kvalitetom je usmeren, pre svega, prema ekonomiji, dok je sistem upravljanja zaštitom životne sredine prevashodno okrenut ka ekologiji. Sa druge strane, sistem upravljanja zdravljem i bezbednošću na radu je uglavnom fokusiran na brigu o zaposlenima. Međutim, uprkos evidentnim razlikama, teorija i praksa su pokazale da je integracija ovih standardizovanih sistema moguća zahvaljujući zajedničkim principima i elementima kompatibilnosti [1, p.3-4]. Naime, sva tri standarda zahtevaju planiranje, definisanje uloge i odgovornosti svakoga u organizaciji, zatim obuku i trening svih zaposlenih, uređenu dokumentacionu osnovu, kontinuirana unapređenja, kao i redovne interne provere, odnosno nadzor i kontrolu sistema upravljanja [2,3,4].

Posao potreban za izgradnju sistema za upravljanje kvalitetom (ISO 9001:2008) ne razlikuje bitno od posla koji zahteva uspostavljanje sistema za upravljanje životnom sredinom (ISO 14001:2004) ili sistema za upravljanje zdravljem i bezbednošću na radu (OHSAS 18001:2007). Procenjuje se da oko 80% ovog posla čine iste, ili slične aktivnosti [5]. U tom smislu, u literaturi je zastupljeno gledište da je P-D-C-A ciklus (Plan-Do-Check-Act) ključni mehanizam koji pokreće stalna poboljšanja u svim navedenim standardima. Zahvaljujući tome, postoji solidna osnova za integraciju ovih sistema upravljanja [6,7].

Pregledom relevantne literature, može se uočiti da je najviše empirijskih istraživanja realizovano da bi bile identifikovane prednosti integrisanih u odnosu na parcijalne (individualne) menadžment sisteme. Tako *Douglas i Glenn* (2000) smatraju da integrisani menadžment sistemi doprinose uštedama (smanjenje dokumentacije), ali i da pozitivno utiče na satisfakciju potrošača. Međutim, na osnovu svoje empirijske studije, ovi autori su utvrdili da značajan broj malih i srednjih preduzeća u V. Britaniji nije uspeo da do kraja integriše sistem upravljanja kvalitetom (ISO 9000) i sistem upravljanja zaštitom životne sredine (ISO 14000), jer su imali posebne tj. odvojene priručnike i procedure za oba sistema. Većina britanskih sertifikacionih tela je odobravala ovakvu praksu i nije forsirala integraciju standardizovanih menadžment sistema. [8]

Prednosti integrisanih menadžment sistema potvrđena su i u narednim istraživanjima koje su realizovali *McDonald, Mors i Phillips* (2003). Ovi autori su zaključili da se na osnovu integracije mogu unaprediti organizacione performanse, optimizovati resursi i ostvariti sinergetski efekti. Integracija pojedinačnih menadžment sistema olakšava i strateško planiranje, odnosno određivanje strateških pravaca i usklađivanje ciljeva.[9] Ove stavove podržali su i *Zutshi i Sohal* (2005). Njihova analiza iskustva australijskih kompanija pokazala je da se integracijom može ustanoviti jednostavnija organizacija, odnosno sistem upravljanja. Na ovaj način štedi se vreme za implementaciju i uloženi novac, a integrisani sistem je lakše kontrolisati i održavati. [10] Slične zaključke formulisala je i *Salamone* (2008) na osnovu novijeg istraživanja realizovanog u Italiji. [11]

3. MODELI INTEGRACIJE STANDARDIZOVANIH SISTEMA UPRAVLJANJA

U teoriji i praksi su predstavljeni različiti modeli integracije standardizovanih menadžment sistema. Među njima veliku pažnju naučne i stručne javnosti izazvali su sledeći modeli:[12]

- Wilkinson - Dale model;
- Karapetrović - Rocha model;

- Brewer - Nash model;
- Danski model integracije standardizovanih menadžment sistema (DS 8001:2005);
- Britanski model integracije standardizovanih menadžment sistema (PAS99:2006).

Wilkinson-Dale [13] integrisani model je razvijen 2001. godine i obuhvata: /1/ sistem upravljanja kvalitetom prema standardima ISO 9001; /2/ sistem upravljanja zaštitom životne sredine u skladu sa ISO 14001 i /3/ sistem upravljanja zdravljem i bezbednošću na radu usaglašen sa standardom OHSAS 18001. Prilikom konstrukcije modela, autori su koristili pristup upravljanja ukupnim kvalitetom (Total Quality Management - TQM). Model je utemeljen na empirijskom istraživanju u kojem je analiziran uzorak od 49 organizacija članica Britanskog društva za standarde (British Standard Society - BSS). Rezultati istraživanja su pokazali i prednosti integracije, ali i teškoće koje prate ovaj proces (razlike u pojedinačnim sistemima). Takođe, jedan od najvažnijih zaključaka izveden iz ove analize je da organizaciona kultura ima veoma važnu ulogu u izgradnji integrisanih menadžment sistema. Autori nisu u ovom modelu određivali stepen integracije, nego su ostavili organizacijama da se same opredele za delimičnu, ili potpunu integraciju.

Model Stanislava Karapetrovića i Miguela Rocha-e nastao je u periodu 2005-2007. godine na Univerzitetu Alberta, u Kanadi.[14] Povezuje četiri sistema upravljanja: CSRMS (AA1000), EMS (ISO 14001), OHSMS (OHSAS 18001) i QMS (ISO 9001). Ovaj model je razvijen na osnovu empirijskih istraživanja i analiza u organizacijama članicama Kanadske elektrotehničke asocijacije (CEA). Autori su ovaj model slikovito opisali kao "elektromotor". Ulazni impuls za pokretanje ovog "elektromotora" predstavljaju zahtevi zainteresovanih strana (stakeholderi). Na osnovu ulaznog impulsa, mobilisu se resursi i pokreće mehanizam. Osnova ovog mehanizma je PDCA upravljački ciklus koji počinje planiranjem (Plan), nastavlja se primenom i sprovođenjem operacija (Do), ulazi u fazu provere i kontrole (Check) i završava se unapređenjima (Act). Ciklus se stalno ponavlja ("okreće") i zbog toga podseća na rotor. Ovakvo funkcionisanje ne bi bilo moguće da neme rukovodstva i organizacione kulture (vrednosti i ciljeva) koji određuju ovaj upravljački proces i mogu se posmatrati kao "stator". Na izlazu se nalaze "merni instrumenti" koji pokazuju koliko uspešno radi ovaj integrisani sistem. Dakle, model "elektromotor" transformiše ulazne zahteve zainteresovanih strana ("električna energija") u rezultate prema specifikacijama navedenih standarda ("obrtna energija").

Model Brewer - Nash [15] integriše sistem upravljanja kvalitetom prema standardu ISO 9001, zatim sistem upravljanja zaštitom životne sredine (ISO 14001) i sistem upravljanja informatičkom bezbednošću (ISO 27001). Model je konstruisan 2005. godine. Autori su uklopili zahteve navedenih standarda u PDCA ciklus. Faza planiranja (Plan) obuhvata misiju, poslovne ciljeve i politike definisane na osnovu istovremenog razmatranja rizika i poslovnih mogućnosti. U fazi realizacije (Do) primenjuje se upravljanje resursima na osnovu operativnih procedura i uputstava radi realizacije postavljenih ciljeva. Faza provere (Check) podrazumeva preispitivanje i kontrolu funkcionisanja sistema što je zahtev sva tri standarda prema kojima je razvijen ovaj model integrisanog menadžment sistema. Konačno, u fazi unapređivanja (Act) sprovode se preventivne i korektivne mere, odnosno poboljšanje funkcionisanja integrisanog menadžment sistema.

Danski standardizovani model IMS objavljen je 2005. godine u formi smernica (guidelines) za integracije sistema menadžmenta (DS 8001:2005). U ovom dokumentu, kao prva tačka, definisan je predmet i područje primene, zatim su navedene normativne reference, a nakon toga objašnjeni termini i definicije sadržani u zahtevima standarda ISO 9001, ISO 14001 i OHSAS 18001. Centralni deo posvećen je izgradnji i upravljanju

integrisanim menadžment sistemom. Pri tome je naglašena uloga zajedničkih elemenata, odnosno procesa koji treba da budu osnova za integraciju parcijalnih menadžment sistema. Ovi procesi su grupisani u tri kategorije: /1/ upravljački procesi - strategija, politike, interne provere sistema, upravljanje resursima, uspostavljanje organizacije, upravljanje rizicima i sl; /2/ poslovni procesi - interna i eksterna komunikacija, upravljanje proizvodnjom, upravljanje prodajom, neusaglašenosti, korektivne i preventivne mere; /3/ procesi podrške npr. upravljanje dokumentacijom, kao i obuka i trening zaposlenih. Na kraju dokumenta su predstavljene glavne oblasti u integrisanim menadžment sistemima i ukupno 13 aneksa koji uglavnom sadrže preporuke i savete upućene organizacijama koje nastoje da integrišu svoje menadžment sisteme.

Britanski standardizovani model IMS je razvijen 2006. godine pod nazivom "Javno dostupna specifikacija zajedničkih zahteva sistema menadžmenta kao okvir za integrisanje". Aktuelno izdanje objavljeno je u oktobru 2012. godine (Public Available Specifications - PAS 99:2012). Ovaj dokument je namenjen prevashodno organizacijama koje su se opredelile za implementaciju dva ili više standardizovana menadžment sistema (ISO 9001, ISO 14001, ISO/IEC 27001, ISO 22000, ISO/IEC 20000, ISO 22301 i OHSAS 18001), ali može biti korišćen i u kombinaciji sa ostalim nacionalnim, odnosno međunarodnim standardima. Potpuno je usaglašen sa ISO Guide 83. U uvodu PAS 99:2012 je predstavljena osnovna logika ovog modela koja polazi od činjenice da se u različitim standardima mogu identifikovati zajednički, ali i specifični zahtevi. Zajednički zahtevi su temelj, a specifični zahtevi su nadogradnja integrisanog menadžment sistema. Osim toga, uvod sadrži i opis PDCA ciklusa u koji su uklopljeni elementi ovog modela. Takođe, značajna pažnja posvećena razumevanju konteksta organizacije. U ovom delu dokumenta (tačka 4) je specificirano da organizacija treba da sagleda eksterne i interne faktore koji utiču na uspešno funkcionisanje IMS-a. Među internim faktorima je naglašena uloga organizacione kulture, ali i raspoloživih materijalnih resursa.

Pored Danskog i Britanskog modela, u još nekoliko država su pokrenute slične inicijative. Npr. prvo su u Norveškoj još 1996 godine objavljeni principi upravljanja (NTS 1996) koji se odnose na kvalitet proizvoda i usluga, zaštitu životne sredine, kao i očuvanje zdravlja zaposlenih i unapređenja bezbednosti na radnom mestu. Osim toga, u Australiji i Novom Zelandu su 1999. godine objavljene smernice za integraciju različitih standardizovanih menadžment sistema (AS/NZS 4581:1999). Takođe, u Španiji je 2005. godine publikovan sličan dokument (UNE 66177:2005). Međutim, treba istaći, da na međunarodnom nivou, još uvek ne postoji standard koji se odnosi na integrisane menadžment sisteme.

4. MODELI INTEGRACIJE NESTANDARDIZOVANIH SISTEMA UPRAVLJANJA

Modeli za integraciju nestandardizovanih menadžment sistema su na periferiji pažnje naučne i stručne javnosti. Odrednica "integrated non-standardized management system" gotovo da nema odziva na Internetu. Istina, u literaturi se mogu pronaći malobrojni radovi u kojima je razmatrana mogućnosti povezivanja različitih poslovnih koncepcija kao što su npr. "Lean" i "Kaizen", odnosno "Lean" i "Six Sigma"

"Lean" je engleska reč koja se najčešće upotrebljava kao pridev i znači "mršav", "vitak". Ova reč se uglavnom koristi da bi opisala fizičko stanje neke osobe, ali i njeno stanje duha, odnosno mentalnu disciplinu. U tom smislu označava prishološki profil osobe koja ispoljava spremnost i odlučnost da se odrekne svega što ugrožava njeno zdravlje i

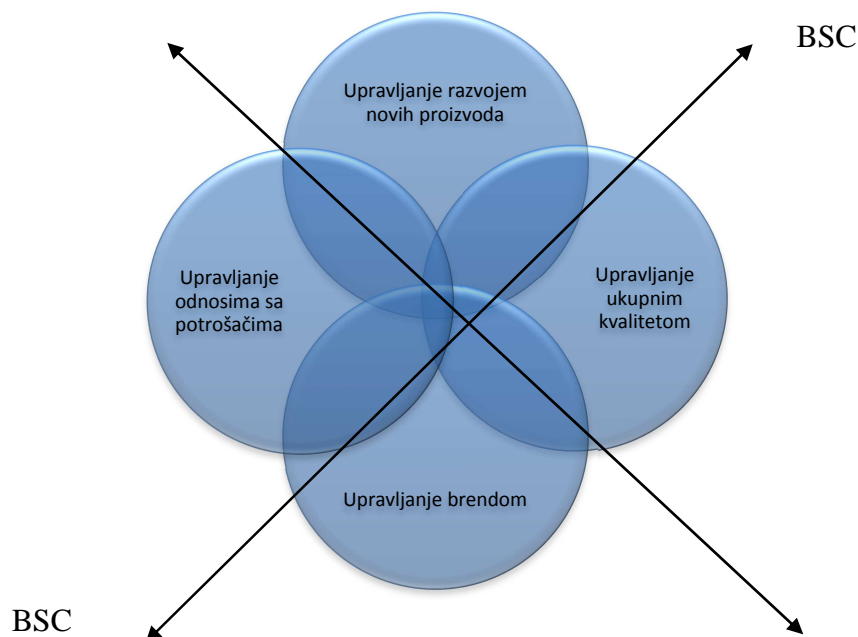
vitalnost, nastojeći da tako sačuva i usmeri snagu samo na one postupke koji jačaju telo i duh. U poslovnom smislu, "Lean" je menadžerska filozofija, odnosno strategija koja predstavlja izraz nastojanja da se eliminišu svi gubici i rasipanje proizvodnih resursa, uz istovremeno poboljšanje kvaliteta, fleksibilnosti i brzine reagovanja na promene u okruženju. Podrazumeva neprestano i sistematsko identifikovanje i otklanjanje suvišenih pojava u poslovanju preduzeća, odnosno eliminisanje svega što ne predstavlja vrednost za kupca (potrošača). U osnovi to je dugoročan, kontinuiran, evolutivni proces promena u organizaciji i prilagođavanje prema potrebama, odnosno zahtevima potrošača. Slično se može opisati i japanski menadžerski pristup "Kaizen" (Kai - promena; Zen - poboljšati). Zahvaljujući sličnostima, ove dve poslovne koncepcije se mogu kombinovati, tako da se u literaturi može pronaći i termin "Lean Kaizen" koji predstavlja njihovu sintezu.[16]

"Lean" se može povezati i sa novijim konceptom koji je, u skladu sa svojom statističkom arhitekturom, nazvan "Šest sigmi" (Six Sigma). Tako se dobija "Lean Six Sigma" kao kombinacija ova dva izuzetno značajna trenda u poboljšanju performansi organizacije.[17,18] Lean u ovu kombinaciju unosi brzinu, odnosno dinamiku (Brže!), dok Six Sigma obezbeđuje preciznu i pouzdanu brigu o kvalitetu (Bolje!). Kada se saberu ova dva činioca dobija se sinergija - i brže i bolje i uz nižu cenu!.[19]

Po uzoru na standardizovane, ali i na nestandardizovane modele, postavljena je ideja o konstrukciji integralnog modela strategijskog upravljanja.

5. INTEGRALNI MODEL STRATEGIJSKOG UPRAVLJANJA

Integralni model strategijskog upravljanja obuhvata četiri komponente: (1) Upravljanje razvojem novih proizvoda/New Product Development Management/; (2) Upravljanje ukupnim kvalitetom/Total Quality Management-TQM/; (3) Upravljanje brendom /Brand Management/; i (4) Upravljanje odnosima sa potrošačima /Customer Relationship Management-CRM/. U ovaj model je instaliran i merni sistem na bazi uravnoteženog pristupa merenju performansi organizacije /Balanced Scorecard - BSC/.



Slika 1. Integralni model strategijskog upravljanja

Osnova na kojoj se temelji integralni model je upravljanje procesom razvoja novih proizvoda. To je i razumljivo imajući u vidu da razvoj kompanije u velikoj meri zavisi od njenog kreativnog potencijala, odnosno sposobnosti da generiše inovacije (nove proizvode). Uslov da bi kompanija iskoristila svoj kreativni potencijal je stvaranje inovativne klime, ali i efikasno upravljanje kreativnim procesom na osnovu sistematskog i strukturiranog algoritma. Na ovaj način se postiže kompromis između značajnih investicija koje zahteva razvoja novih proizvoda i rizika koji prate ovaj proces. Naime, na jednoj strani uslovi na savremenom hiper konkurentnom tržištu nameću preduzećima da sve više investiraju u nove proizvode i da skaćuju vreme razvoja, a na drugoj strani visoka stopa mortaliteta novih proizvoda ukazuje na povećani nivo rizika koji ugrožava realizaciju očekivanih ciljeva.

Upravljanje procesom razvoja novih proizvoda/usluga nije jedini uslov za uspešno poslovanje kompanije. Savremeno tržište traži još više - stalnu potragu za kvalitetom, odnosno kontinuirano unapređenje kvaliteta. Zato je TQM postavljen u ovaj model. Zahvaljujući tome izgrađuje se čvršća infrastruktura u kompaniji (sistem kvaliteta). Ova infrastruktura, između ostalog, obuhvata razvijenu dokumentacionu osnovu (politika kvaliteta, poslovnik o kvalitetu, planovi kvaliteta, procedure, uputstva i zapisi) koja treba da obezbedi administrativnu uredenost u poslovnom sistemu i funkcionisanje procesa prema postavljenim ciljevima. Takođe, upravljanje sistemom kvaliteta podrazumeva intenzivnu obuku i trening zaposlenih, što može da doprinese poboljšanju inovativne klime i da olakša prihvatanje promena u organizaciji.

Uspeh i funkcionalnost modela zavisi i od toga koliko je snažan brend organizacije i zato je ovaj element primenjen u arhitekturi modela. Brend će organizaciji i njenim proizvodima, odnosno uslugama dati prepoznatljivost i emotivnu dimenziju. Na ovaj način, kompanija stvara priliku da kroz komunikaciju sa ciljnim grupama istakne svoju posebnost i prednosti u odnosu na konkurenciju, tj. da unapredi svoj imidž i ojača reputaciju. U nastojanju da se integralni model strategijskog upravljanja u što većoj meri upotpuni, potrebno je dodati još jedan bitan element - upravljanje odnosima sa potrošačima. Suštinu odnosa sa potrošačima čine iskrenost, razumevanje, obzir, predusretljivost, međusobno uvažavanje i poverenje. Ovakav odnos između kompanije i potrošača nalikuje odnosu između prijatelja. Kompanija koja uspe da dostigne visok nivo odnosa potrošačima i da ga dugoročno održava raspolaže izuzetno vrednim potencijalom za razvoj.

Nakon sinteze navedena četiri elementa u integralni model strategijskog upravljanja, potrebno je pratiti funkcionisanje ovog modela i meriti postignute efekte. Celovito sagledavanje performansi obezbeđuje primena sistema karti uravnoteženih učinaka (Balanced Scorecard - BSC). U okviru ovog pristupa ukrštene su finansijska perspektiva, perspektiva potrošača, perspektiva internih procesa, kao i perspektiva učenja i inovacija. Na ovaj način se kombinuju kvantitativni i kvalitativni pokazatelji, što u potpunosti odgovara logici integralnog modela strategijskog upravljanja. Osim toga, BSC omogućava kompanijama da, na osnovu strateške mape, usmere svoje aktivnosti u pravcu ostvarivanja prvo kratkoročnih, a zatim i dugoročnih ciljeva, odnosno realizacije strategije razvoja.

Osnovna svrha integralnog modela strateškog upravljanja je da pozitivno utiče na performanse preduzeća. Funkcionalnost ovog modela proverena je u praksi, u realnim tržišnim uslovima. Model je primenjen u IT kompaniji "Positive", Novi Sad, a merenja su realizovana tokom perioda 2011-2013. godine. Rezultati eksperimenta su pokazali da ovaj model doprinosi unapređenju performansi preduzeća. Većina (17) od ukupno 21 izabranih ključnih indikatora performansi ubedljivo svedoče u prilog ovakvog zaključka. Pri tome treba naglasiti da je ovaj model implementiran u vreme kada se globalna ekonomija još uvek nije oporavila od duboke recesije, odnosno u periodu kada su uslovi privređivanja u

Srbiji bili veoma nepovoljni. Zato se dobri rezultati ne mogu pripisati slučajnom, odnosno povoljnom uticaju spoljnih faktora, već pre svega unutrašnjim faktorima u preduzeću (strateška opredeljenja, organizaciona rešenja, inovacije fleksibilnost, znanje i energija menadžmenta i zaposlenih).

7. ZAKLJUČNA RAZMATRANJA

Integrirani menadžment sistemi predstavljaju inovativni koncept u teoriji i praksi strategijskog upravljanja. Ovakav koncept je prvo afirmisan na osnovu povezivanja različitih standarda kao npr. sistem upravljanja kvalitetom (ISO 9000), sistem upravljanja zaštitom životne sredine (ISO 14000), sistem upravljanja zdravljem i bezbednošću na radu (OHSAS 18000), sistem upravljanja informatičkom bezbednošću (ISO 27000) i sl. Pri tome su veliku pažnju naučne i stručne javnosti izazvali sledeći modeli: /1/ Wilikinson - Dale model; /2/ Karaptetrović - Rocha model; /3/ Brewer-Nash model; /4/ Danski model - DS 8001:2005; /5/ Britanski model - PAS99:2006.

Modeli za integraciju nestandardizovanih menadžment sistema su na periferiji pažnje naučne i stručne javnosti. Očigledno da u ovoj oblasti nedostaju sveže ideje i novi koncepti. U nameri da se popuni ova praznina, u ovom radu je predstavljena ideja o konstrukciji integralnog modela strategijskog upravljanja. U konkretnom smislu, ovaj model predstavlja uniju strategije razvoja novih proizvoda, strategije upravljanja kvalitetom, brend strategije i strategije upravljanja odnosima sa potrošačima. Drugim rečima, da bi se dobio integralni model potrebno je ove pojedinačne strategije harmonizovati i objediniti u jedinstvenu strategiju razvoja kompanije. Pri tome, u ovaj kompozitni model neophodno je ugraditi odgovarajući merni sistem pomoću kojeg bi se postigla kontrola funkcionisanja, odnosno upravljivost modela. U tom smislu, merni sistem na osnovu karti uravnoteženih učinaka (Balanced Scorecard - BSC) pokazao se kao primereno rešenje koje osim merenja rezultata, obezbeđuje i postizanje ravnoteže između ciljeva u modelu. Štaviše, ovaj merni sistem omogućava usmeravanje aktivnosti organizacije prema ostvarivanju ciljeva sledeći mapu uzročno posledičnih veza.

Integralni model strategijskog upravljanja je uspešno primenjen u praksi. Rezultati merenja su pokazali da ovaj model doprinosi unapređenju performansi preduzeća. Pri tome, treba naglasiti da je model implementiran u veoma nepovoljnim uslovima na tržištu. Zbog toga se ostvarivanje postavljenih ciljeva ne može pripisati povoljnom uticaju spoljnih faktora, već pre svega energiji koja je stvorena unutar preduzeća na osnovu funkcionisanja integralnog modela strategijskog upravljanja.

REFERENCE:

- [1] Suzan L. Jackson: "The ISO 14001 Implementation Guide: Creating an Integrated Management System", John Wiley & Sons, Inc (1997), p.3-4;
- [2] Muhammad Asif, Olaf A.M. Fisscher, Erik Joost de Bruijn, Mark Pagell: "An examination of strategies employed for the integration of management systems", The TQM Journal, Vol.22., Iss: 6., (2010);

- [3] Johanness Fresner, Gudrun Engelhardt: "Experiences With Integrated Management Systems For Two Small Companies in Austria", *Journal of Cleaner Production* Vol.12., Iss.6, (2004), pp.623-631.
- [4] Tony Wright: "IMS - Three into One Will Go!: The Advantages of a Single Integrated Quality, Health and Safety, and Environmental Management System", *The Quality Assurance Journal* Vol.4., Iss.3., (2000), pp.137-142
- [5] Tine Herrborg Jørgensen, Marie Dolores Mellado, Arnie Remmen: "Integrated management systems", Working Paper 7, Department of Development and Planning, Aalborg University, Denmark, (2004) p.9.
- [6] Alena Labodová: "Implementing integrated management systems using a risk analysis based approach", *Journal of Cleaner production*, Vol.12, Iss.6., (2004), pp.571-580.
- [7] Palmira López Fresno, "Implementation of an integrated management system in a airline: a case study", *The TQM Journal*, Vol.22., Iss.6., (2010), pp.629-647.
- [8] Alexander Douglas, D. Glen: "Integrated management systems in small and medium enterprises", *Total Quality Management*, Vol.11., No. 4-6, (2000), pp.686-690.
- [9] Marry McDonald, Terry A. Mors, Ann Philips: "Management System Integration: Can It Be Done?", *Quality Progress*, Vol.36., October 2003, pp.67-74.
- [10] Ambika Zutchi, Amrik Sohal: "Integrated Management System: The Experience of Three Australian Organizations", *Journal of Manufacturing Technology Management*, Vol.16., Iss.2., (2005), pp.211-232.
- [11] Roberta Salomone: "Integrated management systems: experiences in Italian organizations", *Journal of Cleaner Production*, Vol.16., (2008), pp.1786-1806.
- [12] Slavko Arsovski: "Integrirani menadžmentni sistemi - modeli i realizovani sistemi", XXXV Nacionalna konferencija o kvalitetu, Kragujevac, 15-18. maj 2008. godine;
- [13] George Wilkinson, Barrie Dale: "Integrated management systems: a model based on total quality approach", *Managing Service Quality*, Vol.11., Iss. 5., pp.318-330.
- [14] Miguel Rocha, Stanislav Karapetrović: "An IMS and applications", International convention on quality (ICQ), Belgrade, 30.05. - 02.06. 2005.
- [15] David Brewer, Michael Nash, William List: "Exploiting an Integrated Management Systems", Gamma Secure Systems Ltd, (2005) pp.1-6;
- [16] George Alukal, Anthony Manos: "Lean Kaizen: A Simplified Approach to Process Improvement", ASQ Quality Press, (2006);
- [17] Bonnie Smith: "Lean and Six Sigma - A One-Two Punch", *Quality Progress*, April, 2003, pp.37-41.
- [18] Roy Andersson, Henrik Eriksson, Håkan Torstensson: "Similarities and differences between TQM, six sigma and lean", *The TQM Magazine*, Vol.18., Iss:3., (2006), pp.282-296.
- [19] Michael George: "Lean Six Sigma: Combining Six Sigma Quality with Lean Production Speed" McGraw-Hill, 1st edition, april 2002.

STABILIZATION OF ORGANIZATIONAL CHANGES THROUGH BY CHANGING THE ORGANIZATIONAL CULTURE

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Abstract: In order to survive in intensively changeable environment, with sudden development of techniques and technology, changes in education of work force, consumer demands, organization have to change and adapt constantly. Organizational change represents the process of organization change, acceptance of new ideas or behaviors which lead to change of the current state of an organization to some future, wanted state. For successful work of the organization is necessary the organizational culture of some characteristics and contents. It can be the secret formula for success, or a quiet killer. Organizational changes and organizational culture are considered in this work. The goal of this work is to point out the significance and the necessity of the including organizational changes in organizational culture. The presentation begins with the definition and the basic characteristics of organizational changes. Then, classifications of organizational changes are presented. After that, basic characteristics of organizational culture and process of culture change are shown. Special attention in this work is paid to legitimizing the changes. The research done in this work is of theoretical character, and method of analyses of research will be used accordingly. By analyzing the research done in this work, we can conclude that the changes were stable, it is necessary to change the culture of the organization. The harmonization of organizational change and organizational culture is very important for successful functioning of an organization.

Keywords: Organization, organizational changes, organizational culture

STABILIZACIJA ORGANIZACIONIH PROMENA KROZ PROMENU ORGANIZACIONE KULTURE

Radmila Micić

Apstrakt: Da bi opstale u intenzivno promenljivom okruženju, u kome dolazi do naglog razvoja tehnike i tehnologije, do promena u obrazovanju radne snage, zahtevima potrošača, organizacije moraju da se stalno menjaju i prilagođavaju. Organizaciona promena predstavlja proces menjanja organizacije, prihvatanja novih ideja ili ponašanja koja dovode do promene sadašnjeg stanja organizacije u neko buduće, željeno stanje. Za uspešno poslovanje organizacije neophodna je organizaciona kultura određenih karakteristika i sadržaja. Ona može biti tajna formula uspeha, ili tihi ubica. U radu se razmatraju organizacione promene i organizaciona kultura. Cilj rada je da istakne značaj i potrebu

uključivanja organizacionih promena u organizacionu kulturu. Izlaganje započinje sa definisanjem i osnovnim karakteristikama organizacionih promena. Zatim će biti prikazana klasifikacija organizacionih promena. Nakon toga će biti predstavljene osnovne karakteristike organizacione kulture i proces promene organizacione kulture. Posebna pažnja u radu je posvećena legitimizaciji promena. Rad je teorijskog karaktera i shodno tome biće primenjena metoda analize. Analizirajući istraživanje sprovedeno u radu, možemo zaključiti da bi promene bile stabilne, neophodno je promeniti kulturu organizacije. Za uspešno funkcionisanje organizacije veoma je značajna harmonizacija organizacione promene i organizacione kulture.

Ključne reči: Organizacija, organizacione promene, organizaciona kultura

1. UVOD

Poslednju dekadu XX veka i prvu dekadu XXI veka obeležile su intenzivne promene u okruženju. Globalizacija poslovanja, brze tehnološke promene, kulturne razlike, inicirali su potrebu savremenih organizacija za permanentnim prilagođavanjem internim i eksternim promenama. Pod pritiskom trendova okruženja ugrožava se opstanak organizacija, ili se pojavljuju nove šanse. Bez obzira da li je reč o izbegavanju pretnji ili, pak, korišćenju povoljnih poslovnih prilika, potreba za promenom nastaje onda kada se u organizaciji identifikuje „gép performansi“. Dakle, u intenzivno promenljivom okruženju, promena je imperativ opstanka, a ne pretnja opstanku organizacija. Promena treba da prevede organizaciju iz sadašnjeg u neko buduće, željeno stanje. Ključnu ulogu u upravljanju organizacionim promenama ima menadžment organizacije. Zadatak menadžmenta jeste da: prati promene u internom i eksternom okruženju, definiše probleme, odabere ciljeve promena, sprovodi promene.

Afirmacija i značaj organizacione kulture za upravljanje organizacijom proističe iz njenog snažnog uticaja na poslovanje i performanse organizacije. Kreiranjem vrednosti, pretpostavki, normi ponašanja, organizaciona kultura bitno utiče na ponašanje članova organizacije i predstavlja značajan faktor promena, inovativnosti i ukupnih performansi organizacije. Za uspeh savremenih organizacija neophodna je organizaciona kultura određenih karakteristika i sadržaja. Iako je za uspostavljanje i usvajanje stabilnih sadržaja kulture potrebno dosta vremena, ona se mora tretirati kao promenljiva kategorija. Svaka radikalna promena u organizaciji, koja izlazi iz okvira postojećih kulturnih vrednosti i stavova, zahteva promenu kulture organizacije. Redizajniranje kulture u skladu sa internim i eksternim promenama je neophodan uslov njihovog prihvatanja i sprovođenja.

U narednom tekstu prikazaćemo osnovne karakteristike i vrste organizacionih promena. Ukratko ćemo obrazložiti osnovne elemente organizacione kulture i proces promene organizacione kulture. Posebna pažnja biće posvećena legitimizaciji promena. Cilj rada jeste da ukaže na potrebu i značaj uključivanja organizacionih promena u organizacionu kulturu.

2. KARAKTERISTIKE ORGANIZACIONIH PROMENA

Da bi opstale u intenzivno promenljivom okruženju organizacije moraju stalno da se menjaju. Organizacije se menjaju kako bi odgovorile na promene u okruženju, poput

promena zahteva potrošača, tehnoloških otkrića i novih vladinih uredbi [3]. Organizacione promene predstavljaju proces menjanja postojeće organizacije, odnosno prelazak iz sadašnjeg (tekućeg) stanja u neko buduće (željeno) stanje organizacije. Pod organizacionim promenama podrazumeva se prihvatanje novih ideja ili ponašanja organizacije [4]. Adižes smatra da se upravljanje organizacijom svodi na upravljanje promenama. Prema njemu, organizacija je bez problema samo kada nema promene, a do toga dolazi samo onda kada je mrtva. Rešiti probleme, a ne naići na nove i složenije, isto je što i umreti [1]. Dakle, promene su stalni pratilac svih organizacija i jedina sigurna konstanta za postizanje uspeha savremenih organizacija.

Sposobnost savremene organizacije da se permanentno prilagođava sve intenzivnijim promenama postaje imperativ njenog opstanka. Ubrzanje promena je posebno uslovljeno tehnološkim promenama koje obuhvataju promene proizvoda (usluge), procesa i informacionih tehnologija, kao osnovnih pretpostavki uspešnosti poslovanja. Savremena organizacija mora u samu svoju strukturu da ugradi: upravljanje promenama i organizaciono napuštanje svega što radi, ali i sposobnost da kreira novo. Stoner and Freeman plansku promenu definišu kao „jasno promišljeni plan i primenu strukturalne inovacije, nove politike ili cilja, ili promene radne filozofije, klime ili stila poslovanja“ [10]. U ovoj definiciji, akcent je na odvajanju planiranih od reaktivnih promena. Dok planirane promene imaju za cilj menjanje ciljeva i smera poslovanja radi pripreme organizacije za adaptaciju, reaktivne promene predstavljaju rezultat stihijskih prilagođavanja organizacije okruženju u kome posluje.

Brojni su indikatori potrebe za organizacionim promenama. Između ostalih navešćemo: pad prodaje, porast troškova, odsustvo tržišne strategije, pad tržišnog učešća, nemotivisanost zaposlenih i slično. Generalno, u organizaciji može sve da se menja. Menja se strategija, tehnologija, rukovodstvo, kultura, uvode se novi proizvodi, novi procesi, rešava se kriza. Svaka promena menja bitne karakteristike organizacije i treba da uvede organizaciju u novo, bolje stanje. Očekivani rezultati dobro planiranih promena bili bi:

- Ostvarivanje svrhe i zadataka organizacije.
- Ostvarivanje ciljeva organizacije.
- Ostvarivanje strategije.
- Promena tehnologije.
- Promena strukture.
- Promena ljudi.
- Promena kulture.

Da bi promene bile prihvaćene i uspešno sprovedene, menadžer treba da: definiše ciljeve koje želi postići promenom; motiviše zaposlene da prihvate promene; sagleda posledice promena po organizaciju i zaposlene.

3. KLASIFIKACIJA ORGANIZACIONIH PROMENA

Organizacione promene se najčešće definišu kao proces menjanja, tj. prilagođavanja postojeće organizacije. Polazeći od toga *šta se menja* u organizaciji razlikuju se sledeće vrste promena:

- D. K. Carr, K. J. Hard i W. J. TraHant - ključne promene u organizaciji obuhvataju: uvođenje novih proizvoda, jačanje ključnih kompetentnosti, demografske promene [2].

- D. Torrington, J. Weightman i K. Johns - razlikuju: tehničke promene, promene procedura, komunikacije, promene organizacionih jedinica, promene verovanja [11].
- S. C. Certo - navodi: tehnološke promene, promene strukture i promene ljudi [3].
- R. L. Daft – navodi promene: tehnologije, proizvoda i usluge, strukture i sistema, ljudi [4].

Kriterijumi za klasifikaciju organizacionih promena mogu biti različiti: cilj promena, dubina, širina, brzina promena, karakter procesa promena, sadržaj promena, vreme promena, nivo na kome se promene dešavaju itd. [6].

Prema *cilju promena* razlikuju se dve osnovne vrste organizacionih promena, i to: organizaciona adaptacija i organizacioni razvoj. *Adaptivnim promenama*, organizacija se prilagođava promenama u okruženju. Cilj ovih promena je, dakle, prilagođavanje organizacije. Njihov osnovni uzrok jesu promene koje su se već dogodile u eksternom okruženju. Kod ovih promena nema inicijative, inovativnosti i kreativnosti. One samo predstavljaju reakciju na nastale promene. Za razliku od adaptivnih promena, do *organizacionog razvoja* dolazi onda kada se dese promene u samoj organizaciji i njenim internim procesima. Njihov osnovni inicijator jesu ljudi, odnosno promene njihovih ideja, znanja, kreativnosti, motivacije i sl. Cilj razvojnih promena je usavršavanje kompetencija organizacije, odnosno stvaranje sposobnosti da se radi brže, bolje, jeftinije od drugih.

Ako se pođe od kriterijuma *karaktera procesa promena*, razlikuju se organizacione promene prema dubini: inkrementalne ili plitke i radikalne ili duboke; prema širini: uske ili parcijalne i široke ili sveobuhvatne; prema brzini: evolutivne ili spore i revolutive ili brze. *Inkrementalne* ili plitke promene su one organizacione promene u kojima se ne menjaju ključne komponente organizacije, već se menjaju periferne komponente koje nisu ključne za rast i razvoj organizacije. *Radikalnim*-dubokim promenama dolazi do promena ključnih komponenti organizacije, poput promene organizacione strukture, kulture itd. *Uske* promene dovode do promene pojedinih delova ili komponenti organizacije, dok *široke* promene menjaju većinu ili sve delove i komponente organizacije. Ako su promene niskog stepena intenziteta, onda kažemo da je reč o *evolutivnim* promenama. S druge strane, brze promene visokog intenziteta su *revolutive* promene.

Polazeći od dubine, širine i brzine promena, možemo napraviti razliku između kontinuelnih i diskontinuelnih promena. *Kontinuelne* promene su inkrementalne, parcijalne i spore. Kada kažemo da se organizacija menja kontinuelno to znači da se ona menja kroz dugi niz malih, uskih promena koje se dešavaju u dužem vremenskom periodu. *Diskontinuelne* promene su radikalne, sveobuhvatne promene koje nastaju brzo i u kratkom vremenskom periodu. Za organizaciju to znači da u kratkom roku sprovodi više radikalnih, sveobuhvatnih i brzih promena.

Klasifikacija organizacionih promena prema *sadržaju* polazi od diferenciranja komponenti organizacije na *formalne* ili tvrde i *neformalne* ili meke komponente, kao i na *statičke* i *dinamičke* komponente organizacije. Formalne (hard) komponente čine strukture i sistemi, dok neformalnu (soft) komponentu čine ljudi. Statičke komponente su stanja organizacionih komponenti. Statičke komponente organizacije su formalne i neformalne strukture, dok dinamičke komponente čine formalizovani i neformalizovani procesi. Formalnu dinamičku komponentu čine poslovni procesi, a neformalnu personalni i interpersonalni procesi. Dinamička neformalna komponenta obuhvata: proces motivacije, proces učenja, procese nastajanja i rešavanja konflikata, vođstvo, proces komunikacije itd. Svi ovi procesi mogu biti predmet organizacionih promena.

Prema kriterijumu *vremena* u kome se dešavaju, organizacione promene mogu biti *anticipativne* i *reaktivne*. Anticipativne promene podrazumevaju anticipiranje promena koje će se dešavati u okruženju. Reaktivne promene znače reakciju na već nastale promene u organizaciji ili okruženju u kome ona posluje.

Polazeći od *nivoa* na kome se promene dešavaju, razlikujemo promene na nivou: *pojedince*, *grupe*, *organizacije* i *grupe organizacija*. Promena na nivou pojedinca nastaje kada se menja formalna komponenta (dizajn radnog mesta) ili neformalna komponenta (učenje). Na nivou grupe, organizacione promene obuhvataju sve promene koje se dešavaju u formalnim, ali i neformalnim grupama. Organizacione promene mogu da se odnose na celu organizaciju kao i na više organizacija u određenom sektoru.

Prema *determinisanosti* promene mogu biti: *spontane* i *planirane*. Prema *stilu vođenja* organizacionih promena, razlikujemo: *direktivni* i *participativni* stil vođenja.

4. POJAM, ZNAČAJ I SADRŽAJ ORGANIZACIONE KULTURE

I pored činjenice da postoje brojne definicije organizacione kulture, možemo reći da nema jedinstvenih stavova, jer se radi o neopipljivom konceptu koji nevidljivo i trajno upravlja ponašanjem, mislima i osećanjima. Pa ipak, izdvojićemo neke definicije: pod organizacionom kulturom podrazumevamo „sistem pretpostavki, verovanja, vrednosti i normi ponašanja koje su članovi jedne organizacije razvili ili usvojili kroz zajedničko iskustvo i koji usmeravaju njihovo mišljenje i ponašanje“ [7]. Organizaciona kultura je unutrašnja, osnovna varijabla u ponašanju preduzeća. „Ona je u nacionalnu kulturu smešten skup osnovnih pretpostavki, vrednosnih stavova i verovanja koje usvajaju članovi organizacije i kojima obeležavaju sebe i svoje okruženje“ [12].

Opšte prihvaćenu definiciju organizacione kulture dao je E. Šajn: „Organizaciona kultura je šema zajedničkih pretpostavki koje je neka grupa naučila dok je rešavala svoje probleme u vezi sa spoljnom adaptacijom i unutrašnjom integracijom, koja se dovoljno dobro pokazala da bi mogla da se smatra validnom i stoga je poželjno da je novi članovi uče kao uzor za pravilno shvatanje, razmišljanje i osećanje u vezi sa tim problemom“ [9].

Prema G. Hofstedu [5], kultura predstavlja kolektivno programiranje mišljenja koje pripadnike jedne grupe ili kategorije ljudi razlikuje od drugih. To je obrazac mišljenja, osećanja i delovanja koje svaka osoba stekne u detinjstvu a zatim primenjuje kroz čitav život.

Iz navedenih definicija možemo zaključiti da, organizaciona kultura predstavlja jedan od ključnih segmenata organizacije. Ona je istovremeno relativno trajan i specifičan sistem ponašanja, vrednosti, verovanja, normi i običaja i ona usmerava sve aktivnosti pojedinaca i grupa u organizaciji. Kultura se stiče učenjem i iskustvom. Kumulativna je i prenosi se sa naraštaja na naraštaj. Kultura se bazira na sposobnosti ljudi da se menjaju i prilagođavaju.

Značaj organizacione kulture proističe iz saznanja da je ona faktor koji utiče na skoro sve bitne aspekte poslovanja preduzeća, i to: na poslovnu strategiju, organizacionu strukturu, motivaciju, koordinaciju, moć, stil liderstva i sl. Njen značaj proističe iz njenog uticaja na performanse preduzeća. Organizaciona kultura može biti tajna formula uspeha ili tihi ubica, u zavisnosti od toga da li kultura odgovara situaciji u kojoj se organizacija nalazi ili ne odgovara. Organizaciona kultura određenih karakteristika i sadržaja, utiče na performanse organizacije na više načina:

- organizaciona kultura je značajan faktor u donošenju strateških odluka;

- organizaciona kultura je determinanta sposobnosti preduzeća da se promenama prilagođava okruženju;
- organizaciona kultura je determinanta u izboru adekvatne organizacione strukture preduzeća;
- organizaciona kultura je efikasan mehanizam koordinacije u preduzeću;
- organizaciona kultura je efikasan mehanizam kontrole ponašanja zaposlenih;
- organizaciona kultura utiče na stil vođstva;
- organizaciona kultura utiče na dizajn sistema nagrađivanja.

Bitni elementi organizacione kulture su: sadržaj, socijalni karakter, efekti, način nastanka, stabilnost, specifičnost.

Sadržaj organizacione kulture determinisan je kognitivnim i simboličkim elementima. *Kognitivni elementi* kulture obuhvataju sve one kategorije koje kreiraju zajedničko mišljenje i ponašanje ljudi u organizacijama. Oni nisu vidljivi i ne mogu se direktno otkriti. Njih čine: pretpostavke, vrednosti, verovanja i norme ponašanja. *Bazične pretpostavke* sistematizuju i generalizuju osnovna saznanja i iskustvo ljudi o svetu u kome žive. *Vrednosti* govore ljudima čemu treba da teže i kako treba da se ponašaju. *Stavovi* predstavljaju skup verovanja o nekim situacijama ili pitanjima života i rada preduzeća koje dele zaposleni i koji ih navode da se ponašaju na određen način. *Norme ponašanja* su određena pravila koja stvaraju ustaljene obrasce i modele ponašanja. Pripadnici jedne kulture pridaju ista značenja spoljnim stimulansima i razumeju svet oko sebe na isti način zato što dele zajedničke pretpostavke, vrednosti i verovanja o tom svetu. *Simbolički sadržaj* kulture obuhvata sve ono što se dešava kao produkt zajedničkog mišljenja i ponašanja članova organizacije. Simboli su vidljive manifestacije kognitivnog sadržaja kulture. Sve što zapazimo u preduzeću ima svoje značenje koje čini sadržaj njegove organizacione kulture. Simbole čine: semantički simboli, bihejvioristički simboli i materijalni simboli. U okviru *semantičkih simbola* izdvajamo jezik, priče, mitove. *Bihejvioristički simboli* obuhvataju ustaljene obrasce, modele i rituale ponašanja. *Materijalni simboli* predstavljaju najvidljiviji deo organizacione kulture. Oni manifestuju određene vrednosti, verovanja i pretpostavke i prenose ih na članove organizacije, ali i na spoljne posmatrače.

Sadržaj organizacione kulture može se prikazati sledećim elementima: inovacija i preuzimanje rizika, usmerenost na detalje, orijentacija na rezultate, orijentacija na ljude, timska orijentacija, agresivnost, stabilnost [8].

5. PROCES PROMENE ORGANIZACIONE KULTURE

Budući da u organizaciji „ništa nije tako stalno kao promene“, i organizacionu kulturu treba posmatrati kao promenljivu kategoriju, kako ne bi postala „tihan ubica“. Promena postojećih i uspostavljanje novih verovanja, vrednosti, normi ponašanja, rituala i običaja zaposlenih predstavlja dugotrajan i nimalo lak proces. Ovim procesom se sprovode radikalne organizacione promene koje treba da dovedu do promene ponašanja i mentalnih šema zaposlenih. Sam proces promene se odvija kroz četiri faze [6].

- *Dijagnoza* – je početna faza u kojoj treba dijagnosticirati postojeće kulturne vrednosti i stavove zaposlenih, najčešće uz primenu kvalitativnih i kvantitativnih metoda istraživanja.
- *Planiranje* – je faza preko koje se iz vizije i strategije organizacije definišu ciljne kulturne vrednosti i stavovi koje organizacija želi da ugradi u novu kulturu.
- *Analiza* – kao faza procesa promene kulture treba da identifikuje jaz između ciljnih i postojećih kulturnih vrednosti i stavova i odabere strategiju za njegovo zatvaranje.
- *Sprovođenje* – u ovoj fazi dolazi do zatvaranja jaza promenom kulturnih vrednosti i stavova.

Promene organizacione kulture najčešće su uslovljene promenom faktora iz okruženja i unutrašnjom integracijom. Ove promene zahtevaju promenu sistema vrednosti, promenu organizacione strukture, načina upravljanja i ponašanja zaposlenih. Nakon utvrđivanja potrebe za promenom organizacione kulture, treba pronaći adekvatne strategije i metode za njenu promenu. Od mogućih strategija navešćemo direktnu i indirektnu strategiju. Kod *direktnih strategija* vrši se direktan uticaj na stavove i vrednosti zaposlenih. Na taj način menadžer indoktriniše zaposlene da promene svoje stavove, čime oni menjaju i svoje ponašanje i usklađuju ga sa svojim stavovima. *Indirektna strategija* - strategija kognitivne disonance se sprovodi tako što se utiče na zaposlene da usvoje novo ponašanje koje odstupa od njihovih vrednosti i stavova. Oni treba da prilagode svoje stavove i vrednosti novom obliku ponašanja, kako ne bi upali u stanje kognitivne disonance.

Nosioци promene organizacione kulture (menadžeri, konsultanti, sektor ljudskih resursa) primenjuju različita sredstva i metode za promenu organizacione kulture. U suštini, to su različiti oblici komuniciranja sa zaposlenima. Poželjni stavovi i vrednosti mogu se preneti zaposlenima: verbalnim, neverbalnim, simboličkim komuniciranjem i promenom sistema u organizaciji. *Verbalno komuniciranje* obuhvata: direktno verbalno ubeđivanje, pisano komuniciranje (interne novine, oglasna tabla, elektronsko komuniciranje) i održavanje različitih oblika sastanaka. Veoma često, različiti oblici *neverbalne komunikacije* (pokreti, gestovi, osmeh) efikasnije prenose poruke o poželjnim vrednostima i ponašanju zaposlenih od verbalnih oblika komuniciranja. *Jezički simboli, rituali i materijalni simboli* su, takođe, efikasni načini komuniciranja poželjnih vrednosti i stavova. Priče i anegdote koje se provlače kroz organizaciju ostavljaju snažan uticaj na svest zaposlenih. Konkretna reč ih može uputiti na određeni način razmišljanja. Promena dugogodišnjeg rituala, koji je favorizovao određenu vrednost, može planski da nametne nove, poželjne vrednosti. Promenom materijalnih simbola, poput: načina oblačenja zaposlenih, izgleda prostorija, boja, loga firme i sl., može se poslati nova poruka o organizaciji i njenoj promenjenoj organizacionoj kulturi. I na kraju, promena organizacione kulture zahteva i *promenu sistema* u organizaciji, i to: sistema nagrađivanja, sistema ocenjivanja učinaka, regrutacije i selekcije radnika, sistema planiranja i kontrole itd.

6. LEGITIMIZACIJA PROMENA

Svaka organizacija je odraz verovanja, vrednosti i pretpostavki menadžera o tome kako ona treba da izgleda, kako treba da bude organizovana i kako treba da funkcioniše. Menadžer odlučuje o svim bitnim elementima organizacije, o tome kako treba da bude izvršena podela rada, o distribuciji autoriteta, izboru načina koordinacije i kontrole, motivaciji zaposlenih, načinu rešavanja konflikata itd. Ukoliko organizaciju vodi autokratskim stilom vođstva to će usloviti visok stepen centralizacije odlučivanja, visok

stepen formalizacije ponašanja, velike razlike u platama i sl. Visok stepen izbegavanja neizvesnosti, kao vrednost u organizaciji, vodi ka visokom stepenu formalizacije u strukturiranju organizacije. Proces dizajniranja organizacije je, dakle, direktna posledica pretpostavki, verovanja i vrednosti njenog menadžera. Svaka promena u strukturi, međuljudskim odnosima i procesima u organizaciji koja nije kompatibilna sa postojećom kulturom, neće biti stabilna. Da bi promene bile realne i trajne, potrebno je da se promeni ponašanje zaposlenih, ali i način njihovog razmišljanja. To znači da svaka velika promena organizacije treba da se završi promenom njene organizacione kulture. Proces putem koga se nova organizacija i način njenog funkcionisanja ugrađuje u sadržaj postojeće organizacione kulture i uslovljava i promenu same kulture, naziva se *legitimizacijom promena*. Rezultat procesa legitimizacije promena je da kulturne pretpostavke, vrednosti, norme ponašanja i simboli odražavaju novu organizaciju, njenu strukturu i način organizovanja i funkcionisanja. Na taj način organizacija postaje legitimna, odnosno prihvaćena od strane zaposlenih i kompatibilna sa njihovim vrednostima i stavovima. Ukoliko se organizaciona kultura ne promeni a time i vrednosti i stavovi zaposlenih ne promene, oni će biti u stanju kognitivne disonance. Zaposleni će nastojati da se vrate na prethodno ponašanje i time stopirati promene. Promene se neće stabilizovati dok se ne promeni organizaciona kultura.

Uloga menadžera u procesu stabilizacije promena je veoma značajna. Menadžer treba da, najpre, utvrdi da li organizacione promene zahtevaju ili ne zahtevaju promene vrednosti i stavova zaposlenih. Ukoliko novonastale organizacione promene zahtevaju promene kulture, menadžer treba da inicira i sprovede proces promene organizacione kulture. Promenom kulture promene se legitimizuju i učvršćuju.

7. ZAKLJUČAK

U radu smo dali prikaz osnovnih karakteristika organizacionih promena i organizacione kulture, koja treba da se menja kako bi promena postala legitimna.

Dinamizam i kompleksnost faktora okruženja sve veći naglasak stavljaju na sposobnost menjanja i prilagođavanja organizacija. U organizaciji je moguće sve menjati, pa i organizacionu kulturu. Interesovanje za organizacionu kulturu, kao svojevrsnom fenomenu stvaranja performansi organizacije, dobija sve više na aktuelnosti i značaju. Ovo interesovanje proističe iz saznanja da organizaciona kultura, predstavlja značajan segment organizacije koji prožima sve njene aktivnosti. Kao ključni segment socijalnog sistema organizacije, manifestuje se kroz ponašanje članova organizacije. Usmeravajući sve aktivnosti pojedinaca i grupa, organizaciona kultura je istovremeno i uzrok i posledica njihovog ponašanja. Ona može biti ključ uspeha, ukoliko se prilagođava promenama. U suprotnom, organizaciona kultura postaje smetnja prihvatanju promena i tihi ubica. Da bi bila izvor snage, a ne slabosti organizacije, potrebno je menjati postojeće vrednosti i stavove. Promene u strukturi ili procesima organizacije će se stabilizovati tek onda kada zaposleni prihvate nove vrednosti i stavove i kada se kultura promeni.

Svaka radikalna promena u organizaciji, koja izlazi iz okvira postojećih kulturnih vrednosti i stavova, zahteva promenu kulture organizacije. Manje i parcijalne promene strukture ili procesa koje se uklapaju sa postojećim vrednostima i stavovima, neće nužno zahtevati i promenu kulture. Odluku o iniciranju i sprovođenju procesa promene organizacione kulture treba da donese menadžment.

Rad ukazuje na potrebu i značaj harmonizacije organizacionih promena i organizacione kulture, radi uspešnog funkcionisanja organizacija. Buduća istraživanja trebalo bi usmeriti

ka izučavanju interakcijskih odnosa između organizacionih promena i organizacione kulture. Svakako, bilo bi korisno testirati ih i sprovesti u praksi savremenih organizacija.

REFERENCE

1. Adižes, I., *Životni ciklusi preduzeća*, Prometej-Agora, Novi Sad-Beograd, 1994, p. 5.
2. Carr, D. K., Hard, K. J. & Trahant, W. J., *Managing the Change Process*, McGraw-Hill, New York, 1996, p. 7-10.
3. Certo, S. C. & Certo, S. T., *Modern Management*, Prentice Hall, New Jersey, 2008, p. 300-305.
4. Daft, R. L., *Organization Theory and Design*, West Publishing Company, Saint Paul, 1992, p. 254.
5. Hofstede, G., *Culture's Consequences*, Sage Publications, Thousand Oaks, CA 2001, p. 25.
6. Janićijević, N., *Upravljanje organizacionim promenama*, CID Ekonomskog fakulteta u Beogradu, Beograd, 2007, str. 13 i str. 474.
7. Janićijević, N., *Organizaciona kultura: Kolektivni um preduzeća*, ULIXES i Ekonomski fakultet, Novi Sad-Beograd, 1997, str. 42.
8. Robbins, S. P. & Judge, T. A., *Organizational Behaviour*, Prentice Hall, New Jersey, 2007, p. 573.
9. Stoner, A. F., R. Freeman, E. & Gilbert, D. R., *Menadžment*, Želnid, Beograd, 2002, str. 163.
10. Stoner, J. A. F. & Freeman, R. E., *Management*, Prentice Hall, New Jersey 1992, p. 408.
11. Torrington, D., Weightman, J. & Johns, K., *Effective Management: People and Organization*, Prentice Hall, New York, 1989, p. 106.
12. Zimanji, V. & Šušnjar, G., *Organizaciono ponašanje*, Ekonomski fakultet, Subotica, 2005, str. 283.

CULTURE AND LEADERSHIP IN PROJECT GLOBE

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Abstract: This work presents the key theoretical and empirical results of the contemporary intercultural study of organizations – GLOBE project /Global Leadership and Organizational Behavior Effectiveness. GLOBE's model offers nine dimensions of national culture, ten cultural clusters, six global leadership factors, universal characteristics and behaviors that contribute to outstanding leadership, universal characteristics and behaviors that inhibit to outstanding leadership and culturally contingent leader characteristics. The goal of the work is to point out the necessity and significance of future research the relationship between culture and leader behaviors in many societies and organizations. The research is of theoretical character and is applied method of analysis. By analyzing the research done in this work, we can conclude that the GLOBE has an outstanding theoretical, empirical and practical significance, both to the literature of organizational behavior and leadership, and organizational practice and the practice of leadership.

Keywords: Organizations, GLOBE, national culture, leadership

KULTURA I VOĐSTVO U GLOBE PROJEKTU

Radmila Micić

Apstrakt: U radu su prikazani bitni teorijski i empirijski rezultati savremenog interkulturalnog istraživanja organizacija – GLOBE projekta / Globalnog projekta efektivnosti vođstva i organizacionog ponašanja. GLOBE –ov model nudi devet dimenzija nacionalne kulture, deset kulturnih klastera, šest globalnih faktora vođstva, univerzalne karakteristike i ponašanja koja doprinose uspešnom vođstvu, univerzalne karakteristike i ponašanja koja sprečavaju uspešno vođstvo i kontingentne karakteristike vođa. Cilj ovog rada je da ukaže na potrebu i značaj daljeg istraživanja odnosa između kultura i ponašanja lidera u različitim društvima i organizacijama. Istraživanje je teorijskog karaktera i koristiće se metoda analize. Analizirajući istraživanje sprovedeno u radu, možemo zaključiti da GLOBE projekat ima izuzetan teorijski, empirijski i praktični značaj, kako za literaturu organizacionog ponašanja i vođstva, tako i za organizacionu praksu i praksu vođstva.

Ključne reči: Organizacije, GLOBE, nacionalna kultura, vođstvo

1. UVOD

GLOBE projekat (Global Leadership and Organizational Behavior Effectiveness) predstavlja, do danas, najsvеobuhvatniju studiju koja je empirijski istraživala odnos između kulture i ponašanja lidera u mnogim društvima, uz primenu različitih kvalitativnih i kvantitativnih metoda. Projekat je vodio Robert House, istraživač sa Univerziteta Pennsylvnie. U projektu je učestvovalo 170 istraživača iz različitih zemalja koji su ispitali preko 17 000 menadžera srednjeg nivoa iz 62 zemlje. Svrha ovog istraživačkog projekta bila je prikupljanje podataka o kulturnim vrednostima, praksi i vođstvu u tim zemljama. Istraživački projekat je sproveden sa ciljem da ogovori na brojna pitanja [8]: Da li postoji organizaciona praksa, osobine i ponašanja vođa, koji su univerzalno prihvatljivi i efektivni u različitim kulturama? Da li postoji organizaciona praksa, osobine i ponašanja vođa koji su prihvatljivi i efektivni samo u određenim kulturama? Na koji način atributi nacionalnih i organizacionih kultura utiču na ponašanje vođa da bi bili prihvatljivi i efektivni? Na koji način atributi nacionalnih i organizacionih kultura utiču na organizacionu praksu? Na koji način atributi nacionalnih kultura utiču na ekonomsko, fizičko i psihičko blagostanje članova tih društava? Kakav je odnos između nacionalnih kulturnih varijabli i internacionalne kompetitivnosti datih društava?

Nacionalnu kulturu određuju zajedničke vrednosti, verovanja, pretpostavke i ciljevi usvojeni od strane prethodne generacije, preneti na sadašnje članove društva i buduće generacije. Značaj nacionalne kulture proističe iz činjenice da dimenzije nacionalne kulture kreiraju referentni okvir u kome članovi organizacije razumeju svet oko sebe, u kome oblikuju svoje ponašanje, motive i potrebe. Dimenzije nacionalne kulture, osim što oblikuju stavove i norme ponašanja pojedinaca i grupa, utiču i na organizacionu kulturu, te time i na performanse organizacije. Nacionalna kultura dobija sve više na značaju u uslovima globalizacije poslovanja. Uspeh globalno orijentisanih menadžera sve više zavisi od njihovog razumevanja vrednosti nacionalnih kultura sa kojima saraduju. Zbog razlika u nacionalnim kulturama, njihovi načini organizovanja poslovanja, stilovi upravljanja, komuniciranja, pregovaranja, motivisanja i sl., moraju da se razlikuju od zemlje do zemlje.

Suština vođstva je u oblikovanju ponašanja, u pridobijanju ljudi da se okupe oko jedne ideje, da usmere kreativnu energiju, znanje i sposobnosti u pravcu realizacije ciljeva organizacije. Vođa poseduje sposobnost stvaranja vizije željene budućnosti i strategije za njenu realizaciju. Vođa mobilise i inspirise druge da ga dobrovoljno slede. Način na koji se uspostavlja odnosi između vođa i zaposlenih, način na koji vođa usmerava ponašanje podređenih i sredstva koja koristi da ih pridobije na željeno ponašanje, određuju stil vođstva, i on se razlikuje u različitim kulturama. Nacionalna kultura nesumnjivo utiče na stil vođstva, na osobine i ponašanja vođa.

Predmet ovog rada je analiza ključnih teorijskih i empirijskih rezultata savremenog interkulturalnog istraživanja organizacija. U radu ćemo prikazati GLOBE-ove dimenzije nacionalne kulture, kulturne klasterе, stilove vođstva i osobine vođa. Cilj ovog rada je da ukaže na potrebu i značaj daljeg istraživanja odnosa između kultura i ponašanja vođa u različitim društvima i organizacijama, sa posebnim osvrtom na potrebu daljeg istraživanja srpske nacionalne kulture.

2. GLOBE-OV MODEL KULTURNIH DIMENZIJA I KULTURNI KLASITERI

U stručno-naučnoj literaturi je prikazano više modela kojima se ističu kulturne razlike među zemljama. Jedno od najpoznatijih istraživanja nacionalnih kultura i njenih dimenzija

sproveo je *Hofsted*. Hofsted je definisao kulturu kao „mentalno programiranje: obrazac mišljenja, osećanja i delovanja koje svaka osoba stekne u detinjstvu i zatim primenjuje kroz čitav život“ [4]. Hofsted je prezentovao sledeće dimenzije kulture: distanca moći, individualizam/kolektivizam, muške/ženske vrednosti, izbegavanje neizvesnosti, dugoročna/kratkoročna orijentacija. Hampden-Turner i Trompenaar definišu kulturu kao „način na koji grupa rešava probleme i pomiruje dileme“ [3]. Ovi autori razlikuju sedam dimenzija kulture, i to: univerzalizam/partikularizam, individualizam/kolektivizam, neutralnost/afektivnost, specifičnost/difuznost, postignut status/ pripisani status, unutrašnja orijentacija/spoljašnja orijentacija, sekvencijsko vreme/sinkronijsko vreme. Prvih pet dimenzija se odnose na odnos prema ljudima i slične su Hofstede-ovim dimenzijama kulture. Šesta dimenzija se odnosi na odnos prema okruženju. Na kraju, sedma dimenzija se odnosi na odnos prema vremenu. Kluckhohn – Strodtbeckov model nudi pet dimenzija kulture, i to: orijentacija prema prirodi, orijentacija prema ljudima, humana orijentacija, orijentacija prema vremenu i priroda ljudi [10]. Kultura je u istraživačkom projektu GLOBE definisana kao „zajednički motivi, vrednosti, verovanja, identiteti, i interpretacije ili značenja važnih događaja koji proističu iz zajedničkih iskustava članova kolektiva koji se prenose generacijama“ [6]. GLOBE –ov model nudi devet dimenzija nacionalne kulture, šire razumevanje savremenih vođa, sedam stilova vođstva i brojne osobine vođa.

Devet dimenzija kulture predstavljenih u GLOBE projektu su [6]:

1. *Izbegavanje neizvesnosti* je definisano kao stepen u kojem članovi organizacije ili društva teže da izbegnu nepredvidljivost budućih događaja oslanjanjem na društvene norme, rituale i procedure. Ova dimenzija govori o tome koliko članovi društva traže sredenost, konzistentnost, strukturu, formalizovane procedure i zakone.
2. *Distanca moći* je definisana kao stepen u kojem članovi organizacije ili društva očekuju i prihvataju činjenicu da je moć nejednako didtribuirana. Ova dimenzija odražava uspostavljanje i održavanje dominacije i kontrole moćnijih nad podređenima.
3. *Institucionalni kolektivizam* predstavlja stepen u kojem organizacione i društvene prakse ohrabruju i nagrađuju kolektivnu raspodelu resursa i kolektivno delovanje. U takvim se društvima vrednuje grupni rad i kohezivnost, ciljevi i interesi grupe su važniji od individualnih ciljeva i interesa. Za razliku od kolektivističkog, individualističko društvo ističe autonomiju i nezavisno delovanje pojedinaca.
4. *Unutargrupni kolektivizam* odražava stepen do kojeg pojedinci iskazuju ponos, odanost i zajedništvo u svojim organizacijama ili porodicama.
5. *Rodna jednakost* je stepen u kojem organizacija ili društvo teže smanjivanju rodne nejednakosti i rodne diskriminacije. U kulturama sa niskim stepenom rodne jednakosti žene imaju viši status i participaciju u odlučivanju. Nasuprot tome, u društvima sa visokim stepenom rodne jednakosti muškarci imaju viši društveni, ekonomski i politički status.
6. *Asertivnost* je stepen u kojem su pojedinci u organizacijama ili društvu skloni sukobima i suparništvu u svojim odnosima sa drugima, nasuprot skromnosti i brižnosti. Niska asertivnost znači da se u društvu cene skromnost i briga za druge, a ne međusobno takmičenje.

7. *Orijentacija na budućnost* je stepen do kojeg se pojedinci u organizacijama ili društvu odlučuju za ponašanja usmerena na budućnost poput planiranja, ulaganja u budućnost i odlaganja zadovoljstva. Ova dimenzija je povezana sa štednjom za budućnost, sa dugoročnim razmišljanjem i odlučivanjem.
8. *Orijentacija na postignuće* odražava stepen u kojem organizacija ili društvo ohrabruje ili nagrađuje članove grupe za poboljšanje učinka i ukupni uspeh. U društvima sa visokom orijentacijom na postignuće ističu se rezultati, a pojedinci se nagrađuju na osnovu ostvarenih rezultata. Nasuprot tome, društva sa niskom orijentacijom na postignuće podstiču lojalnost, a ne rezultate.
9. *Humana orijentacija* predstavlja stepen u kojem kolektiv ohrabruje i nagrađuje pojedince za poštenje, altruizam, prijateljstvo, velikodušnost, brižnost i pažljivost prema drugima. U društvima niske humanističke orijentacije ljude motivišu moć i materijalna dobra.

Iz navedenih dimenzija možemo uočiti da prvih šest dimenzija ima izvor u Hofstede-ovim dimenzijama kulture. Zatim, Hofstede-ova dimenzija *kolektivizam* je raščlanjena na dve dimenzije, i to: *institucionalni* i *unutargrupni kolektivizam*. Slično je i sa dimenzijom *muškost*, pri čemu je ona u GLOBE-ovom modelu podeljena na: *asertivnost* i *rodnu jednakost*. Dimenzije *orijentacija na budućnost* i *humana orijentacija* imaju svoje korene u Kluckhohn – Strodtbeck – ovom modelu. Dimenzija *orijentacija na postignuće* je preuzeta iz Mekklilendove teorije postignuća.

Na osnovu rezultata navedenog istraživanja izneti su podaci o rangu pojedinih zemalja prema dimenzijama kulture. Tako je SAD najviše rangirana zemlja s obzirom na asertivnost i orijentaciju na postignuće, a srednje rangirana s obzirom na sve ostale dimenzije. Španija je među najviše rangiranim zemljama s obzirom na asertivnost i distancu moći, a među najniže rangiranim zemljama po humanističkoj orijentaciji. Rusija je među zemljama koje su nisko rangirane po orijentaciji na budućnost, izbegavanju neizvesnosti i orijentaciji na postignuće. Prema dimenziji-distanca moći, Rusija je među najviše rangiranim zemljama. Italija je među najniže rangiranim zemljama po orijentaciji na budućnost, kolektivizmu i orijentaciji na postignuće. Nemačka je među najviše rangiranim zemljama po asertivnosti i izbegavanju neizvesnosti, ali je među najniže rangiranim zemljama po humanističkoj orijentaciji. Švedska je među najviše rangiranim zemljama po izbegavanju neizvesnosti i po institucionalnom kolektivizmu. Prema asertivnosti, rodnoj jednaakosti i unutargrupnom kolektivizmu je među najniže rangiranim zemljama. Srednje je rangirana po humanističkoj orijentaciji i orijentaciji na postignuće.

GLOBE projekat je sve istraživane kulture svrstao u deset kulturnih klastera. To je jedan od najvažnijih rezultata ove istraživačke studije.

Tabela 1. Kulturni klasteri [2]

Kulturni klasteri	Zemlje
Anglo klaster	Engleska, Australija, Južna Afrika (belo stanovništvo), Kanada, Novi Zeland, Irska, SAD.
Latinska Evropa	Izrael, Italija, Portugal, Španija, Francuska, Švajcarska (Francusko govorno područje).
Nordijska Evropa	Finska, Švedska, Danska.
Germanska Evropa	Austrija, Švajcarska, Holandija, Nemačka (bivša Istočna), Nemačka (bivša Zapadna).
Istočna Evropa	Mađarska, Rusija, Kazahstan, Albanija, Poljska, Grčka, Slovenija, Gruzija.
Latinska Amerika	Kostarika, Venecuela, Ekvador, Meksiko, Salvador, Kolumbija, Gvatemala, Bolivija, Brazil, Argentina.
Subsaharska Afrika	Namibija, Zambija, Zimbabve, Južna Afrika (crno stanovništvo), Nigerija.
Bliski Istok	Katar, Maroko, Turska, Egipat, Kuvajt.
Južna Azija	Indija, Indonezija, Filipini, Malezija, Tajland, Iran.
Konfučijska Azija	Tajvan, Singapur, Hong Kong, Južna Koreja, Kina, Japan.

3. STILOVI VOĐSTVA I OSOBINE VOĐA U GLOBE PROJEKTU

Vođstvo se najčešće definiše kao sposobnost uticaja na grupu da bi se usmerila prema nekoj viziji ili grupi ciljeva [12]. „Vođstvo je proces davanja svrhe i smera kolektivnom naporu i prouzrokovanja dobrovoljne akcije da se bude uspešan u ostvarenju ciljeva“ [9]. Vođstvo je u istraživačkom projektu GLOBE definisano kao „sposobnost pojedinca da utiče na druge, da ih motiviše i da im omogući da doprinesu efikasnosti i uspehu organizacije čiji su članovi“ [6].

Istraživački projekat GLOBE je definisao šest stilova vođstva, i to [7]:

1. *Harizmatско vođstvo utemeljeno na vrednostima* naglašava visoke standarde, odlučnost i inovacije, ima za cilj da inspiriše ljude oko vizije, podstiče strast među njima da ostvaruju performanse. Ovaj stil vođstva ističe sposobnost vođe da podstiče i motiviše saradnike i da od njih očekuje visoke performanse, a to čini na osnovu čvrsto postavljenih temeljnih vrednosti.
2. *Timski usmereno vođstvo* uliva ponos, lojalnost i saradnju među članovima organizacije. Ovaj stil vođstva naglašava uspešnu izgradnju tima, timsku kohezivnost i ostvarivanje zajedničke svrhe i cilja.
3. *Participativno vođstvo* je stil vođstva u kome menadžeri uključuju saradnike u donošenje i sprovođenje odluka, naglašava delegiranje i jednakost.
4. *Humano vođstvo* naglašava saosećanje i velikodušnost, pružanje podrške saradnicima i obzirnost u vođenju.

5. *Autonomno vođstvo* karakteriše nezavisno, individualističko vođstvo.
6. *Samozaštitno vođstvo* je stil vođstva koji se odnosi na ponašanje vođa koje je usmereno na sigurnost pojedinca i grupe pojačavanjem statusa.

U GLOBE studiji je konstatovano da su stilovi vođstva povezani sa kulturom i da u različitim kulturama različite dimenzije daju ton ukupnom vođenju. Harizmatsko vođstvo se smatra univerzalno uspešnim. Prema ustanovljenim klasterima kulture, najviši rezultat ima kod Anglo klastera, dok je najniži kod klastera Bliskog Istoka. Univerzalno uspešno je i timski orijentisano vođstvo. Ono ima najveći rezultat u latinoameričkom klasteru, a najniži rezultat u bliskoistočnom klasteru. Kada je reč o participativnom vođstvu, rezultati pokazuju da je i ovaj stil vođstva univerzalno uspešan, s tim što postoje bitne razlike između zemalja i klastera. Najviši rezultat beleži kod klastera Germanske Evrope, a najniži kod klastera Bliskog Istoka. Humano orijentisano vođstvo se smatra neutralnim u pojedinim kulturama, dok u drugim umereno doprinosi uspešnom vođstvu. Klaster Južne Azije ima najviši rezultat za humano orijentisano vođstvo, a klaster Nordijske Evrope najniži. U klasteru Istočne Evrope, autonomno vođstvo ima najviši rezultat. Najniži rezultat ima u klasteru Latinske Amerike. Dakle, u nekim kulturama autonomno vođstvo je delimično uspešno, dok je u nekim neuspešno. I na kraju, vođstvo koje se smatra neuspešnim u svim kulturama je sebično vođstvo. Najviši rezultat ima u klasteru Južne Azije, a najniži u klasteru Nordijske Evrope [11].

Kultura društva veoma blisko korenspondira sa vođstvom. Nesumnjivo je da vrednosti, verovanja, stavovi kulture utiču na oblikovanje osobina i ponašanja vođa koje ga čine uspešnim, određuju stil vođstva, odnose između vođa i sledbenika. Međutim, činjenica je i da postoje razlike u ponašanju vođa u različitim kulturama, kao i da se osobine i ponašanje vođa različito tretiraju u različitim kulturama. Vrednosti i verovanja određene kulture mogu da daju specifičan sadržaj određenim osobinama ili karakteristikama vođstva. Primera radi, *integritet* kao poželjna osobina vođa ima jedno značenje u SAD-u, a sasvim drugačije u Japanu. Međutim, međukulturna istraživanja su pokazala da postoje osobine vođa koje se smatraju univerzalnim, bilo da se ocenjuju kao pozitivne ili kao negativne. Naredna tabela ilustruje međukulturna obeležja vođstva.

Tabela 2. Međukulturna obeležja vođstva

Pozitivna	Negativna	Zavisna od kulture
<ul style="list-style-type: none"> • ohrabrujuće i pozitivno • motivišuće • dinamično • pravedno i pošteno • planira unapred • pouzdano • podsticajno • odlučno • inteligentno • komunikativno • rešavanje problema u korist svih 	<ul style="list-style-type: none"> • usamljeno • nekooperativno • bezobzirno • nejasno • iritantno • egocentrično • okrutno • diktatorsko 	<ul style="list-style-type: none"> • preuzimanje rizika • entuzijizam • prenošenje vizije • što čini dobre komunikacije • koliko se vođe percipiraju jednakima • autonomija • individualizam • ambicija

GLOBE istraživački projekat je istakao postojanje obrasca ponašanja vođa koji se mogu smatrati univerzalno prihvatljivim ili neprihvatljivim. Naime, izdvojene su: a) osobine i ponašanja vođa koje doprinose uspešnom vođstvu, b) osobine i ponašanja vođa koje sprečavaju uspešno vođstvo i c) osobine i ponašanja vođa koja su univerzalno kontingentna (prihvatljiva u nekim, a neprihvatljiva u drugim kulturama) [7].

a) *Univerzalne karakteristike i ponašanja vođa koje doprinose uspešnom vođstvu* bile bi:

- pouzdanost,
- iskrenost,
- dinamičnost,
- motivisanje,
- odlučnost,
- predviđanje,
- planiranje unapred,
- informisanost,
- komunikativnost,
- ohrabrivanje,
- graditelj poverenja,
- koordinacija,
- graditelj tima.

b) *Osobine i ponašanja vođa koje sprečavaju uspešno vođstvo* bile bi:

- usamljenost,
- asocijalnost,
- nekooperativnost,
- razdražljivost,
- egocentričnost,
- nemilosrdnost,
- diktatorsko ponašanje.

c) *Kulturalno kontingentne osobine i ponašanja vođa* bile bi:

- predvidljivost,
- ambicioznost,
- saosećajnost,
- entuzijazam,
- individualizam,
- nezavisnost,
- intuitivnost,
- iskrenost,
- osetljivost,
- samosvesnost,
- samožrtvovanost,
- preuzimanje rizika itd.

U eri globalizacije, organizacije koje žele da budu uspešne moraju imati vođe koje poseduju specifična znanja, veštine, sposobnosti, a i da pri tome globalno razmišljaju.

Neke od karakteristika uspešnih globalnih vođa su [1]:

- *Glojalno razmišljanje* – razumevanje globalnih uticaja, iskorišćavanje poslovnih prilika u globalnom okruženju i širenje globalnog razmišljanja.
- *Uvažavanje različitosti* – uvažavanje i optimiziranje kulturnih, političkih i verskih razlika među zaposlenima, širenje znanja o drugim kulturama na osnovu poslovnih iskustava i boravka u stranim zemljama.
- *Shvatanje važnosti tehnologije* – poznavanje i primena savremenih tehnologija dostupnih na svetskom tržištu.
- *Izgradnja partnerskih odnosa* – izgradnja timova, upravljanje međukontinentalnim timovima, razvoj partnerstva sa drugim organizacijama.
- *Deljenje vođstva* – uključivanje svih zaposlenih u postavljanje i ostvarivanje organizacijskih ciljeva.
- *Kreiranje zajedničke vizije* – razvijanje uspešnih strategija za ostvarivanje vizije organizacije.
- *Razvoj zaposlenih* – ulaganje u obrazovanje zaposlenih, priznavanje njihovog uspeha, poštovanje njihovog dostojanstva.
- *Ovlašćivanje zaposlenih* – podsticanje učestvovanja zaposlenih u odlučivanju.
- *Poznavanje samoga sebe* – poznavanje i iskorišćavanje sopstvenih snaga, uspešno upravljanje svojim i tuđim emocijama.
- *Podsticanje konstruktivnog dijaloga* – razumevanje okvira razmišljanja i ponašanja drugih ljudi.
- *Poštenje* – visoki etički standardi.
- *Upravljanje promenama* – prihvatanje promena, stalno unošenje promena, podsticanje kreativnosti i inovativnosti.
- *Anticipacija mogućnosti* – promišljanje i pronalaženje načina iskorišćavanja budućih mogućnosti.
- *Zadovoljstvo potrošača* – stavljanje potrošača na prvo mesto.
- *Osiguranje konkurentskih prednosti* – dugoročna perspektiva i diferencijacija od konkurenata.

Navedenim karakteristikama uspešnih vođa, možemo dodati i sledeće karakteristike: poliglota, kulturno fleksibilan, bez predrasuda i dobar poznavalac međunarodnog okruženja, poštovanje kulturne različitosti, spremnost na prihvatanje promena.

4. ZAKLJUČAK

U radu su prikazani bitni teorijski i empirijski rezultati savremenog interkulturnog istraživanja organizacija. Na osnovu sprovedenog istraživanja u okviru GLOBE projekta, došlo se do zaključka da nacionalna kultura utiče na organizacionu kulturu, osobine i ponašanja vođa. Drugim rečima, utiče na organizacionu praksu i praksu vođstva, kao i na ukupnu efektivnost organizacija. GLOBE projekat definiše devet ključnih dimenzija nacionalne kulture, na osnovu kojih se razlikuju načini organizovanja i vođenja organizacija koje pripadaju različitim kulturama. To su: izbegavanje neizvesnosti, distanca

moći, institucionalni kolektivizam, unutargrupni kolektivizam, rodna jednakost, asertivnost, orijentacija na budućnost, orijentacija na postignuće, humana orijentacija.

Veoma bitan rezultat GLOBE projekta jeste svrstavanje kultura u kulturne klasterne. Na osnovu ovog istraživačkog projekta, sve kulture su svrstane u deset kulturnih klastera. To su: Anglo klaster, Latinska Evropa, Nordijska Evropa, Germanska Evropa, Istočna Evropa, Latinska Amerika, Subsaharska Afrika, Bliski Istok, Južna Azija i Konfučijska Azija.

U ovom istraživačkom projektu utvrđeno je šest stilova vođstva, i to: harizmatičko vođstvo, timski usmereno vođstvo, participativno vođstvo, humano vođstvo, autonomno vođstvo i samozaštitno vođstvo. Konstatovano je da su stilovi vođstva povezani sa kulturom i da u različitim kulturama različite dimenzije daju ton ukupnom vođenju. Jedan od veoma bitnih rezultata ovog međukulturnog istraživanja jeste izdvajanje univerzalno uspešnih, univerzalno neuspešnih i kontingentnih osobina i ponašanja vođa. Naime, ovim istraživanjem je negiran tradicionalni stav da nema univerzalno prihvatljivih principa vođstva i osobina vođa. Ova studija je pokazala da u vođstvu ima mnogo više univerzalizma nego što se dosad smatralo.

Nesumnjivo je da su rezultati ovog istraživačkog projekta od izuzetnog značaja za teoriju organizacionog ponašanja i vođstva, ali i za organizacionu praksu i praksu vođstva. Ono što želimo posebno da istaknemo u ovom radu jeste potreba primene GLOBE metodologije u našoj zemlji. Prema Hofstede-ovim istraživanjima nacionalne kulture, srpsku nacionalnu kulturu odlikuju: visok stepen izbegavanja neizvesnosti, visoka distanca moći, kolektivizam i muške vrednosti. Izbegavanje neizvesnosti je dimenzija nacionalne kulture koja govori i odnosu članova društva prema promenama, rizicima, nejasnoćama, različitostima. Ova dimenzija kulture utiče na odnos između vođa i podređenih. Visok stepen izbegavanja neizvesnosti ukazuje na postojanje visokog stepena formalizacije u organizacijama, poštovanja pravila i procedura. Kod nas ljudi ne vole promene, rizik, neizvesnost i veoma lako prihvataju autoritativnog vođu koji sam donosi sve odluke. Na taj način izbegavaju neizvesnost, nejasnoće i nestrukturirane probleme. Distanca moći je dimenzija nacionalne kulture koja govori o prihvatanju nejednake distribucije moći kao prirodno i poželjno stanje stvari. Visok stepen distance moći u srpskoj nacionalnoj kulturi ukazuje na to da članovi društva i organizacija prihvataju nejednaku distribuciju moći kao sasvim normalno stanje, imaju poverenje u nadređene i lako prihvataju njihovu moć. Budući da se autokratsko ponašanje i moć lidera kod nas lako prihvata, srpski menadžeri primenjuju autoritativni stil vođstva. Individualizam-kolektivizam, kao dimenzija nacionalne kulture odražava čvrstinu socijalne strukture društva. Pripadnici srpske nacionalne kulture očekuju od društva i nadređenih da brinu o njima i članovima njihovih porodica. S druge strane, vođi iskazuju poverenje, poslušnost i lojalnost. Granica između poslovnog i privatnog života nije čvrsto postavljena. Dimenzija nacionalne kulture muške-ženske vrednosti, odražava stepen u kome dominiraju tzv. „muške“ ili „ženske“ vrednosti. U srpskoj nacionalnoj kulturi dominiraju „ženske“ vrednosti: briga za ljude, orijentacija ka dobrim međuljudskim odnosima, harmonija, kvalitet života. Kulturama sa dominantnim „ženskim“ vrednostima odgovara participativni stil vođstva. Ako uzmemo u obzir da srpsku nacionalnu kulturu odlikuje visoka distanca moći kojoj implicira autoritativni stil vođstva, a s druge strane, ženske vrednosti kojima odgovara participativni stil vođstva, uočavamo da se pred menadžere postavljaju dva suprotstavljena zahteva. Stoga, srpskim organizacijama najviše odgovara *benevolentno-autoritativni vođa* koji vodi brigu o podređenima. Prema navedenim karakteristikama, srpska nacionalna kultura ima najviše sličnosti sa latinoameričkim i latinoevropskim zemljama.

S obzirom na rastuću konkurenciju i sve intenzivnije promene u okruženju bilo bi poželjno podsticati dalje istraživanje uticaja nacionalne kulture na organizacionu kulturu i

ponašanje vođa. Uz primenu GLOBE metodologije u našim uslovima možda bi se uočile promene u dimenzijama naše nacionalne kulture, odnosu kulture i stilova vođstva. Dalja istraživanja kulture i vođstva u našim uslovima doprinela bi poboljšanju organizacione prakse i prakse vođstva. Sposobnost vođa da kreira viziju, inicira promene, da okupi saradnike oko svoje ideje i realizacije postavljenih ciljeva, da ih motiviše i inspiriše, presudna je za uspeh svake organizacije. Ključni faktor povećanja organizacionih performansi i konkurentnosti savremenih organizacija su vođe. Otuda je korisno prepoznati osobine vođa koje vode efektivnosti organizacija.

REFERENCE

1. Goldsmith, M., Greenberg, C., Robertson, A. Hu-Chan, M., *Global Leadership-The Next Generation*, Upper, Saddle River, Financial Times Prentice, Hall, NJ, 2003, p. 7.
2. Gupta, V., Hanges, P., J., Dorfman, P., Cultural clusters: methodology and findings, *Journal of World Business* 37 (2002), p. 13.
3. Hampden-Turner, C. M., Trompenaars, F., *Riding the Waves of Culture: Understanding Cultural Diversity in Global Business*, McGraw-Hill, New York, 1998, p. 6.
4. Hofstede, G., *Culture's Consequences: Comparing Values, Behaviors, Institutions and Organizations Across Nations*, Sage Publications, Thousand Oaks, CA, 2001, p. 25.
5. House, R., Javidan, M., Dorfman, P., Project GLOBE: An Introduction, *Applied Psychology: An International Review*, 50 (2001), p. 489-505. Preuzeto sa: <http://www.mgmt3.ucalgary.ca/web/globe.nsf/index>
6. House, R., Javidan, M., Hanges, P., Dorfman, P., Understanding cultures and implicit leadership theories across the globe: an introduction to project GLOBE, *Journal of World Business*, 37 (2002), p. 5-9. Preuzeto sa: <http://Mgmt3.ucalgary/web/globe.-nsf/index>
7. House, R., Hanges, P., Javidan, M., Dorfman, P., Gupta, V., *Culture, Leadership and Organizations: The GLOBE Study of 62 Societies*, Sage Publications, Thousand Oaks, CA, 2004.
8. Jagdeeps, Chhokar, Felix, Brodbeck, Robert, House, *The GLOBE Book of in – Depth Studie of 25 Societies*, Mahwah, New Jersey, London, 2007, p. 8-9.
9. Yukl, G., *Leadership in Organizations*, Prentice Hall, Upper Saddle River, New York, 1998, p. 2.
10. Luciana Nardon, Richard Steers, *The culture theory jungle: divergence and convergence in models of national culture*, 2010, p. 4. Preuzeto sa: http://www.ekof.bg.ac.rs/nastava/org_ponasanje_master/2010/Dopunska%20%REFERE NCE/convergence%20divergence.pdf
11. Michael, Hoppe, Regina Eckert, *Leaders Effectiveness and Culture: The GLOBE study*, 2012, p. 5-7. Preuzeto sa: <http://www.ccl.org/leadership/pdf/assessments/Globe Study.pdf>
12. Robbins, S. P., Judge, T. A., *Organizacijsko ponašanje*, Mate, Zagreb, 2010, p. 402.

E-MAINTENANCE MANAGEMENT IN E-BUSINESS PROCESSES OF DIGITAL COMPANIES

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Abstract: The process of maintaining ICT infrastructure in digital companies is very important for the quality and safety of e-business processes. E-maintenance as a synonym for the maintenance of ICT infrastructure includes a wide range of activities that must be considered from several aspects. This paper provides an overview of each item, which is an important part of e - maintenance: lifetime use of ICT solutions, the process of replacement of ICT equipment, identification and implementation of new ICT trends, adjustment of existing and new ICT components, and safety aspects.

These recommendations are the dynamics of change and the development of e-business processes to digital companies. The importance of the recommendations are more at the level of the universal rules of conduct and operating procedures that are not strictly related to existing solutions. E - business processes, in general, with the initial information that is transforming the way it creates a new value of the information. Furthermore, the quality, reliability and protection of information is a key task in the e - maintenance. Therefore, e-maintenance, is aimed at the prevention of safety and quality assurance of information related to e-business processes. In this context, the approach given in this work is based on the concept of existing international standards of information security.

Keywords: E-maintenance, ICT infrastructure, e-business

MENADŽMENT E-ODRZAVANJA U E-BIZNIS PROCESIMA DIGITALNIH KOMPANIJA

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Abstract: Menadžment održavanja IKT infrastrukture u biznis procesima digitalnih kompanija, je veoma važan za kvalitet i sigurnost e-biznis procesa. E-održavanje kao sinonim održavanja IKT infrastukture, obuhvata široki spektar aktivnosti, koje moraju biti menadžirani sa više aspekata. U ovom radu je dat pregled svih značajnih komponenti e-održavanja: vek trajanja i zastarivanja korišćenih IKT rešenja, procesi zamene IKT opreme, prepoznavanje novih trendova, usaglašavanje postojećih i novih komponenti, sigurnosni aspekti. Pritom se polazi od dinamike promena i razvoj samih e- biznis procesa u digitalnim kompanijama. Date preporuke su više na nivou univerzalnih smernica i radnih procedura koje nisu striktno vezane za postojeća rešenja. E-biznis procesi, generalno, uzimaju informaciju kako sirovinu i transformišu je na način da joj dodaju vrednost. Stoga, kvalitet, pouzdanost i zaštita informacije je ključni zadatak i procesima e-održavanja. Samim tim menadžment održavanja IKT infrastrukture, u velikoj meri je

nasočen ka prevenciji obezbeđivanja i kvaliteta samih informacija, relevantnih u e-biznis procesima. U tom kontekstu, korišćen je pristup koji uzima u obzir postojeće svetske sigurnosne standarde informacione sigurnosti.

Ključne reči: E-održavanje, ICT infrastruktura, e-biznis

1. UVOD - PROBLEMI E-ODRŽAVANJA

Sam proces održavanja u jednoj kompaniji može se razmatrati na dve razine: opšte preporuke i univerzalna načela, kao i specijalna organizacija koja uzima u obzir sve taskove i specifičnosti koje proizlaze od načina rada i samog procesa stvaranja vrednosti i proizvodnje u kompaniji. Proces proizvodnje kod digitalnih kompanija, je organizovan na način da su u velikoj meri prisutni digitalizovani procesi. Ali isto tako, postoje i klasični procesi, koji su unapređeni korišćenjem IKT rešenja. To znači da savremeni menadžment održavanja poseduje e-održavanje kao jednu novu komponentu, koja je prilagođena specifičnostima novih IKT solucija. Dalje, sa druge strane treba imati u vidu, da se u prilagođenom procesu proizvodnje u kontekstu stvaranja nove vrednosti, prvi put pojavljuje i sama informacija i njena obrada, pa je samim tim e-održavanje, prilagođeno i samoj informaciji. U tom kontekstu, e-održavanje se svodi na oblasti IKT infrastrukture, što podrazumeva tretman hardverskih i softverskih solucija, kao i brigu o kvalitetu, pouzdanosti i sigurnosti informacije [1],[2]. Glavna dopunska karakteristika e-održavanja je mogućnost predikcije i prevencije svih pretnji koje se odnose na pouzdanost rada IKT sistema i bezbednost samih informacija, tokom njihovog transfera unutar digitalne kompanije, kao i u komunikaciji za svim saradnicima i klijentima. Imajući u vidu postojeane promene, napredak i uvođenje novih tehnologija, e-održavanje je veoma dinamična oblast koja uporedo mora pratiti i sve pretnje koje dolaze od web orijentiranog načina rada u samim digitalnim kompanijama.

2. ELEMENTI E-ODRŽAVANJA

Glavni cilj e-održavanja se sastoji u obezbeđivanju neprečenog rada svih ICT solucija u digitalnoj kompaniji, što podrazumeva i zaštitu relevantnih informacija u različitim fazama njihove obrade. Polazeći od karakteristike samih e-biznis solucija kao i online načina rada, iskustvo je pokazalo da je najbolji način e-održavanja, u suštini predikcija i prevencija u najvećoj mogućoj meri.

Menadžment e-održavanja se svodi na sledeće radne stavke [5] :

- A. *Organizacija radnih procesa na način koji omogućuje maksimalnu zaštitu samih IKT solucija i informacija* koje su u isto vreme i radni resurs, polufabrikat a često i finalni i glavni produkt. Što se tiče same organizacije radnih procesa, postoje radne procedure i preporuke za menadžment bezbednosne IKT infrastrukture, kao i standardi informacione sigurnosti koji obezbeđuju minimizaciju verovatnoće bilo kakvog incidenta.
- B. *Analiza svih mogućih incidenata koji se mogu pojaviti u napomenutim oblastima*, što se u praksi svodi na menadžment komponenti i infrastrukture primenjenih IKT

solucija, obezbeđivanje fizičke sigurnosti, kao i sigurnosni tretman informacijskog toka.

- C. *Prevenција svih incidenata*, u kontekstu da budu sprečeni gde god je to moguće, korišćenjem saznanja i primenom preporuka koje se temelje na prethodne stavke, A i B.
- D. *Sanacija svih incidenata* koji ne mogu da budu sprečeni, u kontekstu izradnje propisanih radnih procedura za njihovo što brže otklanjanje. Ovo je veoma inventivna faza, koja polazi od toga da se nikad ne može izbeći neki incident sa stoprocentnom sigurnošću, ali se zato dobrom organizacijom može minimizirati vreme disfunkcionalnosti, kako i obim potencijalne štete.

Što se tiče same organizacije radnih procesa, postoje radne procedure i preporuke za menadžment bezbenosne IKT infrastrukture, kao i standardi informacione sigurnosti koji obezbeđuju minimizaciju verovatnoće bilo kakvog incidenta.

3. MENADŽMENT E-ODRŽAVANJA U DIGITALNIM KOMPANIJAMA

Treba napomenuti da su prethodno navedeni elementi e-održavanja, razdvojeni sa ciljem uspostavljanja distinkcije od klasičnog održavanja u kompanijama. Sa aspekta potrebnih aktivnosti menadžment e-održavanja uglavnom se svodi na menadžment IKT infrastrukture, i menadžment informacione sigurnosti. Zahtevi održavanja uglavnom se svode na obezbeđivanje neprečenog kontinuiranog rada, sa minimalnim zastojsima zbog realizacije samih taskova održavanja[3]. Dalje, ciljevi savremenog menadžmenta e-održavanja mogu se klasificirati u sledeće kategorije:

- Iznalaženje formaliziranih pristupa za upravljanje rizikom, Root Cause analiza
- Primena savremenih strategija održavanja, kao što su Reliability Centred Maintenance, RCM, što je održavanje zasnovano na poverljivosti, i Total Productive Maintenance, TPM, t.j. potpuno produktivno održavanje.
- Integracija uticaja ljudskog faktora
- Primena participativnog pristupa u projektovanju i odabiru opreme i hardvera, Design for Maintainability, Value Engineering, Hazop.

3.1. INFORMACIONI SYSTEM U FUNKCIJI E-ODRŽAVANJA, COMPUTERISED MAINTENANCE MANAGEMENT SYSTEM

Iako ne spada u klasične strategije e-održavanja, korišćenje informacionih sistema je trend koji je u podemu kao savremena alatka za analizu postojećeg sistema održavanja [4]. Analiza se sastoji u sledeće dve faze:

- *Procena sistema*, koja se temelji na odgovore na sledeće stavke:
 1. Kako deluju preventivne procedure na broj korektivnih aktivnosti
 2. Dali je preventivno održavanje redovno i dali su rezultati zadovoljavajući, imajući u vidu da je sistem dobar ukoliko je na 6 preventivnih aktivnosti prisutna jedna korektivna.
 3. Lociranje kritičnih mesta sa aspekta poverljivosti, u pogledu hardvera, softvera, lokacije
 4. Vreme potrebno za izvršavanje pojedinih aktivnosti

5. Broj aktivnih taskova održavanja u proseku
6. Troškovi održavanja

- *Identifikacija problema*, koja se zasniva na sledećim analizama:

1. Uskladenost softvera
2. Pregled i popis opreme- vid, tip, lokacija, pouzdanost, pripadnost celini, zastarivanje, rok trajanja, kompatibilnost
3. Rezervni delovi i urgentna rešenja
4. Analiza povratne veze efikasnosti preventivnih mera

Analize nedvojbeno pokazuju da je korišćenje IKT opreme instalirane za podršku samih e-biznis procesa za uspostavljanje jednog informacionog sistema u funkciji e-održavanja, investicija koja se isplati za 18 do 30 meseci.

3.2. STRATEGIJE E-ODRŽAVANJA U E-BIZNIS PROCESIMA

Imajući u vidu dinamiku promena i specifičnosti koje sa sobom nose razna IKT rešenja koja se primenjuju i kombiniraju za raznim sistemima za podršku u odlučivanju kao i sa biznis inteligencijom, oblasti od značaja za e-održavanje se mogu klasificirati na sledeći način:

- *Korektivno održavanje*, koje se svodi na planiranje, predikciju i saniranje nastalih objektivnih poremećaja i diskusionalnosti.
- *Preventivno održavanje*, koje ima za cilj obezbeđivanje dobre kondicije održavanja, što podrazumeva menadžment svih potencijalnih problema pre njihovog nastajanja. Ovaj način održavanja ima za cilj minimizaciju svih mogućih disfunkcionalnosti.
- *Inspektivno održavanje*, se na neki način povezuje sa preventivnim održavanjem i predstavlja njegov operativni deo. Statistika mogućih incidenata, njihova lokacija, analiza kritičnih radnih uslova su osnova za planiranje inspektivnog održavanja.

Treba napomenuti da su sve tri nabrojene strategije univerzalne i primenjivane i pre nastanka samog e-biznisa.

3.2.1. Incidentan menadžment e-održavanja

Kao specifična kategorija menadžmenta održavanja, incidentni menadžment je zadužen za problem korektivnog održavanja. Polazna tačka planiranja raznih aktivnosti je fakt da je rok trajanja IKT rešenja ograničen sa aspekta zastarivanja, kompatibilnosti i pouzdanosti pri radu. To se odnosi na sav hardver ali i na softverska rešenja koja mogu raditi sa unapred proračunatom sigurnošću i očekivanom greškom. Korektivni menadžment se bazira na konceptu da se unapred predvide svi mogući problemi kao i način njihove sanacije, imajući u vidu da je vreme njihovog nastanka stohastično [1]. Cilj incidentnog menadžmenta u e-održavanju je lokalizacija i minimizacija vremena disfunkcionalnosti e-biznis sistema. Incidentni menadžment se uglavnom svodi na dve važne aktivnosti:

- *Prioritet incidenata*, koji se brine o definisanju i uspostavljanju tačno određenog prioriteta rešavanja problema ukoliko se pojave više njih u istom trenutku, imajući u vidu njihovu međusobnu povezanost.

- *Vremensko optimiranje*, koje podrazumeva pronalaženje strategija i planiranje samog procesa rešavanja nastalih incidenata sa ciljem da se optimira vreme sanacije nekog incidenta.

3.2.2. Rizik menadžment u e-održavanju, kako kompilacija preventivnog i inspektivnog menadžmenta

Ova specifična komponenta menadžmenta e-održavanja pretstavlja kombinaciju raznih radnih procedura *inspektivnog* i *preventivnog* menadžmenta. Analizom samih biznis procesa na nivou komponenti i aktivnosti može se unapred sa određenom verovatnošću presmetati kakve su šanse za defekte i smetnje u radu [6]. Samim tim što se sa smanjenjem rizika, u isto vreme povećava sigurnost i pouzdanost u radu, kako sinonim sreće se i naziv *sigurnosni menadžment*. Postoje određene dopirne tačke ali i jasna distikcija između inspektivnog i preventivnog menadžmenta:

- *Inspektivni menadžment* kao deo sigurnosnog menadžmenta, zadužen je za dinamiku izvođenja kontrola i inspekcija sa ciljem da se obezbede adekvatni podatci. Planovi i strategije se zasnivaju na nekoliko različitih kategorija podataka:
 - a. Podatci proizvođača hardvera i softverskih rešenja o pouzdanosti i načinu rada
 - b. Sopstvena radna iskustva kompanije
 - c. Iskustva drugih korisnika i suradnika
- *Preventivni menadžment*, kao deo sigurnosnog menadžmenta bavi se sa promocijom raznih planova i procedura sa ciljem da se preduhitre kad god je to izvodljivo, sve eventualne havarije, zastoji u radu i eventualne greške. Kako bazične aktivnosti u tom smeri se preporučuju:
 - a. *Preventivna zaštita hardvera* koja podrazumeva aktivnosti zamena zastarene opreme, pre nego se dese havarije. Ove aktivnosti polaze od toga dali je ekonomičnije da se određeni stari delovi IKT solucija zamene iako su ispravni, uporedbom troškova zamene sa troškovima nastale štete u slučaju havarije. U ovom drugom slučaju na cenu zamene delova ili softvera, dodaju se i poslovne zagube u period zastoja radi havarije.
 - b. *Zaštita od neovlašćenog pristupa i izrada sigurnosnih strategija*, koja se odnosi na rad softverskih solucija. Interesantno je da sami sigurnosni upadi mogu biti sprečeni sa raznim zaštitnim tehnikama i procedurama koje se odnose i na hardverska konfiguraciona rešenja, zajedno sa softverskim zaštitama. Jedno od mogućih rešenja je uspostavljanje sigurnosne arhitekture mrežne opreme [5].

3.3. NIVOI IMPLEMENTACIJE MENADŽMENTA E-ODRŽAVANJA ZA IKT SOLUCIJE

Preznetirane činjenice navode na to da se menadžment e-održavanja može razmatrati na različnim nivoima:

- *Nivo mrežne arhitekture*, koje obuhvata sve aktivnosti odabira i usklađivanja IKT opreme, koje se dalje može razmatrati kao:
 - a. Menadžment održavanja mrežnih hardverskih komponentata
 - b. Menadžment održavanja mrežnih usluga i servisa

- *Softversko nivo*, koje se brine o interoperabilnosti i stabilnosti svih korišćenih softverskih solucija, koje se odnose na interpersonalnu komunikaciju unutar kompanije, dalje, sa klijentima i suradnicima. Takođe, obuhvata i sva bezbednosna rešenja i standarde za zaštitu od virusa i drugih sigurnosnih upada.
- *Nivo elektronskih komunikacija*, koje tretira sve segmente telekomunikacijskih usluga, relevantne za neprečeno funkcioniranje e-biznis procesa. U ovom domenu spadaju postupci sigurnosnog prenosa informacija, alternativno preusmeravanje elektronskog saobraćaja, realne potrebe neprekidne telekomunikacijske veze, u korelaciji sa nivoima tolerancije na prekide, sagledani isključivo sa metapozicije konkretnog e-biznis procesa.

Sva navedena nivoa su data kao kategorije više opisno nego suštinski, sa ciljem distinkcije raznih radnih specifičnosti. [3],[4]. Tako, treba imati u vidu da je IKT solucija za e-biznis, praktično, sva oprema, t.e. sav hardver i softver podređen radu u mreži, kao u kompaniji, tako i globalno, u međusobnoj povezanosti posredstvom elektronskih komunikacija.

3.4. MENADŽMENT INFORMACIONE SIGURNOSTI I PRINCIP NAJMANJE PRIVILEGIJE

Korišćenje interneta u e-biznis procesima, za potrebe elektronske interkomunikacije, čak i u slučajima menadžiranog i personalizovanog saobraćaja, donosi sa sobom uvećane rizike koje se odnose na sam proces transfera informacija kao i na njihove pouzdanosti i bezbednosti. Kao rezultat raznih istraživanja i sistematizacije radnih iskustava kompanija i raznih institucija, uspostavljena je serija sigurnosnih standarda, koje propisuju način organizacije i rada sa informacijama, sa ciljem obezbeđivanja informacione sigurnosti. Treba napomenuti da ovi standardi prate aktuelni momentat na svetskom nivou što se tiče informacione sigurnosti, te stoga permanentno evoluiraju. Na početku je uspostavljen Britanski standard BS 7799, koji je osnova za kasnije verzije BS 7799 part 1 ISO/IEC 17799, koji je kasnije modificiran i unapređen u BS 7799-2, iz koga proizlazi, ISO/IEC 27000, i njegove varijante iz 2005 I 2013 godine [8].

Napomenuti informacioni standardi, ukratko, što se tiče informacione sigurnosti, nalažu kao osnovne sledeće tri komponente:

- *Doverljivost*, što podrazumeva obavezu da se obezbedi autorizovani pristup do svake informacije, i tačno nivo privilegija nad njom.
- *Integritet*, što podrazumeva obezbeđivanje i garanciju tačnosti, potpunosti i celovitosti samih informacija i metoda za njihove obrade.
- *Dostupnost*, podrazumeva obezbeđivanje adekvatnih prava i privilegija, raznim grupama autorizovanih korisnika.

Obezbeđivanjem adekvatne doverljivosti, integriteta i dostupnosti, postiže se *Princip najmanje privilegije*, koji se odnosi na multy-user informacione sisteme. Po ovom principu, svakom korisniku treba da budi dodeljeni ona prava i privilegije koja su potrebna i dovoljna za izvršenje njegovih aktivnosti. Svaka informacija i aktivnost, koja nije neophodna, ukoliko je dopuštena, pretstavlja potencijalnu pretnju po bezbednost. Razumljivo, potrebno je postojanje t.n. *privilegovanog pristupa*, poznatog kako *root*

access, kakav imaju administratori sistema koji su zaduženi za menadžment e-održavanja, putem obezbeđivanja komponente informacione sigurnosti.

Kao rezultat svih ovih aktivnosti koje nalažu nabrojane komponente, postiže se nivo informacione sigurnosti koje obezbeđuje zaštitu informacija a samim tim, kontinuitet i pouzdanost e-biznis procesa, sa aspekta informacione sigurnosti.

4. SOFTVERSKI BAZIRANI E-MENADŽMENT

Pored sigurnosne arhitekture postoje i softverska rešenja sa strogo određenom namenom, da menadžiraju određene softverske probleme. Ove aplikacije su koncipirane na principima samoanalize, samodetekcije i samoreparacije, a koriste se za specifičnu problematiku softverskog održavanja kao deo e-održavanja u e-biznis procesima.

Pritom, one menadžiraju razne softverske probleme:

- *Menadžment konfiguracionih problema*- Može se desiti tokom rada da odjednom bez ikakvog razumljivog razloga, određeni delovi (softver, hardver) prestanu sa pouzdanim radom. Isto tako, moguće su situacije da se određene aktivnosti koje se bez ikakvih problema izvršavaju na drugim kompjuterima u mreži, na nekoj radnoj stanici ne mogu izvršiti. Ovakvi se problemi rešavaju snimanjem zapisa registra, svih radnih stanja, sva podešavanja hardvera i softvera sa ciljem njihovog upoređivanja, da bi se locirao i sanirao neki problem. Treba napomenuti da se ovo odnosi na probleme sa softverom, ali i hardverom, kad su u pitanju drajveri ili procedure konfiguracije.
- *Reparativni ili Patch menadžment*, se odnosi na sve situacije kad su potrebna određena premošćivanja, zakrpe, popravke, reparacije nekog promenjenog radnog stanja. Uglavnom se na ovaj način saniraju bezbednosni propusti povezani sa online radom. Softver namenjen za ovaj cilj mora biti interaktivit i prediktivan.
- *Spyware menadžment*, se odnosi na posebnu grupu problema, kada su informacije bez znanja korisnika ili kompanije, prikupljene sa ciljem ostvarivanja neke nelegalne koristi ili nanošenje štete. Softver namenjen za ovaj cilj mora biti fokusiran na određene ciljne informacije i njihove maksimalne zaštite. Uglavnom, to su osetljive informacije lične prirode, ili velikog biznis značaja.

4.1. SAMOREPARATIVNI I SAMOKONFIGURACIONI MENADŽMENT

Menadžment e-održavanja sledi trendove u domenu IKT solucija koje se koriste u e-biznis procesima, prilagođavajući se permanentno novitetima. Da bi ti naponi bili uspešni, nekad je neophodno predivdeti u kom pravcu treba očekivati promene. Velike softverske korporacije imaju studije koje proučavaju uticaj ovih očekivanih promena na strategisku formulaciju i implementaciju menadžmenta e-održavanja.

U tom pravcu, očekuju se sledeći trendovi:

- *Samoreparativni i samokonfiguracioni menadžment*, koji se odnosi na softverske probleme, t.j. rad aplikacija i konfiguriranje hardvera, po analogiju reparacije u živim organizmima posredstvom genetskih algoritama[7]. Ovo je veoma aktuelan i savremen pristup.
- *Prioritet prediktivnom menadžmentu*, što podrazumeva analizu sa ciljem predikcije mogućih upada, sa ciljem njihove prevencije umesto sanacije.
- *Menadžment uvođenja novih tehnologija*, sa ciljem njihovog permanentnog usaglašavanja sa postojećim koje se već primenjuju, čime se postiže evolucija e-biznis sistema umesto, revolucionarne promene koje bi tražile veće investicije i prekide u radu.

5. ZAKLJUČAK

Procesi e-biznis transformacije uvode velike promene u način poslovanja, samim tim što je obrada i tok informacije jedan sasvim novi dopunski segment o kome se mora voditi račun. Uvođenje novih tehnologija, koje se neprestano izmenjuju, sam fakt da postojeće IKT solucije zastarevaju u relativno kratkom periodu od nekoliko godina, kao i njihov način ukpapanja i kombiniranja sa postojećim klasičnim rešenjima, nalažu više dimenzija menadžmenta održavanja. Jedna od tih dimenzija je proučavanje klasičnih strategija i metoda menadžmenta održavanja, i njihovo prilagođivanje e-biznis situaciji. Ponekad, to nije dovoljno, pa je potrebno kreirati sasvim nove strategije. Menadžment e-održavanja, je zato, dinamičan i interaktivan kako i sama srž e-biznis procesa. E-održavanje počinje tako što sledi trendove menadžmenta održavanja kako početno stanje i radni okvir, ali njegova suština je praćenje modaliteta rada e-tehnologije koja omogućuje e-biznis procese. Veoma aktuelan segment je tretman samih informacija, posebno u domenu zaštite ličnih podataka i poslovno relevantnih informacija, što sa sobom vuče i neke dopunske implikacije. Menadžment e-održavanja se stoga, može i treba posmatrati kao aktivnost za čije je uspešno sprovođenje potrebna moderirana strategija koja obedinjuje pravila klasičnog menadžmenta održavanja i određene strategije socijalne komunikacije, u koju su potrebni skilovi predikcije i prevencije na bazi procene. Sa jedne strane je klasična biznis okolina koja je osavremena sa IKT solucijama, sa druge strane su standardi informacione sigurnosti i procedure koje su se koristile za obezbeđivanje sigurnosti informacija u raznim razuznavačkim agencijama. Ta dva, navidum, nespojiva stajališta, u kombinaciji sa postojanim napretkom IKT solucija i socijalnim implikacijama e-biznisa, daju menadžmentu e-održavanja jednu dimenziju kontrolirane stohastičnosti, što ga čini veoma zanimljivim za istraživanje i unapređivanje.

REFERENCE

1. Alberts, C., Dorofee, A., Killcrece, G., Ruefle, R., and Zajicek, M. (2004). "Defining incident management processes for csirts: A work in progress" (No. CMU/SEI-2004-TR-015). CARNEGIE-MELLON UNIV PITTSBURGH PA SOFTWARE ENGINEERING INST.

2. Bhaskar, R. (2005). "A Proposed Integrated Framework for Coordinating Computer Security Incident Response Team". *Journal of Information Privacy & Security*, 1(3)
3. Braithwaite, T. (2002) "Securing E-Business Systems: A Guide for Managers and Executive"
4. Ladan, M. I. (2013). "E-business Security Challenges". *The Second International Conference on Digital Enterprise and Information Systems (DEIS2013)* (pp. 159-165). The Society of Digital Information and Wireless Communication.
5. Markoska,R., Jolesvski, I. (2009) "Perimetar sigurnosti i menadžment bezbednosne IKT infrastructure u e-biznis procesima", E-Trgovina, Palić
6. Sukumar, A., Edgar, D., & Grant, K. (2011). "An investigation of e-business risks in UK SMEs" . *World Review of Entrepreneurship, Management and Sustainable Development*, 7(4), 380-401.
7. Wang, Y. M. (2007). "Computer Genomics: Towards Self-Change and Configuration Management" *Microsoft Research*.
8. ISO 27001 Central <http://www.17799central.com/>

STRATEGIES FOR THE USE OF SOCIAL NETWORKS IN PUBLIC RELATIONS

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Abstract: Social media have changed the way people all over the world communicate. They offered a new platform for communication that lead to a collapse of corporate barriers and establishment of two-way communications inside the companies and outside them. As a consequence, the way business is done changed radically, with marketing concentrating more on open dialog with clients and less on sending one-way information about products and services that companies are offering. Mere presence in social media is not sufficient any more. Today companies use social networks as a part of their business strategy, for improvement of business processes, reputation building, generating brand awareness and strengthening relations with clients and partners.

In this paper we analyzed two studies about the use of social networks and social media that were done in USA and in Serbia. The research that was done in USA showed that most of the companies realize the significance of social media and they incorporate them into their own business strategies at least to some extent. The results of the Serbian research indicate that domestic companies have an awareness of the importance of social networks and the potentials for their use, but in most cases it is not something that is actively used and Serbian companies usually regard it as something that they will have to take in account in their plans for the future. Our companies are far behind their international counterparts and there is lot that has to be done in order to take the advantage that social networks and social media offer.

Keywords: Public relations, social networks, social media, Internet, virtual community.

STRATEGIJE KORIŠĆENJA DRUŠTVENIH MREŽA U ODNOSIMA SA JAVNOŠĆU

Saša Perić, Tamara Uroš

Apstrakt: Društveni mediji su promenili način na koji ljudi širom sveta komuniciraju. Oni su ponudili novu platformu za komunikaciju koja dovodi do rušenja korporativnih barijera i uspostavljanja dvostranih komunikacija unutar preduzeća i van njih. Ovo za posledicu ima radikalne promene u načinu poslovanja, smisao marketinga sve više je u vođenju otvorenog razgovora sa kupcima, a sve manje u emitovanju jednosmernih informacija o proizvodima i uslugama koje preduzeće nudi. Samo prisustvo na društvenim mrežama više nije dovoljno. Kompanije danas koriste društvene mreže kao deo strategije poslovanja koja utiče na unapređenje poslovnih procesa, građenje reputacije, podizanje svesti o brendovima i jačanje odnosa sa potrošačima i poslovnim partnerima.

U radu su analizirane studije o korišćenju društvenih mreža i društvenih medija koje su rađene na teritoriji SAD-a i na teritoriji Srbije. Istraživanja u SAD-u pokazuju da većina

kompanija uviđa značaj društvenih medija i da ih makar u određenom stepenu inkorporira u strategije sopstvenog poslovanja. Rezultati studije rađene u Srbiji pokazuju da kod domaćih kompanija postoji svest o značaju korišćenja društvenih mreža u poslovne svrhe, ali je to uglavnom potencijal koji se planira iskoristiti u budućnosti, više nego aktivno sredstvo. Potrebno je još mnogo toga učiniti da bi se iskoristili potencijali koje društvene mreže i društveni mediji poseduju i za sada naše kompanije očigledno zaostaju za svojim međunarodnim konkurentima.

Ključne reči: Odnosi s javnošću, društvene mreže, društveni mediji, Internet, virtuelne zajednice.

1. UVOD

Odnosi sa javnošću su integralni deo funkcionisanja bilo koje veće kompanije ili organizacije, i ono što je karakteristično za njih jeste da su oduvek bili povezani sa promenama u tehnologiji. Tehnološke inovacije predstavljaju izuzetno bitan faktor koji utiče ne samo na metode i sredstva koja se koriste u odnosima sa javnošću, već dovode često i do restrukturiranja samog koncepta PR-a.

U XXI veku znanje i intelektualni kapital postaju kritični resursi poslovanja, a upotreba informacione i komunikacione tehnologije predstavlja nužnost za koordinaciju poslovnih aktivnosti. Danas jedan od najčešćih i najdostupnijih alata za unapređenje znanja, odnosno intelektualnog kapitala, predstavlja Internet - svetska računarska mreža, ili mreža svih mreža, kojom se slobodno razmenjuju informacije, podaci i efikasno obavlja elektronsko poslovanje. Pojava Interneta dovodi do značajnih promena u raznim sferama korporativnog poslovanja. Ovi uticaji su vrlo primetni u oblasti odnosa sa javnošću, ali ono što je bitno jeste da ciljevi i zadaci uglavnom ostaju isti, menjaju se samo metode koje se koriste za ostvarivanja tih ciljeva.

Jedan od zadataka odnosa sa javnošću je komunikacija sa različitim ciljnim grupama koje čine javnost (kupci, zaposleni, akcionari, dobavljači, partneri, mediji itd.). Cilj je zadovoljiti njihove želje i potrebe za informacijama. Da bi informacije stigle do njih, organizacija mora da organizuje unutrašnje i spoljašnje mreže odnosa, radi povezivanja sa svim ciljnim grupama javnosti.

Internet iz godine u godinu postaje sve dominantniji sistem komunikacije, a to je posebno očigledno među mlađim generacijama. Jedan od najčešćih kanala za komunikaciju na Internetu jesu društvene mreže. Društvene ili socijalne mreže se definišu kao društveni mrežni servisi, odnosno komunikacioni kanali, fokusirani na izgradnju on-line zajednica ljudi koji dele slične interese i aktivnosti, zasnovanih na web tehnologijama i koji pružaju različite načine za interakciju korisnika. Društvena mreža je dakle društvena struktura sačinjena od čvorova (koji su načelno pojedinci ili organizacije) povezanih pomoću jedne ili više određenih vrsta međuzavisnosti, kao što su vrednosti, vizije, ideje, finansijska razmena, prijateljstvo, rodbinske veze, suprotnosti itd.

Drugi pojam koji se često dovodi u vezu sa društvenim mrežama jesu društveni mediji. Ova dva koncepta su međusobno tesno povezana i teško ih je precizno razdvojiti, ali bi se moglo reći da društvene mreže predstavljaju platforme bazirane na web tehnologijama kojima je cilj umrežavanje i povezivanje individualnih korisnika, dok društveni mediji predstavljaju nešto širi koncept i mogu se definisati kao „grupa aplikacija zasnovanih na Internetu koje su izgrađene na idejnim i tehnološkim osnovama Web 2.0 i koje omogućavaju kreiranje i razmenu sadržaja stvorenog od strane korisnika“ [1]. Zbog

bliskosti ova dva termina oni će biti paralelno korišćeni u ovom radu, a samo na određenim mestima će se praviti distinkcija, kada je potrebno naglasiti specifičnosti korišćenja nekog od njih u oblasti odnosa sa javnošću.

2. UTICAJ NOVIH TEHNOLOGIJA NA ODNOS SA JAVNOŠĆU

Svaka kompanija koja želi da opstane duži period na tržištu, koja ima dugoročne ciljeve i teži ka stvaranju trajnije baze klijenata, mora kontinuirano da radi na uspostavljanju odnosa sa svojim okruženjem, komuniciranju sa brojnim aspektima tog okruženja i stvaranju pozitivnog imidža u očima javnosti. Najšire posmatrano odnosi s javnošću mogu imati tri cilja:

1. Menjanje javnog mišljenja
2. Kreiranje mišljenja tamo gde ga nije bilo
3. Učvršćivanje već stvorenog javnog mišljenja

Tradicionalni mediji, kao što su televizija, radio, novine i časopisi, predstavljaju jednosmerne platforme za slanje poruka, koje karakteriše često i neželjeno prekidanje pažnje i aktivnosti ljudi koji ih prate. Nastankom društvenih medija, medijska scena se drastično promenila u poslednjih nekoliko godina. Nove tehnologije zasnovane na Internetu su omogućile ljudima da stvaraju multimedijalne sadržaje i dele ih sa drugim ljudima na globalnom nivou.

U tradicionalnim odnosima sa javnošću posmatrane su razne društvene zajednice i tražio se adekvatan način za obraćanje tim zajednicama, a sa promenom čitave paradigme koju sa sobom nosi pojava World Wide Web-a dolazi do stvaranja novog koncepta, a to su virtualne društvene zajednice. Virtualna zajednica je definisana kao „društvena grupa pojedinaca koji su povezani putem Interneta sa ciljem da ostvare zajedničke interese i/ili razvijaju i održavaju društvene odnose”.

U oblasti informacionih i komunikacionih tehnologija u poslednjih nekoliko decenija došlo je do brojnih promena i inovacija, a napredak u komunikacionim tehnologijama je omogućio nove načine organizovanja korporativnih komunikacionih procesa. Kanali kojima se relevantne informacije prenose, pretrpeli su veliki tehnološki napredak, što svakako ima uticaja na odnose s javnošću i na zadovoljstvo komunikacijom među zaposlenima, kao i sa okruženjem. Razvoj nauke, tehnologije i sredstava komunikacije omogućili su brzo informisanje ljudi o svim promenama u okruženju i informisanje okruženja o događajima u organizaciji.

Dok značaj virtualnih zajednica raste, stručnjaci u oblasti odnosa s javnošću se nalaze pred izazovom da shvate i iskoriste njihovu dinamiku i tekuće potrebe članova zajednice, kao i da stupe u interaktivne odnose u tim zajednicama sa ciljem osmišljavanja odgovarajuće strategije. Kada se uzme u obzir stvaranje virtualne zajednice, od suštinskog je značaja razumeti trenutne i potencijalne članove i njihove potrebe. Prvenstveno je važno saznati da li su oni homogeni ili varijabilni i kakva je njihova struktura. Sledeći korak bi trebao biti popisivanje njihovih potreba, motiva i želja – zašto su se oni priključili zajednici i za čime tragaju. Trebalo bi da se utvrde prioriteta i da se odredi koji su najvažniji elementi za članove. Završni korak treba da uzme u obzir šta bi se zapravo moglo isporučiti članovima i postoji li pristup jedinstvenim resursima [2].

Jedan od najbitijih segmentata savremenog digitalnog okruženja jesu upravo društveni mediji i društvene mreže. Društvene mreže stoje u bliskoj vezi sa društvenim medijima,

odnosno često nije lako napraviti jasnu razliku između ova dva termina, a to je pre svega slučaj zbog toga što sama priroda Interneta vodi ka stalnom proširivanju delatnosti i integraciji uvek novih sadržaja u postojeće web stranice, tako da većina društvenih mreža (social networking services) uključuje i razne aspekte društvenih medija, dok društveni mediji najčešće podrazumevaju neku vrstu povezivanja korisnika po metodama sličnim društvenim mrežama. Da bi se napravila malo jasnija distinkcija navešćemo neke od najznačajnijih sajtova koji su karakteristični za ova dva pojma. Među najpoznatije društvene mreže spadaju Facebook, Twitter ili Google+, a društveni mediji uključuju i blogove, kolaborativne projekte kakav je npr. Wikipedia ili sajtove namenjene deljenju sadržaja, kao što su YouTube, Flickr ili Last.fm.

Vrste društvenih medija se mogu podeliti u nekoliko celina:

- Društvene mreže na internetu – Social networking services (*Facebook, LinkedIn, Myspace, Friendster*)
- Blogovi
- Mikroblogovi (*Twitter, Tumblr, Plurk*)
- Servisi za razmenu multimedijalnih sadržaja – Media sharing sites (*YouTube, Flickr, Scribd, SlideShare, Photobucket, Vimeo, Dailymotion, Last.fm, SoundCloud*)
- Internet forumi
- Servisi za recenzije
- Virtualni svetovi (*Second Life, SmallWorlds*)

Društveni mediji uključuju sve vrste on-line tehnoloških alata koji omogućavaju ljudima da putem Interneta lakše komuniciraju i dele brojne sadržaje: tekstove, slike, zvučne i video zapise. Društveni mediji podržavaju ljudsku potrebu za interakcijom, koristeći Internet i tehnologije zasnovane na webu za transformaciju sistema emitovanja medijskih monologa („jedan prema mnogima”) u sistem društvenih medijskih dijaloga („mnogi prema mnogima”). Tradicionalni mediji, kao što su televizija, radio i novine, su nudili isključivo jednosmernu komunikaciju, dok društveni mediji omogućavaju svima da objavljuju svoj sadržaj i da učestvuju u konverzacijama na Internetu.

Studija iz 2011. godine pokazala je da 47% punoletnih Amerikanaca koristi neku društvenu mrežu [3]. Ovaj podatak još više dobija na značaju kada se uzme u obzir da paralelno sa razvojem Internet komunikacija opada i značaj tradicionalnih kanala. Iako se televizija nalazi u fazi ekspanzije, većina ostalih klasičnih medija kao što su radio i štampa suočavaju se sa značajnim opadanjem i moguće je da bi poslovanje mnogih kompanija bilo ugroženo da nisu prenele deo svojih aktivnosti na Internet. Tako da je sada uobičajena situacija da gotovo svaki magazin ili novina pored papirnog poseduju i elektronsko izdanje, koje je obično malo izmenjenog sadržaja. Radio stanice je moguće pratiti i preko internet konekcije, a sve je više stanica koje se emituju isključivo preko web-a. U ovakvoj situaciji firme se nalaze pred izazovom da odgovore novonastaloj situaciji i prilagode svoje odnose sa javnošću novim navikama konzumenata, ali i drugih kompanija.

3. ISTRAŽIVANJA KORPORATIVNOG KORIŠĆENJA DRUŠTVENIH MEDIJA

Postoji više istraživanja koja se tiču korišćenja društvenih medija i društvenih mreža u velikim preduzećima danas, a ovde će kao primer biti analizirane studije rađene na teritoriji

SAD-a, i jedna studija na teritoriji Srbije. Na ovaj način ćemo pokušati da sagledamo koji su to globalni trendovi u odnosima sa javnošću, kao i to u kojoj meri se ti trendovi primenjuju u našoj sredini.

3.1. KORIŠĆENJE DRUŠTVENIH MREŽA U SAD

Kompanije FedEx i Ketchum su sprovele studiju u kojoj su učestvovala 62 najuspešnije kompanije u SAD-u i pokušale su da utvrde na koji način ove kompanije koriste društvene medije [4]. Kao rezultat istraživanja došlo se do nekoliko zaključaka:

1. Društveni mediji radikalno menjaju način na koji svet komunicira i da bi kompanije ostale relevantne moraju da nastave sa razvijanjem metoda preko kojih stupaju u interakciju sa ljudima.
2. Ritam i raspon promena zbog razvoja novih alatki i tehnologija zahteva izuzetnu organizacionu okretnost i prilagodljivost.
3. Kako digitalne i društvene alatke postaju primarni resursi ne samo za pružanje informacija i vesti, već i mesto za traženje prijateljstva i ljubavi, pametni brendovi će nastaviti da traže bolje načine kako da stvore kvalitetnije on-line iskustvo, kako eksterno tako i interno.

Dominantne platforme za društvene medije jesu Twitter, Facebook i YouTube, ali sve kompanije su naglasile da je neophodno stalno biti u toku sa novim dešavanjima i tehnologijama da bi se zadržala pozicija od značaja. Ova tri glavna kanala funkcionišu na različite načine i upravo zbog njihovih specifičnosti nije ih moguće egzaktno porediti ili meriti koji kanal daje najbolje rezultate.

Ono što je zajedničko za kompanije koje su učestvovala u istraživanju jeste da gotovo sve uviđaju značaj društvenih medija i njihovog korišćenja. Sve kompanije koje su učestvovala u ovom istraživanju imaju makar neku vrstu prisutnosti u okviru društvenih mreža. Čak i kompanije iz oblasti zdravstva, energetike i finansijskih usluga učestvuju u društvenim medijima, bez obzira na jasne zakonske prepreke koje tu postoje.

Kompanije koje su učestvovala u ovoj studiji mogu se podeliti u 3 grupe:

1. Kompanije koje su lideri u ovoj oblasti i koje pridaju veliki značaj ovoj vrsti komunikacije (10%)
2. Kompanije koje koriste neke vrste ovih komunikacija i analiziraju aktivnosti lidera u ovoj oblasti, kao i rezultate koji iz tih aktivnosti proizilaze (75%)
3. Kompanije koje u maloj meri koriste društvene medije, ali pre svega posmatraju druge učesnike i polako grade svest o potrebi proširenja ove vrste aktivnosti (15%)

Kompanije koje najviše koriste društvene medije su pre svega B2C (*business-to-consumer*) kompanije, odnosno kompanije koje se bave maloprodajom, ali sve više pažnje ovom aspektu pridaju i B2B (*business-to-business*) kompanije.

Istraživanje iz 2013. godine o tome kako marketari koriste društvene medije u cilju poboljšanja njihovog poslovanja pokazuje da preko dve trećine ispitanika planira porast korišćenja YouTube-a, znatno više od bilo koje druge platforme [5].

Analizom 500 najvećih kompanija (Fortune 500) uočeno je da većina ovih kompanija ima Twitter (77%), Facebook (70%) i YouTube nalog (69%) i da je prihvatanje društvenih medija znatno poraslo u odnosu na 2012. godinu. Većina ispitanika (80,6%) veruje da

društveni mediji predstavljaju bitan komunikacioni kanal za rukovodioce firmi da uspostave dobre odnose sa svojim potrošačima i investitorima. 68,7% ispitanika smatra da uključenost u društvene medije čini da brend izgleda transparentniji i iskreniji, što utiče na veću lojalnost brendu i porast potrošnje[6].

Takođe, gotovo polovina zaposlenih izjasnila se da korišćenje društvenih mreža na poslu pomaže porastu njihove produktivnosti i unapređenju timskog rada, ali preko 30% kompanija podcenjuje vrednost ovih alatki i obično ograničava njihovo korišćenje na radnom mestu, pre svega iz bezbednosnih razloga.

3.2. KORIŠĆENJE DRUŠTVENIH MREŽA U SRBIJI

Kompanija MASMI je u julu 2012. godine sprovela istraživanje čiji je cilj bila analiza korišćenja društvenih mreža u poslovne svrhe [7]. Kao uzorak korišćeno je 170 kompanija koje posluju na teritoriji Srbije, a anketirane su osobe iz kompanija zadužene za PR i marketing. Podaci su prikupljeni tehnikama telefonskog i Internet anketiranja. Rezultati ove studije pokazuju da među kompanijama u Srbiji postoji svest o značaju korišćenja društvenih mreža u poslovne svrhe, ali je to uglavnom potencijal koji se planira iskoristiti u budućnosti, više nego aktivno sredstvo. U tom smislu postoje velike mogućnosti koje tek treba eksploatisati i uhvatiti korak sa vodećim kompanijama u svetu koje već uveliko ugrađuju društvene medije u svoj spektar aktivnosti.

Društvene mreže se od strane kompanija pre svega doživljavaju kao *koristan* marketinški i PR alat za uspostavljanje i održavanje kontakta sa potrošačima, klijentima i kupcima, kao i za promociju kampanje (70% kompanija), dok je polovina ispitanika društvene mreže opisala kao *povoljan*, odnosno isplativ marketinški i PR alat. Srpske kompanije najčešće koriste Facebook kao društvenu mrežu, dok su ostale mreže kao što su YouTube, Twitter, LinkedIn znatno manje zastupljene.

Facebook se smatra najkorisnijom društvenom mrežom za poslovnu upotrebu (80%), sledi LinkedIn (60%), dok je Twitter zajedno sa YouTube-om na trećem mestu (po 44%).

Kao osnovni razlog upotrebe društvenih mreža u kompanijske svrhe navode se jednostavnija i brža komunikacija (59%), kao i veća vidljivost i bolje pozicioniranje (58%). Ostali razlozi za upotrebu društvenih mreža su pronalaženje novih poslovnih partnera, klijenata i kupaca (44%), povoljne mogućnosti oglašavanja (34%), povećanje prodaje (32%). Istraživanje pokazuje da 6% ispitanika ne koristi društvene mreže ali planira da počne sa njihovim korišćenjem, dok 15% ne planira da ih koristi.

Iz ovoga se može zaključiti da generalno postoji svest o potrebi korišćenja društvenih mreža, ali je zabrinjavajuće da 20% ispitanika ne koristi uopšte društvene mreže, dok gotovo svaka šesta kompanija koja je učestvovala u istraživanju ni ne planira da počne sa korišćenjem istih. Ovo govori da jedan deo naše privrede i dalje ostaje pri konzervativnim metodama rada i odbija da usvoji napretke koje sa sobom nosi tehnološka revolucija.

Komunikacija preko društvenih mreža uglavnom je poverena osobama unutar kompanije (70%), samo u malom broju slučajeva poverava se spoljnom saradniku ili agenciji (10%), dok 20% preduzeća koriste i sopstvene kadrove i spoljne saradnike.

Na komunikacione aktivnosti putem društvenih mreža u Srbiji izdvaja se minimalan procenat budžeta namenjenog marketingu i PR-u – većina kompanija (60%) troši manje od 5% budžeta. Svega 15% kompanija u te svrhe troši nešto veći procenat budžeta, dok ostali ne mogu sa sigurnošću da daju taj podatak.

Sve ove statistike govore o tome da je potrebno još mnogo toga učiniti da bi se iskoristili potencijali koje društvene mreže i društveni mediji poseduju. Ovo je oblast čiji se značaj za korporativno funkcionisanje tek uviđa čak i u globalnim okvirima, ali naše kompanije

očigledno zaostaju za svojim međunarodnim konkurentima. Ipak, neki podaci su i ohrabrujući, jer gotovo sve kompanije koriste društvene mreže i za praćenje konkurentskih aktivnosti, većina kompanija društvene mreže koristi i za povezivanje sa drugim privrednim subjektima ili organizacijama. Takođe, pošto je Srbija zemlja sa procentualno izuzetno visokim brojem korisnika Facebook-a (po nekim statistikama više od 3 miliona korisnika), u skladu sa tim gotovo 85% kompanija koje su učestvovala u ovom istraživanju imaju prisutnost na Facebook-u koja bi se mogla oceniti kao zadovoljavajuća ili čak veoma uspešna.

Rezultati istraživanja pokazuju da kompanije koje češće ažuriraju svoje profile, u većoj meri uviđaju njihov potencijal, pa ih u skladu sa tim naprednije i koriste: informišu se o novostima u vezi sa oglašavanjem na društvenim mrežama, izdvajaju vreme za edukaciju, redovno prate konkurenciju, povezuju se sa drugim privrednim subjektima i nagrađuju svoje fanove. Interesantno je da manje kompanije češće ažuriraju svoje profile na društvenim mrežama i najviše pažnje poklanjaju edukaciji, pravilima oglašavanja i redovno prate profile konkurencije.

Jedna druga studija koja je istraživala prisutnost banaka Srbije na društvenim mrežama pokazuje da su sve ispitane banke imale drastičan skok u broju posetilaca u periodu od prethodnih godinu dana [8]. Kao apsolutni lider u ovoj oblasti izdvaja se banka Inteza koja trenutno ima više fanova na Facebooku nego što su sve ostale banke imale zajedno pre godinu dana, a isti je slučaj i sa Twitterom. Činjenica je da je banka Inteza dominantna u ovoj oblasti, ali i da je istovremeno banka sa najvećim brojem korisnika u Srbiji, a podudarnost ova dva aspekta sigurno nije slučajna, jer je odavno poznato da svaka kompanija koja želi da zadrži leadersku poziciju mora konstantno da obraća pažnju na komunikaciju sa svojim klijentima i da vodi računa o slici koju pruža javnosti.

4. ZAKLJUČAK

Ekspanzija Interneta dovela je do brojnih promena u procesima interakcije između ljudi. Ove promene zahtevaju prilagođavanje već postojećih procedura u korporativnom svetu, a to se odnosi i na odnose sa javnošću. Izazov novog doba jeste u tome da se na promene ne gleda kao na smetnju ustaljenom sistemu funkcionisanja, već da se u njima vidi prilika za poboljšanje svog poslovanja. Društvene mreže donose postepeno sve veće promene u odnosima sa javnošću, a organizacije moraju da shvate potencijal koje one pružaju za direktniju, bržu i efikasniju komunikaciju sa okruženjem.

Istraživanja pokazuju da postoje brojni načini za korišćenje društvenih mreža i društvenih medija, a da kompanije sve brže uviđaju da stalno nova područja koja Internet otvara mogu da se posmatraju kao potencijal za poboljšanje poslovanja. Svest o ovim mogućnostima je ipak znatno izraženija u razvijenijim zemljama, pa je lako primetiti da gotovo sve kompanije koje su učestvovala u istraživanju u SAD-u imaju makar neku prisutnost na društvenim mrežama, dok je u Srbiji čak 20% učesnika ankete izjavilo da ne koristi društvene mreže za komuniciranje.

Finansijske institucije su, takođe shvatile da je neophodno da budu prisutne na društvenim mrežama u cilju uspostavljanja dugoročnih odnosa sa svojim klijentima i jačanju njihovog poverenja. Za banke je bitno da su otvorene prema svojim klijentima, da klijenti znaju da slobodno i javno mogu da kažu kakav problem imaju, a da će banka

uraditi sve da se taj problem reši, kako se ne bi izazvala lavina negativnih komentara i stvorio negativan publicitet.

Osnovni ciljevi koje kompanije imaju pri korišćenju društvenih mreža u odnosima sa javnošću jesu:

1. Kreiranje propagande „od usta do usta“
2. Razvijanje lojanosti brendu i bližih odnosa sa korisnicima
3. Rešavanje problema koje imaju korisnici
4. Obrazovanje potošača i medija o pitanjima vezanim za kompaniju
5. Podrška proizvodima i njihovoj prodaji

Za razliku od nekih drugih formi odnosa sa javnošću, kod korišćenja društvenih medija potrebno je na vreme početi sa aktivnostima i kontinualno razvijati komunikaciju, jer pokretanje šire i značajnije akcije nije moguće samo u kriznim momentima ili kod lansiranja novih proizvoda. Jedino doslednim dijapazonom aktivnosti kroz duži vremenski period moguće je izgraditi prisutnost i relevantnost u ovoj oblasti.

REFERENCE

1. Andreas M. Kaplan, Michael Haenlein, Users of the world, unite! The challenges and opportunities of Social Media, *Business Horizons* 53, 2010
2. A. J. Kim, *Community Building on the Web: Secret Strategies for Successful Online Communities*, Berkley: Peachpit Press, 2000
3. P. Gillin, E. Schwartzman, *Social marketing to the business customer*, John Wiley & Sons, Inc., Hoboken, New Jersey, 2011
4. Renee Horne, Daniel Dworkin, *Leading Brands and the Modern Social Media Landscape*, FedEx/Ketchum social media benchmarking study, 2010
5. M. A. Stelzner, *How Marketers Are Using Social Media to Grow Their Businesses*, *Social Media Marketing Industry Report*, 2013
<http://www.socialmediaexaminer.com/SocialMediaMarketingIndustryReport2013.pdf>
6. N. G. Barnes, A. M. Lescault, S. Wright, 2013 Fortune 500 Are Bullish on Social Media: Big Companies Get Excited About Google+, Instagram, Foursquare and Pinterest
http://www.umassd.edu/media/umassdartmouth/cmr/studiesandresearch/2013_Fortune_500.pdf
7. Tatjana Mamula, Milan Škorić, *Korišćenje društvenih mreža u kompanijama*, Agencija za integrisane komunikacije Abrakadabra i Agencija za istraživanje tržišta MASMI, 2012
8. S. Kravitz Simonović, *Banke u Srbiji na društvenim mrežama: Godinu dana kasnije*, Agencija Šnajderaj, 2012
9. Daniel Goodall, *Owned, Bought and Earned Media*, 2009,
<http://danielgoodall.com/2009/03/02/owned-bought-and-earned-media/>
10. S. Godin, *Small is the new big: And 183 other riffs, rants, and remarkable business ideas*, New York: Portfolio, 2006
11. E. Swallow: *The Future of Public Relations and Social Media*, 2010

- <http://mashable.com/2010/08/16/pr-social-media-future/>
12. I. Mootee, How social technologies can transform the future of tomorrow's enterprises, Social Media Working Knowledge, Idea Couture, 2009
 13. James L. Horton, PR and Social Media, 2009
http://www.online-pr.com/Holding/PR_and_Social_media.pdf
 14. Z. Badnjević, S. Latinović: Društveni mediji i PReokret, 2011
<http://www.vreme.com/cms/view.php?id=1026299>
 15. M. Niculović, D. Živković, D. Manasijević, L. Balanović, Facebook as a modern social phenomenon and mode of business connection – review of actual literature, International May Conference on Strategic Management – IMKSM 2013, Bor, Serbia, May 2013
 16. J. Van Dijck, You have one identity: Performing the self on Facebook and LinkedIn, Media, Culture and Society, 35 (2), pp. 199-215., 2013
 17. D. Wilson, D. W. Supa, Examining Modern Media Relations: An Exploratory Study of the Effect of Twitter on the Public Relations – Journalist Relationship, Public Relations Journal – Vol.7, No.3, 2013

EFFECTIVE LEADERSHIP – ONE OF THE PRINCIPLES OF TOTAL QUALITY MANAGEMENT FOR ACQUIRING COMPETITIVE ADVANTAGE OF ORGANIZATIONS IN THE REPUBLIC OF MACEDONIA

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Abstract: The introduction and application of total quality management in organizations represents a current, complex category that will be an incentive of its own implementation in the future, with the goal of acquiring competitive advantage.

The role of the leaders in the acquisition and implementation of the quality system in organizations is of key importance, and the fact that leadership is a crucial integrative principle of the effective management should not be surprising.

The effective leadership implies the establishment of great motivation, dedication and functionality. Effective leadership should be an important element in all levels of operation in the company, beginning with the highest, middle and lower levels of management. That is why this paper will give an elaboration on the definition of leadership, the definition of effective leadership within the range of total quality management, and its degree of implementation in Macedonian organizations.

The implementation of the concept of TQM not only implies a new method of operating, but also the implementation of effective leadership. If organizations in the Republic of Macedonia accept and integrate the concept of TQM in their operation and foresee the benefits of effective leadership at the right moment, they will be able to have a successful presentation at foreign markets, which will help them acquire competitive advantage.

Keywords: leadership, effective leadership, organization, total quality management (TQM), competitive advantage

EFEKTIVNO LIDERSTVO- JEDAN OD PRINCIPA CELOSNOG UPRAVLJANJA KVALITETOM U CILJU POSTIZANJA KONKURENTSKE PREDNOSTI ORGANIZACIJA U REPUBLICI MAKEDONIJI

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Abstrakt: Uvođenje i korišćenje celosnog upravljanja kvalitetom u organizacijama predstavlja veoma aktuelna i kompleksna kategorija koja će u buduće davati potsticaj za njeno implementiranje u cilju ostvarivanja konkurentske prednosti.

U obezbeđivanju i implementaciji sistema za kvalitet u organizacijama, uloga lidera je od izuzetnog značaja i zbog toga ne treba nas iznenaditi činjenica da je liderstvo ključan integracijski princip efektivnog menadžmenta.

Efektivno liderstvo podrazumeva uspostavljanje visoki stupanj motiviranosti, posvećenosti i funkcionalnosti. Efektivno liderstvo treba biti sastavni deo na sve nivoe u organizaciji, počevši od vrhnog menadžmenta, srednjeg menadžmenta i menadžmenta niskog nivoa. Zato, u ovaj trud biće elaborirano šta je liderstvo, šta je efektivno liderstvo u okviru celosnog upravljanja kvalitetom i stepen do kojeg se implementira u organizacijama u Republici Makedoniji.

Implementiranje TQM koncepta ne samo što podrazumeva novi način poslovanja, već i implementiranje efektivnog liderstva. U koliko organizacije u Republici Makedoniji prihvate i integrišu koncept TQM-a u svoje poslovanje i blagovremeno uvide benefite efektivnog liderstva, moćiće uspešno da nastupe i na stranim tržištima, stičući konkurentsku prednost.

Ključne reči: liderstvo, efektivno liderstvo, organizacija, celosno upravljanje kvalitetom (TQM), konkurentska prednost

1. TQM - NOVI KONCEPT POSLOVANJA U MAKEDONSKIM ORGANIZACIJAMA

Danas se TQM smatra kao najbolji menadžment koncept kojim se predviđa ne samo zadovoljavanje potrošača i smanjenje troškova, već u isto vreme i restrukturiranje same organizacije, povećanje produktivnosti i profita, a time i dugoročno održljiv razvoj organizacije i sticanje konkurentске prednosti.

TQM koncept predstavlja važan faktor podjednako i u teoriji i u praksi, baziran na više ideja u čijoj je osnovi uvek kvalitet.

Uporedo sa tranzicijom tradicionalnog TQC-a u konceptu TQM-a i dalje TQS-a, intenzivno radi se na dizajniranje jednostavnih metodologija koje se baziraju na taj koncept. Do masovne primjene TQM koncepta doprinela je pojava ISO 9000 standarda. Sada ga menadžeri gledaju kao novu tržišnu barijeru, a mnogo manje kao superioran metod u smjeru razvoja organizacije i sticanje konkurentске prednosti. Primena TQM koncepta predstavlja osnovu svake organizacije za sticanje konkurentске prednosti.

TQM se u praksi već dokazuje kao efikasan proces unapređivanja i funkcioniranje makedonskih organizacija. Njegova se vrednost ponavlja preko sveukupan i osmišljeni proces implementacije. TQM predstavlja zbir mjera za promene i treba biti shvaćen kao filozofija koja utiče na način formiranja i poslovanja organizacija.

2. EFEKTIVNO LIDERSTVO- JEDAN OD PRINCIPA TQM KONCEPTA

Koncept sistema celosnog upravljanja kvalitetom bazira se na Demingovoj koncepciji o transformaciji menadžmenta u organizacijama. On je usmeren prema potrošačima i predstavlja filozofija koja obuhvaća čitavu organizaciju, ističući značaj upravljanja procesima. Isto tako, tu nisu zaboravljeni ni zaposleni čije se zadovoljstvo bazira na zadovoljstvo potrošača. Pored toga, stavlja se akcent i na kontrolu i sakupljanje informacija sa ciljem unapređivanje procesa u cilju obezbeđivanja celokupan kvalitet usluga. U tom smeru, Evans ističe nekoliko principa celokupnog upravljanja kvalitetom:[1]

- fokusiranje na kupce;
- procesna orijentacija;
- kontinuirano poboljšanje;
- timsko poslovanje;
- upravljanje pomoću činjenica i
- vizionarsko i efektivno liderstvo.

Liderstvo predstavlja proces kojim lider vrši uticaj na druge ljude, inspiriše ih, motivira i usmerava njihove aktivnosti kako bi pomogao da se ostvare grupne ili ciljevi organizacije.[2]

Tradicionalno liderstvo već se zamenjuje sa liderstvom koje teži ka promenama i razvoju, dodajući inspirativnu viziju, sa željom biti svugde prisutan. Prema PETERSU, slede deset pravila o liderstvu koji želi promjene:

- savlađivanje paradoksa;
- osmišljavanje vizije koja inspiriše;
- lideri su primer za ponašanje drugih zaposlenih;
- uvođenje prakse vidljivog menadžmenta, promena je jedini izvor mogućnosti;
- angažovanje ljudi slušajući ih;
- ljude iz "prve borbene linije" treba ceniti i unapređivati ih;
- davanje odgovornosti drugima;
- primjena horizontalnog menadžmenta;
- procena ljudi na bazi njihove sklonosti ka promenama i
- razvoj osećaja sa hitnost i neophodnost.

Efektivno liderstvo povećava organizacijsku sposobnost da bi se suočavala sa svim suvremenim izazovima, uključujući i potrebu negovanja etičkog ponašanja, potrebu stvaranja konkurentne prednosti i potreba za pravičnog i jednakog upravljanja raznolike radne snage. Lideri koji utiču na članove organizacije koji bi pomogli zadovoljiti ovakve ciljeve, povećavaju šanse za uspjeh njihovih organizacija.

Iako je vođstvo jedan od četiri glavnih zadataka menadžera, često se pravi razlika između menadžera i lidera. Menadžeri su organizacioni članovi koji utvrđuju i implementiraju procedure i procese kako bi se obezbedilo nesmetano funkcioniranje i koji su odgovorni kada je reč o ostvarivanju ciljeva.[3] Lideri gledaju u budućnost, određuju proces akcije same organizacije i privlače, zadržavaju, motivišu, inspirišu i razvijaju odnose sa zaposlenima, zasnovani na poverenje i međusobno poštovanje.[4] Lideri obezbeđuju značaj i cilj, naginju prema inovacijama umesto prema stabilnosti, i bodre zaposlene da zajedno rade da bi ostvarili viziju lidera.[5]

Prvi pristupi ka liderstvu, nazvani "model osobina" i "model ponašanja" određuju kakvi su efektivni lideri kao ljudi i šta je to što ih čini da bi bili efektivni?

"Model osobina" liderstva fokusira se na identifikaciju ličnih karakteristika koji omogućavaju efektivno liderstvo. Efektivni lideri moraju imati određene lične kvalitete koji ih izdvajaju od neefektivnih lidera. Određene lične karakteristike povezane su sa efektivnim liderstvom.[6]

Tabela 1. Osobine i lične karakteristike povezane sa efektivnim liderstvom

OSOBIINA	OPIS
Inteligencija	Pomaže liderima da razume kompleksna pitanja i da rešavaju probleme
Znanje i ekspertiza	Pomaže liderima da donose odluke i da otkrivaju nove načine za povećavanje efikasnosti i efektivnosti
Dominantnost	Pomaže liderima da utiču na svoje podređene da bi ostvarili organizacijske ciljeve
Samopouzdanje	Doprinosi da lideri efektivno utiču na svoje podređene i da budu istrajni kada se suočavaju sa preprekama i poteškoćama
Visoka energija	Pomaže liderima da se suočavaju sa mnogobrojnim zahtevima
Tolerancija na stres	Pomaže liderima prilikom neizvesnosti i donošenju teških odluka
Integritet i poštenje	Pomaže liderima da se ponašaju etički i da stiču poverenje kod svojih podređenih
Zrelost	Pomaže liderima kako da se ne odnose sebično, da kontroliraju svoje osećaje i da priznaju svoje greške.

Iako je ovaj model nazvan "model osobina", neke od ličnih karakteristika nisu sami po sebi lične osobine, ali se odnose na veštine, sposobnostima, znanja i eksperizi lidera. Lideri koji ne poseduju ove osobine mogu biti neefektivni.

"Model ponašanja" podrazumeva dva osnovna tipa ponašanja lidera:[7]

- poštovanje i
- uvođenje struktura.

Putem poštovanja, lideri svojim podređenim osobama pokazuju da im veruju, poštuju i brinu se o njima.

Lideri su uključeni u uvođenje struktura kada preuzimju korake kako bi bili sigurni da je posao završen, njihovi podređeni prihvatljivo izvršavaju njihove poslovne zadatke, a sama organizacija je efikasna i efektivna. Davanje zadataka pojedinaca ili radnih grupa, upoznavanje podređenih sa onim šta se od njih očekuje, odlučivanje kako treba biti obavljen određeni posao, priprema rasporeda, potsticaj pridržavanje pravilima i propisima i motiviranje da podređeni dobro obave posao- jesu primeri uvođenje struktura.[8]

U tabeli br. 2 prikazane su karakteristike i sposobnosti koji prema Gary A Yukl, poseduju uspešni lideri.[9]

Tabela 2. Karakteristike i sposobnosti uspešnih lidera

KARAKERISTIKE	SPOSOBNOSTI
Prisposobljiv situacijama	Pametna- inteligentan
Svestan društvenog okruženja	Koncepcijska sposobnost
Ambiciozan i orientiran ka uspehu	Kreativan
Uporan	Diplomata i taktičan
Kooperativan	Tečno govori
Odlučan	Znanje o grupnim zadacima
Doverljiv	
Dominantan- želja da utiče na druge	Administrativne sposobnosti
Energičan	
Istajan	Ubedljiv
Samodoverljiv	Komunikacijska sposobnost
Tolerantan na stres	
Prihvaća odgovornost	

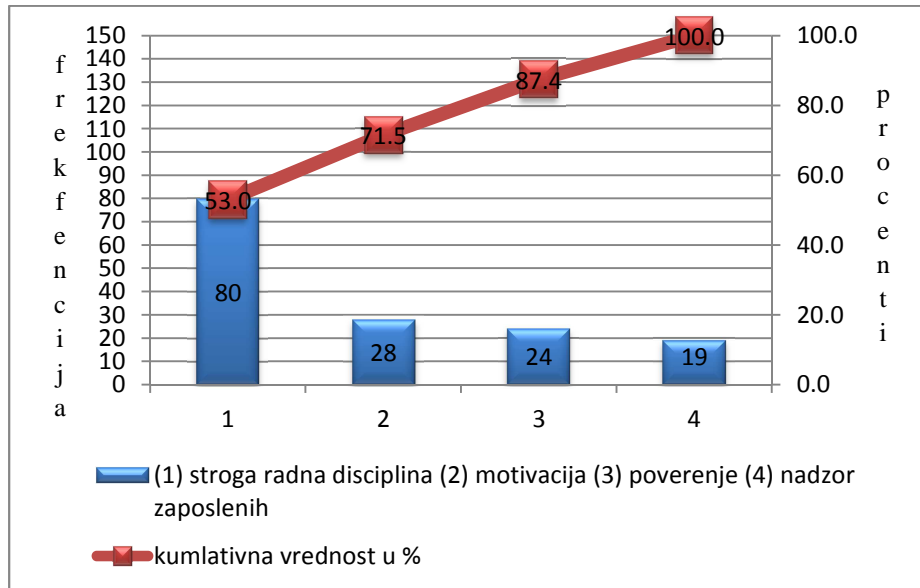
3. STICANJE KONKURENTSKE PREDNOSTI U ORGANIZACIJAMA U REPUBLICI MAKEDONIJI PREKO EFEKTIVNOG LIDERSTVA

U cilju prikazivanja jasnije slike, kada je reč o sticanju konkurentske prednosti u organizacijama u Republici Makedoniji preko efektivnog liderstva, korišćeni su rezultati anketiranja 151 organizacije prema različitim dejnostima, a koju su objavljeni u "Službene novine Republike Makedonije", broj 147 od 26 Novembra 2008 godine. U priloženoj tabeli date su dejnosti, broj organizacija i procentualna zastupljenost.

Tabela 3. Broj organizacija- učesnici u istraživanju prema djelatnostima

Dejnosti organizacija	Broj organizacija		% zastupljenost u istraživanju	
	Proizvodni sektor	Uslužni sektor	Proizvodni sektor	Uslužni sektor
Poljoprivreda, šumarstvo i rudarstvo	30		20	
Prerađevinačka industrija	26		18	
Gradežništvo	30		20	
Trgovija na veliko i malo		30		20
Transport i skladianje		14		9
Objekti za smeštaj i servisne delatnosti sa hranom		11		7
Finansiska dejnost i delatnosti osiguranja		10		6

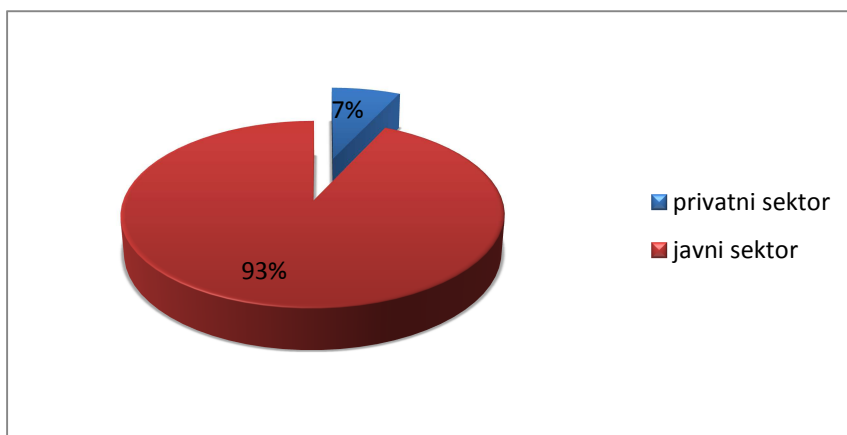
Vrvni menadžment u jednoj organizaciji svojim ponašanjem i adekvatne mjere koje preuzima, treba biti usmeren prema inspiriranje, podršku i promoviranje kulture celosnog upravljanja kvalitetom. Kako i koliko je liderstvo u našim organizacijama, spoznaćemo preko odgovore na nekoliko pitanja. Najpre, prema koje faktore top menadžment gradi radnu atmosferu u našim organizacijama?



Slika 1. Izgradnja radne atmosfere

Prema dobijenim rezultatima 80 organizacija (52,5%) od anketiranih, radnu atmosferu grade strogom radnom disciplinom, 28 organizacije (18,5%) koriste motivaciju, 24 organizacije (15,9%) radnu atmosferu grade na bazi poverenja, a 19 organizacija (12,5%) istu grade nadzorom nad zaposlenih.

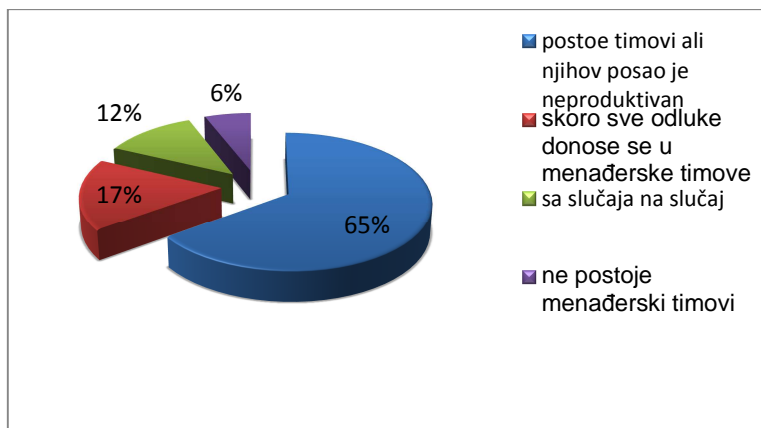
Uspostavljajući red i disciplinu u poslovanju, organizacije štite svoje interese. I pored toga, njima će nedostajati rezultati ako ne primenjuju različite aktivnosti kojima će motivirati zaposlene.



Slika 2. Razlike u izražavanju poverenja i stvaranje radne atmosfere preko zaposlenih u organizacijama privatnog i javnog sektora

Na slici br.2 prikazane su razlike u irražavanju poverenja i stvaranje radne atmosfere preko zaposlenima u privatnom i javnom sektoru. Rezultati ankete pokazuju da postoji loša suradnja između menadžera i zaposlenih, kao i stroga disciplina. Čak u 93% organizacija iz javnog sektora postoje razlike u izražavanju poverenja. To znači da se u tim organizacijama teško rešavaju problemi, a menadžerski timovi veoma malo utiču na unapređenje radnih procesa. Suprotno tome, u privatnom sektoru postoji suradnja između menadžera i zaposlenih kao i veće poverenje i poštovanje, a to rezultira sa kvalitetnim međusobnim odnosima.

Da bi se obezbedio kvalitet treba biti uključen vrhni meandment, uraditi pravilni izbor timova koji će raditi na rešavanje problema kao i na unapređivanje radnih procesa. Sada se nameće pitanje: kakva je učestalost timskog poslovanja na menađerskom nivou?

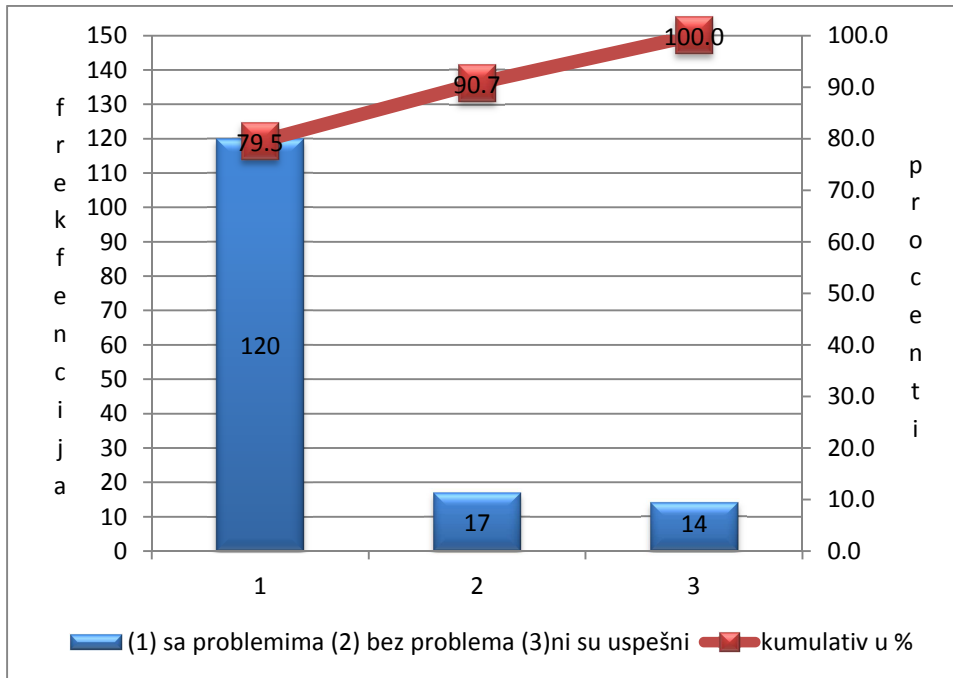


Slika 3. Postojanje menađerskih timova u organizacijama

U 98 organizacija (65%) od ispitanih postoje timovi, ali bez veće produktivnosti. To je zato što najčešće to su menađeri starijeg tipa koji ne prakticiraju timsko poslovanje i uobičajeno slede hijerarhijski lanac postizanje kvaliteta. U 26 organizacija (17%) odluke donose menađeri koji shvaćaju TQM koncept. U 18 organizacija (12%) formiraju menađerske timove od slučaja do slučaj, samo onda kada se javlja potreba za to. U 9 organizacija (6%) ne postoje menađerski timovi, a menađeri se ne bave suštinskim problemima i njihovo rešavanje.

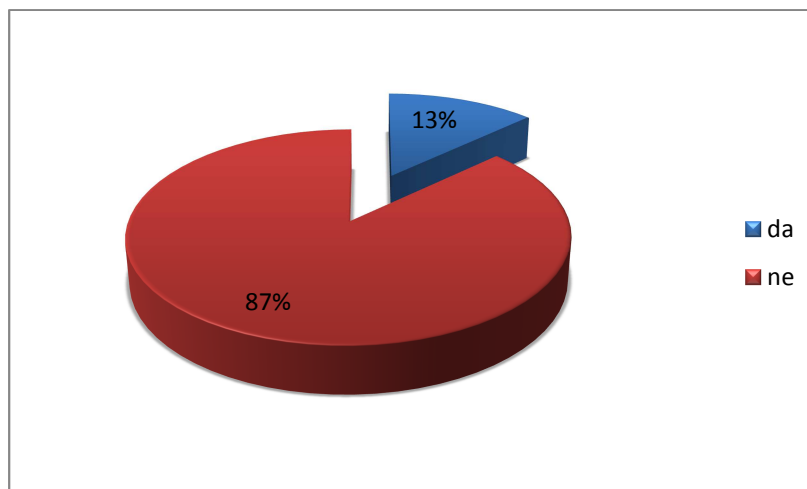
U našim organizacijama menađeri najčešće misle da im nisu potrebni programi za usavršavanje i nagrađivanje, a da im je dovoljno znanje i veštine koje već imaju. Iskustva japanskih kompanija govore da je potrebna kontinuirana rotacija radnih mesta jer na taj način zaposleni stiču nova saznanja i iskustva.

Sledeće pitanje koje se postavlja prilikom stvaranja radne atmosfere je: kako funkcioniraju menađerski timovi, odnosno kakav je kvalitet timskog poslovanja na menađerskom nivou?



Slika 4. Funkcioniranje menadžerskih timova u organizacijama

Prema grafičkom prikazu na sl.br.4 u 120 organizacija (79,6%) od anketiranih menadžerski timovi funkcioniraju sa velikim problemima, u 17 organizacija (9,4%) menadžerski timovi uspešno rešavaju probleme koji se javljaju prilikom poslovanja, a u 14 organizacija (11%) isti nisu uspešni. Iz ovog sledi zaključak da menadžerski timovi (skoro 91%) anketiranih teško prepoznaju probleme i ne rešavaju ih u skladu sa mogućnostima. Kao problem u našim organizacijama je i uključivanje zaposlenih u timski rad. S jedne strane to je naš mentalitet, a s druge razgraničenje starih navika prilikom rešavanja problema i inovacija. Ključ za uspešan timski posao je u spremnost za suradnju u samu organizaciju. Ako svi članovi tima dele istu viziju i motivirani su da je ostvare, to će dovesti do uspeha. Potreba svi zaposlenih jeste spremnost za saradnju sa drugim timovima koja rezultira sa uspešnim timskim radom. Ima još jedno pitanje: dali timski rad utiče pozitivno na unapređivanje kvaliteta proizvoda? Anketirane organizacije dali su samo dva odgovora.

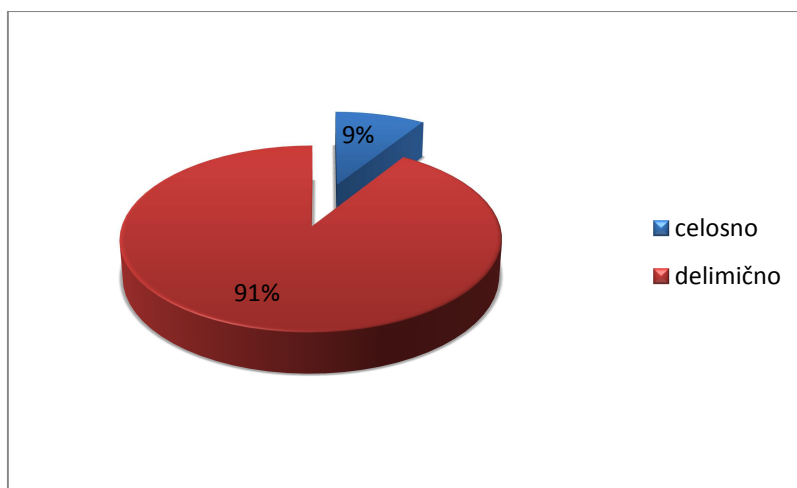


Slika 5. Uticaj timskog poslovanja na unapređivanje kvaliteta proizvoda/usluga

Samo 20 organizacija (13%) od anketiranih odgovorili su da timski rad pozitivno utiče na unapređenje kvaliteta proizvoda, a čak 131 organizacija (87%) od anketiranih izjasnili su se da timski rad nema nikakav uticaj na unapređenje kvaliteta proizvoda. Ovde možemo slobodno zaključiti da u organizacijama postoji nedostatak menadžerskih timova koji će pozitivno uticati na unapređivanje kvaliteta proizvoda. Pored toga, i loša komunikacija između članova menadžerskih timova i zaposleni, kao i nepoverenje, dovode do slabe poslovne rezultate.

I po pitanju dali između članova menadžerskih timova postoji međusebno poverenje, rezultati su identični kao na prethodno postavljeno pitanje. U 131 organizaciju (87%) ne postoji poverenje koje se ogleda u nepreuzimanje aktivnosti koje su povezane sa poboljšavanjem radnih procesa. U privatnom sektoru postoji bolja komunikacija, tako da dolazi i do efikasnije rešavanje problema.

Kada je reč u tome koliko menadžeri uživaju poverenje kod zaposlenih, dobijeni su odgovori: potpuno i delimično.



Slika 6. Lojalnost od strane zaposlenih prema menadžerima

Samo u 13 organizacija (9%) menadžeri uživaju potpuno poverenje kod zaposlenih što veoma bitno utiče na uspešnost poslovanja. Nedostatak poverenja u 138 organizacija (91%) najčešće znači da su se menadžeri distancirali od zaposlenih, a to najčešće rezultira sa konfliktima.

Posmatrajući podatke o izgradnji radne atmosfere, lideri moraju da zaborave strogu disciplinu, već da mnogo više motiviraju zaposlene, da stiču poverenje, a da još više smanje nadzor zaposlenih. Isto tako, menadžeri moraju što pre da poboljšaju suradnju sa zaposlenima kako bi lakše rešavali probleme, a time bi postali efektivniji lideri. Konkurentska se prednost ne stiče samo ako postoje menadžerski timovi, već da njihovi poslovi budu, što je moguće, produktivniji. Kako podatci pomenute ankete govore da u skoro 80% anketiranih organizacija menadžerski timovi suočavaju se sa problemima, oni se moraju pozabaviti pronalaženjem brzih i efikasnih rešenja. Ako se uzme u pbzir koliko timski rad utiče na unapređivanje kvaliteta, efektivno liderstvo je na veoma niskom nivou. Zato, što pre, menadžeri se moraju pozabaviti poboljšanjem timskog poslovanja. Da bi se sve to postiglo i da možemo govoriti da u organizacijama u Reublici Makedoniji postoji efektivno liderstvo, menadžeri se moraju potruditi da obezbede mnogo veću lojalnost kod zaposlenih.

4. ZAKLJUČAK

Prema sprovedenoj analizi, samo 40% organizacija u Republici Makedoniji implementirali su sistem za kvalitet. Koliko će od ostalih organizacija koje još ga nisu prihvatile to uraditi, najviše zavisi od odlučnost i spremnost vrvnih menađera da spoznaju koliko je neophodno potrebno poboljšanje kvaliteta, a time i obezbeđivanje konkurentske prednosti na tržištu.

Istraživanja i analize onih organizacija koje u svom poslovanju primenjuju sistem menađmenta za kvalitet, daju odgovor na pitanje: koji su benefiti takvog sistema? Odgovor sadrži nekoliko njih:

- obezbeđuje se kvalitet koji zadovoljava zahteve kupaca;
- poboljšan je kvalitet radnih procesa;
- postignuta je usaglašenost između strategijskog i operativnog menađmenta u organizaciju;
- povećano je efektivno liderstvo;
- sistem menađmenta za kvalitet predstavlja osnovu za kontinuirano unapređivanje kvaliteta, primenjujući TQM i
- vidljivi su veći red i disciplina u poslovanju.

U koliko sve organizacije u Republici Makedoniji private i integrišu u svom poslovanju novi koncept TQM-a, između ostalog, putem efektivnog liderstva i blagovremeno sagledaju njegove benefite, moćiće uspešno da nastupe i na stranim tržištima stičući se sa konkurentskom prednošću.

REFERENCE:

[1] Evans, J., Quality and Performance Excellence, Thomson, South- West, Ohio, 2005, str. 39-44

[2] G. Yukl, Leadership in organizations, 2d ed. (New York: Academic Press, 1989); R. M. Stogdill, Handbook of Leadership: A Survey of the Literature (New York: Free Press, 1974)

[3] W. D. Spangler, R. J. House, and R. Palrecha, „Personality and Leadership,“ in B. Scheider and D. B. Smith, eds, Personality and Organizations (Mahwah, Nj: Lawrence Erlbaum, 2004), 251-90

[4] Ibid

[5] Spangler et al., „Personality and Leadership“; „Leaders vs. Managers“; „Leadership“; Maccoby, „Understanding the Difference Between Management and Leadership“; „leadership vs. Management“; Robbins, „The Difference Between Managing and Leading“; Bennis, „The Leadership Advantage“.

[6] B. M. Bass, Bass and Stogdill's Handbook of leadership: Theory, Research and Managerial Applications, 3d ed. (New York: Free Press, 1990), R. J. House and M. L. Baetz, „Leadership: Some Empirical Generalizations and New Research Directions, “ in B.

M. Staw and L.L. Cumming, eds, *Research in organizational Behavior*, vol 1 (Greenwich, CT: JAI Press, 1979), 341-423

[7] E. A. Fleishman, „Performance Assessment Based on an Empirically Derived Task Taxonomy, “ *Human Factors* 9 (1967), 349-366

[8] E.A. Fleishman and E. F. Harris, „Patterns of Leadership Behavior Related to Employee Grievances and Turnover,“ *Personal Psihology* 15 (1962), 43-56

[9] Gary A. Yukl, *Leadership in Organizations*, Practice Hall, Inc, Englewood Cliffs, New Jersey, 1981, p.70

[10] Dikson. P., *Gradenje podobar biznis (prevod od: Building a better business)*, Ikona, Skopje, 2008

AN EXAMINATION OF THE DETERMINANTS AND EFFECTS OF RETAIL CUSTOMER SATISFACTION

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Abstract: Within the field of marketing, the construct of customer satisfaction has been identified as one of the most important preconditions for the creation of truly loyal customer base and sustainable competitive advantage. Due to the importance of this construct and the fact that customer satisfaction has been empirically under-researched issue in Serbia the purpose of this study is to propose and empirically examine the model of antecedents and consequences of customer satisfaction in the context of retail industry in Serbia. Results of the study performed on a sample of retail customers, using structural equation modeling (SEM), indicate that service quality, in comparison with perceived value, is more important direct antecedent of customer satisfaction. Retailer market orientation also exerts significant impact on customer satisfaction, mediated by service quality. Improving satisfaction significantly influences customer willingness to speak positively of the retailer and recommend it to friends and relatives as well as customer willingness to choose the same retailer again. Limitations of the study are discussed and suggestions for future research are highlighted.

Keywords: customer satisfaction, service quality, perceived value, market orientation, customer loyalty

ISTRAŽIVANJE DETERMINANTI I EFEKATA SATISFAKCIJE KORISNIKA USLUGA MALOPRODAJE

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Apstrakt: Satisfakcija potrošača se u oblasti marketinga smatra ključnim preduslovom za izgradnju baze lojalnih potrošača i kreiranje održive konkurentske prednosti. S obzirom na značaj ovog koncepta i činjenicu da je satisfakcija potrošača nedovoljno empirijski istražena u Srbiji svrha ovog rada je formulisanje i ispitivanje modela determinanti i efekata satisfakcije potrošača u kontekstu maloprodaje u Srbiji. Rezultati istraživanja koje je sprovedeno na uzorku korisnika usluga maloprodaje, primenom modelovanja pomoću strukturnih jednačina, ukazuju na kvalitet usluga kao značajniju direktnu determinantu satisfakcije u odnosu na percipiranu vrednost usluga. Značajan uticaj na satisfakciju korisnika vrši i tržišna orijentacija maloprodavca, čiji uticaj na satisfakciju je posredovan putem kvaliteta usluga. Unapređenje satisfakcije značajno utiče na spremnost potrošača da se pozitivno izrazi o maloprodavcu i preporučí ga kao izvor snabdevanja članovima porodice ili prijateljima, kao i na spremnost potrošača da se i u budućnosti snabdeva kod

istog maloprodavca. U radu su navedena ograničenja i istaknute preporuke za buduća istraživanja.

Ključne reči: satisfakcija potrošača, kvalitet usluga, percipirana vrednost, tržišna orijentacija, lojalnost potrošača

1. UVOD

Satisfakcija potrošača predstavlja jedan od najintenzivnije proučavanih koncepata u oblasti Marketinga. Među prvima ovim konceptom se bavio Cardozo (1965) po kome na satisfakciju potrošača utiču očekivanja formirana pre kupovine kao i fizički, mentalni napor i finansijski izdaci uloženi u sticanje proizvoda. Prema pomenutom autoru viši napor uloženi u sticanje proizvoda vodi i višem nivou satisfakcije potrošača. Prema jednom od najšire prihvaćenih tumačenja satisfakcija predstavlja „sumarno psihološko stanje koje proizilazi iz poređenja emocija koje se odnose na nepotvrđivanje očekivanja i prethodnih očekivanja potrošača“ (Oliver, 1981; str. 27). Ovaj koncept već decenijama privlači izuzetnu pažnju akademske i poslovne javnosti, s obzirom na brojne pozitivne posledice satisfakcije. Prethodna istraživanja ukazuju na značajan uticaj satisfakcije na smanjenje cenovne elastičnosti tražnje, niže troškove privlačenja novih potrošača s obzirom na spremnost zadovoljnih korisnika da šire pozitivnu usmenu propagandu, kao i niže troškove reklamacija potrošača i unapređenje produktivnosti i reputacije kompanija (Anderson et al., 1994). Zadovoljstvo potrošača vodi kreiranju baze lojalnih potrošača čime se osiguravaju budući prihodi kompanije (Anderson et al., 1997). Satisfakcija potrošača pozitivno utiče na sposobnost zaduživanja kompanija, s obzirom na povoljniji stav investitora prema kompanijama koje karakterišu zadovoljni potrošači (Grigoroudis, Siskos, 2010). S obzirom na značaj satisfakcije na aktuelnosti dobijaju i istraživanja u cilju formulisanja nacionalnih barometara satisfakcije, koja su rezultirala nastankom Švedskog, Američkog, Norveškog, Evropskog, Tajvanskog i drugih nacionalnih barometara satisfakcije koji pružaju mogućnost poređenja između kompanija, privrednih grana, delatnosti i nacionalnih ekonomija. Ovaj koncept naročito dobija na značaju u uslovima izražene konkurencije te je utvrđivanje relativnog značaja pojedinih determinanti i efekata satisfakcije predmet brojnih istraživanja u zapadnim ekonomijama i u uslužnim delatnostima azijskih zemalja. Intenziviranje konkurentskih pritisaka karakteriše i kontekst trgovine u Srbiji od početka 2000-tih godina, kada sa društveno-političkim i ekonomskim promenama dolazi i do većeg interesovanja inostranih trgovinskih kompanija za opsluživanje tržišta Srbije.

S obzirom na aktuelnost koncepta satisfakcije i nedovoljno empirijskih istraživanja ovog koncepta u kontekstu maloprodaje u Srbiji cilj ovog rada će biti ispitivanje relativnog uticaja determinanti satisfakcije, otkrivenih u prethodnim istraživanjima, kao i pozitivnih posledica koje proizilaze iz unapređenja satisfakcije potrošača u Srbiji. Nakon razmatranja rezultata prethodnih istraživanja i formulisanja konceptualnog modela biće predstavljena metodologija i rezultati istraživanja, nakon čega će uslediti zaključna razmatranja, ograničenja i preporuke za buduća istraživanja.

2. PREGLED PRETHODNIH ISTRAŽIVANJA I DEFINISANJE KONCEPTUALNOG MODELA

Kvalitet usluga predstavlja jedan od koncepata čija je veza sa satisfakcijom korisnika najčešće ispitivana u prethodnim istraživanjima. Ovaj koncept se u literaturi definiše kao ocena potrošača o izvrsnosti, odn. superiornosti ponude uslužne kompanije koja je rezultat poređenja očekivanja formiranih pre kupovine i percipiranih performansi (Parasuraman et al., 1988). Isporuca usluga visokog kvaliteta način je da se kompanija diferencira u odnosu na ponudu konkurentskih kompanija, kreira povoljan korporativni imidž, zadrži postojeće i privuče nove korisnike i unapredi poslovne performanse (Choi, Chu, 2001). Prema tvorcima najpoznatijeg pristupa za merenje kvaliteta usluga, SERVQUAL instrumenta, kvalitet usluga je multidimenzionalan koncept, odn. ocena o kvalitetu usluga formira se na osnovu potrošačeve ocene pouzdanosti, odgovornosti, opipljivih karakteristika, sigurnosti i empatije (Parasuraman et al., 1988; Parasuraman et al., 1991). S obzirom na to da se poređenje očekivanja i performansi nalazi u osnovi oba koncepta kvalitet usluga i satisfakcija korisnika su u inicijalnim istraživanjima veoma često posmatrani kao sinonimi (Iacobucci et al., 1995). Prema stanovištu predstavnika Američke škole kvaliteta usluga, koje je usvojeno i u većini kasnijih istraživanja, radi se o bliskim, ali različitim konceptima, s obzirom na to da su u osnovi satisfakcije prediktivna očekivanja, dok je u osnovi kvaliteta usluga minimalno prihvatljiv, odn. željeni nivo usluge (Parasuraman et al., 1991). Postojanje značajnog nivoa korelacije, ali i različitosti između kvaliteta usluga i satisfakcije potvrđuju i empirijska istraživanja (Spreng, Mackoy, 1996). U istraživanju kojim su obuhvaćeni korisnici usluga maloprodaje iz Australije, Holandije, Maroka i Hong Konga Brady et al. (2005) dokazuju značajan uticaj kvaliteta usluga na satisfakciju korisnika. Rezultati istraživanja sprovedenog na uzorku korisnika usluga maloprodaje u Norveškoj ukazuju na značajan uticaj kvaliteta na satisfakciju potrošača (Olsen, 2002). Značajan uticaj kvaliteta usluga na satisfakciju korisnika potvrđuju brojna istraživanja rađena u kontekstu maloprodaje, ali i drugih uslužnih delatnosti (Chou, Kim; 2009; Yee et al., 2010; Martinelli, Balboni, 2012; Setó-Pamies, 2012). Rezultati istraživanja ukazuju i na značajan uticaj kvaliteta usluga na nameravano ponašanje korisnika, u smislu spremnosti korisnika da izrazi pozitivan stav o uslužnoj kompaniji, preporuči uslužnog provajdera i da se i u budućnosti snabdeva kod iste kompanije (Cronin et al., 2000; Brady et al., 2005; Martinelli, Balboni, 2012). Iz navedenih rezultata prethodnih istraživanja proizilaze i sledeće hipoteze:

H1: Kvalitet usluga vrši značajan uticaj na satisfakciju korisnika usluga maloprodaje;

H2: Kvalitet usluga vrši značajan uticaj na nameravano ponašanje korisnika.

Osim uticaja kvaliteta usluga istraživanja u oblasti maloprodaje ukazuju i na percipiranu vrednost kao značajnu determinantu satisfakcije korisnika (Brady et al., 2005; Jones et al., 2006). Ovaj koncept, koji se u literaturi iz oblasti Marketinga definiše kao sveukupna ocena korisnosti proizvoda bazirana na percepcijama onoga što je dobijeno i onoga što je uloženo u sticanje proizvoda, odn. usluge (Zeithaml, 1988), uključujući pored finansijskih izdataka i utrošeno vreme i psiho-fizički napor, prema rezultatima istraživanja sprovedenih u kontekstu uslužnih delatnosti predstavlja i značajnog posrednika u uticaju kvaliteta usluga na satisfakciju korisnika (Cronin et al., 2000; Petrick, 2004; Hutchinson et al., 2009). Isporuca superiorne vrednosti smatra se ključnom determinantom lojalnosti potrošača (Reichheld, 1996). U prilog ovome govore i rezultati brojnih empirijskih

istraživanja sprovedenih u kontekstu maloprodaje i drugih uslužnih delatnosti (Sweeney, Soutar, 2001; Petrick, 2004; Brodie et al., 2009). Iz navedenih zaključaka proizilaze i sledeće hipoteze:

H3: Percipirana vrednost vrši značajan uticaj na satisfakciju korisnika;

H4: Kvalitet usluga vrši značajan uticaj na percipiranu vrednost usluga maloprodaje;

H5: Percipirana vrednost vrši značajan uticaj na nameravano ponašanje korisnika usluga maloprodaje.

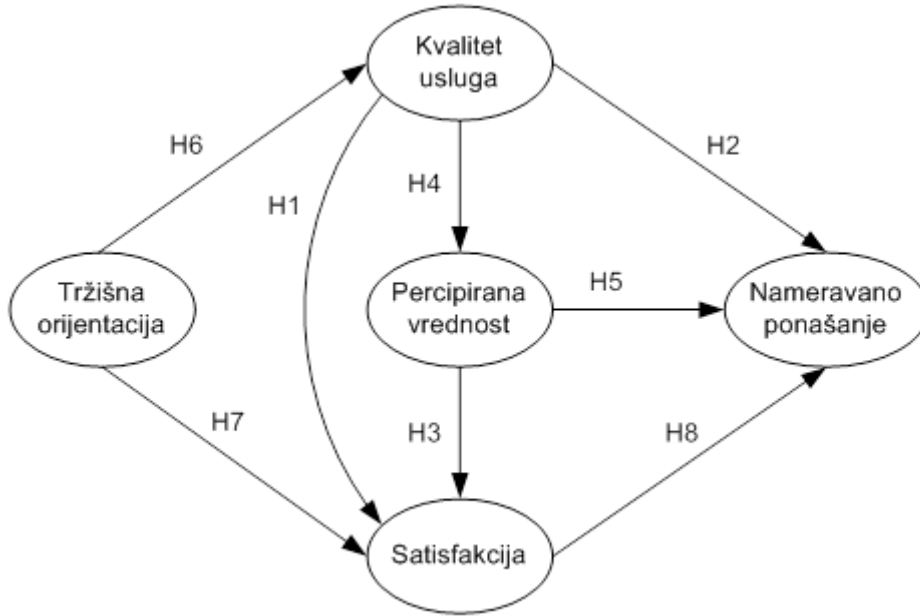
Jedan od koncepata koji privlači naročitu pažnju istraživača poslednjih godina je i tržišna orijentacija. Smatra se kamenom temeljcem Marketing menadžmenta i osnovom na kojoj se baziraju marketing strategije. Tržišna orijentacija se u literaturi definiše kao prikupljanje, diseminacija i odgovor kompanija na informacije koje se odnose na tekuće i buduće potrebe potrošača (Kohli, Jaworski, 1990). Prema Narveru i Slateru (1990) postoje tri ključne bihevioralne komponente tržišne orijentacije, a to su orijentacija na potrošače, orijentacija na konkurente i interfunkcionalna koordinacija. Ovaj koncept je međutim u većoj meri istraživan u SAD-u i Velikoj Britaniji, dok je nedovoljno empirijskih istraživanja na temu tržišne orijentacije i njenih efekata rađeno u zemljama u razvoju. Rezultati meta-analize sprovedene korišćenjem podataka iz 23 zemlje sa svih kontinenata ukazuju na snažan uticaj tržišne orijentacije na poslovne performanse kompanija, pri čemu je ovaj uticaj još izraženiji u slučaju uslužnih u poređenju sa proizvodnim kompanijama (Cano et al., 2004). Istraživanje sprovedeno u Španiji na uzorku predstavnika turističkih agencija ukazuje na značajan uticaj tržišne orijentacije na percipirani kvalitet usluga kao i poslovne performanse agencija (Bigne et al., 2005). Tržišna orijentacija prema rezultatima studije sprovedene u Turskoj na uzorku menadžera multinacionalnih kompanija pozitivno utiče i na kvalitet odnosa sa potrošačima, odn. percepcije kvaliteta, satisfakciju i zadržavanje potrošača (Kirca, 2011). Značajan uticaj tržišne orijentacije na satisfakciju potrošača potvrđuju i rezultati istraživanja koje je sprovedeno na Tajvanu na uzorku zaposlenih i korisnika usluga frizerskih salona (Chen, Quester, 2009). Satisfakcija potrošača smatra se ključnim izvorom konkurentne prednosti, odn. faktorom koji opredeljuje trošenje diskrecionog dohotka stanovništva (Fornell et al., 2010) i pozitivno utiče na nivo i stabilnost neto novčanog toka (Fornell et al., 2006). Brojna empirijska istraživanja dokazuju pozitivan uticaj satisfakcije na spremnost potrošača da ponovo koriste usluge iste kompanije, izraze pozitivan stav i preporuče uslužnog provajdera, kao indikatora lojalnosti potrošača (Cronin et al., 2000; Brady et al., 2005; Hutchinson et al., 2009). Iz navedenih rezultata prethodnih istraživanja proizilaze i sledeće hipoteze:

H6: Tržišna orijentacija vrši značajan uticaj na percipirani kvalitet usluga;

H7: Tržišna orijentacija vrši značajan uticaj na satisfakciju korisnika;

H8: Satisfakcija korisnika značajno utiče na nameravano ponašanje korisnika.

Konceptualni model kojim su obuhvaćene predložene hipoteze predstavljen je na Slici 1.



Slika 1: Konceptualni model

2. METODOLOGIJA

Istraživanje je sprovedeno primenom metoda ličnog ispitivanja uz pomoć strukturiranog upitnika na prigodnom uzorku korisnika usluga maloprodaje u Borskom i Zaječarskom okrugu. Ispitivanje je obavljeno u domaćinstvima regrutovanjem među dostupnim ispitanicima lica koje najčešće u domaćinstvu obavlja porodične kupovine. Nakon isključenja 5,3% nepotpunih i neispravno popunjenih upitnika u dalju obradu je uključeno 508 upitnika.

Koncepti obuhvaćeni istraživanjem mereni su na osnovu tvrdnji koje su preuzete iz prethodnih istraživanja ili formulisane na osnovu literaturnog pregleda i definisanja konceptata evaluacije usluga. Iako među istraživačima danas postoji konsenzus u pogledu multidimenzionalnosti koncepta kvaliteta usluga, u ovom istraživanju je radi pojednostavljenja zahteva koji se postavljaju pred ispitanike merena globalna ocena kvaliteta usluga. Ovaj koncept je meren uz pomoć semantičkog diferencijala preuzimanjem parova prideva korišćenih u prethodnim istraživanjima (Cronin et al., 2000; Brady et al., 2001). Percipirana vrednost merena je na osnovu tri tvrdnje formulisane na osnovu prethodnih istraživanja i u skladu sa opšteprihvaćenim tumačenjem koncepta (Zeithaml, 1988; Brady et al., 2005). Dok je u većini dosadašnjih istraživanja tržišna orijentacija merena iz ugla posmatranja menadžmenta i zaposlenih u uslužnim kompanijama u ovom radu su merene percepcije korisnika usluga maloprodaje u pogledu tržišne orijentacije maloprodavca kod koga se najčešće snabdevaju. U skladu sa literaturnim pregledom i načinom na koji je koncept tržišna orijentacija definisan u prethodnim istraživanjima u ovom radu je od ispitanika zahtevano da ocene stepen u kome maloprodavac razume potrebe potrošača i superiornost maloprodavca u ispunjenju potreba potrošača u poređenju sa konkurencijom, dok je interfunkcionalna koordinacija izostavljena, s obzirom na to da iako se reflektuje u načinu na koji kompanija ispunjava potrebe potrošača, nije izložena direktnim opservacijama korisnika. Za merenje satisfakcije korišćene su tri tvrdnje preuzete iz prethodnih istraživanja (Brady et al., 2005; Seto-Pamies, 2012). Od ispitanika je traženo da naznače u kojoj meri smatraju da maloprodavac ispunjava njihova očekivanja

i u kojoj meri smatraju da su zadovoljni, odn. vrlo zadovoljni uslugom. Nameravano ponašanje korisnika, kao indikator lojalnosti potrošača, mereno je na osnovu tri tvrdnje koje su adaptirane na osnovu prethodnih istraživanja. Od ispitanika je traženo da naznače koliko je verovatno da bi se pozitivno izrazili o maloprodavcu i da bi maloprodavca kod koga najčešće obavljaju kupovine preporučili članu porodice ili prijatelju (Brady et al., 2005) kao i da naznače stepen verovatnoće da će i u budućnosti većinu kupovina obavljati kod istog maloprodavca (Lewis, Soureli, 2006). Sa izuzetkom percepcija kvaliteta usluga svi koncepti su mereni uz pomoć sedmostepene Likertove skale.

Predložene hipoteze testirane su primenom modelovanja pomoću strukturnih jednačina, primenom softverskog paketa Amos 16, pri čemu je ispoštovana dvofazna procedura koju su predložili Anderson i Gerbing (1988). U prvoj fazi izvršena je ocena mernog modela nakon čega je usledilo testiranje strukturnog modela.

3. ANALIZA I REZULTATI

Merni model je ocenjen primenom konfirmatorne faktorske analize (CFA). Analiza mernog modela rezultirala je indeksima fitovanja modela ($\chi^2/df=3.53$, CFI=0.96, GFI=0.93, AGFI=0.90, NFI=0.95, NNFI=0.95, RMSEA=0.07) koji su u skladu sa preporučenim, odn. vrednostima koje ukazuju na dobro fitovanje modela (Udo et al., 2010). Na osnovu konfirmatorne faktorske analize testirana je i validnost koncepata koji figuriraju u konceptualnom modelu. Statistički značajne standardizovane vrednosti faktorskih opterećenja ($p<0.01$) više od 0.50, kao što je prikazano u Tabeli 1, ukazuju na ispunjenost uslova konvergentne validnosti, odn. da indikatori korišćeni u ovom istraživanju na adekvatan način reprezentuju koncepte na koje se odnose. Na ispunjenost uslova konvergentne validnosti ukazuje i koeficijent interne konzistentnosti Cronbach α koji po svakoj od grupa tvrdnji ostvaruje vrednost koja prevazilazi donji prag prihvatljivosti od 0.70.

Tabela 1. Ocena konvergentne validnosti

Koncepti	Standardizovana faktorska opterećenja	t-vrednosti	Cronbach α
Tržišna orijentacija	0.67 – 0.71	13.41 – 13.97	0.73
Kvalitet usluga	0.77 – 0.83	20.91 – 22.32	0.88
Percipirana vrednost	0.77 – 0.87	20.09 – 21.13	0.86
Satisfakcija	0.86 – 0.89	27.53 – 29.54	0.90
Nameravano ponašanje	0.77 – 0.92	24.16 – 24.44	0.89

Diskriminantna validnost, odn. stepen u kome se koncepti zaista međusobno razlikuju, ocenjena je poređenjem prosečnog stepena varijabiliteta tvrdnji koji je objašnjen konceptom na koji se tvrdnje odnose (AVE) sa zajedničkim varijabilitetom između tvrdnji, odn. korelacijama između tvrdnji koje su podignite na kvadrat. Rezultati prikazani u Tabeli 2 ukazuju na ispunjenost uslova diskriminantne validnosti.

Tabela 2. Ocena diskriminantne validnosti*

	Tržišna orijentacija	Kvalitet usluga	Percipirana vrednost	Satisfakcija	Nameravano ponašanje
Tržišna orijentacija	0.48				
Kvalitet usluga	0.36	0.65			
Percipirana vrednost	0.30	0.27	0.67		
Satisfakcija	0.39	0.55	0.51	0.76	
Nameravano ponašanje	0.32	0.47	0.52	0.72	0.76

*Napomena: Na dijagonali su predstavljene AVE vrednosti, vrednosti ispod dijagonale predstavljaju zajednički varijabilitet između koncepata, korelacije između koncepata su statistički značajne pri nivou značajnosti $p < 0.01$

S obzirom na zadovoljavajuće parametre fitovanja mernog modela i ispunjenost uslova validnosti koncepata u narednoj fazi je sprovedena strukturna analiza. Ocena strukturnog modela ukazala je na zadovoljavajuće indekse fitovanja modela ($\chi^2/df=3.89$, CFI=0.96, GFI=0.93, AGFI=0.89, NFI=0.95, NNFI=0.95, RMSEA=0.07), nakon čega je usledilo ispitivanje strukturnih odnosa između koncepata. Rezultati istraživanja, prikazani u Tabeli 3, ukazuju na statistički značajan uticaj kvaliteta usluga na satisfakciju ($\beta=0.51$, $p < 0.01$) čime je potvrđena hipoteza H1. Za razliku od uticaja na satisfakciju korisnika percepcije kvaliteta usluga ne vrše statistički značajan uticaj na nameravano ponašanje korisnika te je hipoteza H2 odbačena. Statistički značajan uticaj na satisfakciju, osim kvaliteta usluga, vrši i percipirana vrednost ($\beta=0.44$, $p < 0.01$), što govori u prilog hipotezi H3. Rezultati istraživanja ukazuju na kvalitet usluga kao značajnu determinantu percipirane vrednosti ($\beta=0.62$, $p < 0.01$), koja vrši značajan uticaj na nameravano ponašanje korisnika ($\beta=0.14$, $p < 0.01$), čime su potvrđene hipoteze H4 i H5. Za razliku od statistički značajnog uticaja tržišne orijentacije na kvalitet usluga ($\gamma=0.78$, $p < 0.01$), percepcije korisnika u pogledu tržišne orijentacije maloprodavca ne utiču direktno na satisfakciju korisnika ($p > 0.05$). Ispunjenje, odn. prevazilaženje očekivanja korisnika značajno utiče na nameravano ponašanje korisnika ($\beta=0.78$, $p < 0.01$), čime je potvrđena hipoteza H8.

Tabela 3. Rezultati strukturne analize

Hipoteze	Standardizovani koeficijenti putanje	t-vrednosti	Rezultati testiranja hipoteza
H1: kvalitet usluga → satisfakcija	0.51	8.20	Potvrđena
H2: kvalitet usluga → nameravano ponašanje	0.05	0.78	Odbačena
H3: percipirana vrednost → satisfakcija	0.44	10.98	Potvrđena
H4: kvalitet usluga → percipirana vrednost	0.62	12.80	Potvrđena
H5: percipirana vrednost → nameravano ponašanje	0.14	2.72	Potvrđena
H6: tržišna orijentacija → kvalitet usluga	0.78	12.96	Potvrđena
H7: tržišna orijentacija → satisfakcija	0.08	1.52	Odbačena
H8. satisfakcija → nameravano ponašanje	0.78	8.66	Potvrđena

4. ZAKLJUČNA RAZMATRANJA

Cilj ovog istraživanja je bio ispitivanje relativnog značaja determinanti satisfakcije, čiji je uticaj potvrđivan u većem broju prethodnih studija, na satisfakciju korisnika usluga maloprodaje u Srbiji, kao i relevantnost ispunjenja, odn. prevazilaženja očekivanja potrošača po nameravano ponašanje korisnika u budućnosti, a koje predstavlja najbolji indikator lojalnosti potrošača. Iako satisfakcija potrošača, njeni efekti i faktori koji je determinišu predstavljaju jednu od najintenzivnije proučavanih tematika u oblasti Marketinga usluga, ova problematika predstavlja nedovoljno empirijski istraženu oblast u kontekstu uslužnih delatnosti u Srbiji. Na osnovu rezultata prethodnih istraživanja, koja su mahom vršena u SAD-u, zemljama Zapadne Evrope i u poslednjoj deceniji i u azijskim privredama, definisan je konceptualni model koji je bio predmet ovog istraživanja. Prema rezultatima istraživanja direktan uticaj na satisfakciju korisnika vrše kvalitet usluga i percipirana vrednost, pri čemu kvalitet usluga predstavlja značajniju determinantu satisfakcije. Dobijeni rezultati su u skladu sa rezultatima multikulturalnog istraživanja koje su Brady i saradnici (2005) sprovedeli na uzorku korisnika različitih pretežno opipljivih i pretežno neopipljivih usluga, uključujući i maloprodaju. Iako prethodna istraživanja govore u prilog usvajanju tržišne orijentacije od strane kompanije kao osnovi za kreiranje baze zadovoljnih potrošača rezultati ovog istraživanja ne potvrđuju direktan uticaj tržišne orijentacije na satisfakciju korisnika. Međutim, relevantnost tržišne orijentacije svakako ne treba osporiti, s obzirom na to da fokus na ispunjenje tekućih i anticipiranje budućih potreba potrošača doprinosi percepcijama u pogledu kvaliteta usluga i posredno, putem kvaliteta, doprinosi i satisfakciji korisnika usluga. Sa aspekta totalnog uticaja najrelevantnija determinanta satisfakcije korisnika je kvalitet usluga (0.78), koji slede tržišna orijentacija (0.70) i percipirana vrednost (0.44). Satisfakcija korisnika, prema rezultatima ovog istraživanja, značajno utiče na spremnost korisnika da izraze pozitivan stav i članu porodice ili prijatelju kao izvor snabdevanja preporuče maloprodavca kod koga najčešće obavljaju porodične kupovine, što je u skladu sa rezultatima prethodnih istraživanja sprovedenih u kontekstu tradicionalne i elektronske maloprodaje (Jones et al., 2006; Udo et al., 2010). Satisfakcija predstavlja i najznačajniju determinantu nameravanog ponašanje korisnika (0.78) sa aspekta totalnog efekta, ali ne treba zanemariti ni kvalitet usluga i tržišnu orijentaciju čiji je uticaj na nameravano ponašanje indirektan, kao ni percipiranu vrednost koja pored nezatnog direktnog efekta utiče i indirektno, preko satisfakcije, na nameravano ponašanje korisnika. Iz navedenog proizilazi da je u cilju podsticanja lojalnosti potrošača neophodno ne samo ulagati u unapređenje satisfakcije potrošača već i u ostale determinante koje na direktan ili indirektan način doprinose lojalnosti potrošača.

Ovo istraživanje, uprkos doprinosu koji se pre svega ogleda u obogaćivanju teorijskih postavki Marketinga usluga istraživanjem relevantne tematike u do sada nedovoljno istraživanom kontekstu, nije bez nedostataka. Osnovno ograničenje istraživanja ogleda se u načinu odabira ispitanika. S obzirom na ograničenost sredstava za istraživanje ispitanici su regrutovani namernim odabirom u užoj geografskoj regiji. S obzirom na to u cilju generalizacije zaključaka istraživanje je poželjno ponoviti na reprezentativnijem uzorku korisnika usluga maloprodaje u Srbiji. Jedno od ograničenja ogleda se i u načinu merenja koncepta kvaliteta usluga. Iako među istraživačima postoji saglasnost u pogledu multidimenzionalnosti koncepta kvaliteta usluga u ovom radu je, radi pojednostavljenja zahteva koji se postavlja pred ispitanike, merena ukupna ocena kvaliteta. Stoga je u cilju što potpunijeg ispitivanja uticaja kvaliteta usluga na satisfakciju i nameravano ponašanje korisnika u budućim istraživanjima poželjno modelom obuhvatiti dimenzije kvaliteta

usluga maloprodaje u Srbiji. Pregled relevantnih istraživanja ukazuje na značaj poverenja korisnika u uslužnog provajdera za nastanak satisfakcije i njen direktan, ali i indirektan doprinos razvoju lojalnosti korisnika putem unapređenja afektivne i kalkulativne posvećenosti korisnika održavanju odnosa sa uslužnim provajderom (Han et al., 2008; Wu, 2013) te je jedna od preporuka za buduća istraživanja testiranje kompleksnijih modela kojim bi bile uključene pomenute varijable u cilju što potpunijeg sagledavanja doprinosa pojedinih varijabli kreiranju satisfakcije i lojalnosti potrošača.

REFERENCE

1. Anderson Eugene W., Fornell Claes, Lehmann Donald R. (1994) Customer Satisfaction, Market Share, and Profitability: Findings From Sweden, *Journal of Marketing*, Vol.58, pp. 53-66
2. Anderson Eugene W., Fornell Cleas, Rust Roland T. (1997) Customer Satisfaction, Productivity and Profitability: Differences Between Goods and Services, *Marketing Science*, Vol.16 No.2 pp.129-145
3. Anderson James C., Gerbing David W. (1988) Structural equation modeling in practice: A review and recommended two-step approach, *Psychological Bulletin*, Vol.103 No.3, pp. 411–423
4. Bigne Enrique J., Andreu Luisa, Küster Ines, Blesa Andreu (2005) Quality Market Orientation: Tourist Agencies' Perceived Effects, *Annals of Tourism Research*, Vol.32 No.4, pp. 1022–1038
5. Brady Michael K., Knight Gary A., Cronin Joseph J., Tomas G., Hult M., Keillor Bruce D. (2005) Removing the contextual lens: a multinational, multi-setting comparison of service evaluation models, *Journal of Retailing*, Vol.81 No.3, pp. 215–230
6. Brady Michael K., Robertson Christopher J., Cronin Joseph J. (2001) Managing behavioral intentions in diverse cultural environments: An investigation of service quality, service value and satisfaction for American and Ecuadorian fast-food customers, *Journal of International Management*, Vol.7, pp. 129-149
7. Brodie Roderick J., Whittome James R.M., Brush Gregory J. (2009) Investigating the service brand: A customer value perspective, *Journal of Business Research*, Vol.62, pp. 345-355
8. Cano Rodriguez Cynthia, Carrillat Francois A., Jaramillo Fernando (2004) A meta-analysis of the relationship between market orientation and business performance: evidence from five continents, *International Journal of Research in Marketing*, Vol.21, pp. 179–200
9. Cardozo Richard N. (1965) An experimental study of customer, effort, expectation and satisfaction, *Journal of Marketing Research*, Vol.2 Issue 3, pp. 244–249
10. Chen Shu-Ching, Quester Pascale G. (2009) A value-based perspective of market orientation and customer service, *Journal of Retailing and Consumer Services*, Vol.16, pp. 197-206

11. Choi Tat Y., Chu Raymond (2001) Determinants of hotel guests' satisfaction and repeat patronage in the Hong Kong hotel industry, *Hospitality Management*, Vol.20, pp. 277–297
12. Chou Jui-Sheng, Kim Changwan (2009) A structural equation analysis of the QSL relationship with passenger riding experience on high speed rail: An empirical study of Taiwan and Korea, *Expert Systems with Applications*, Vol.36 pp. 6945–6955
13. Cronin Joseph J. Jr., Brady Michael K., Hult Tomas M. (2000) Assessing the Effects of Quality, Value and Customer satisfaction on Consumer Behavioral Intentions in Service Environments, *Journal of Retailing*, Vol.76 No.2, pp. 193-218
14. Fornell Claes, Mithas Sunil, Morgeson Forrest V. III, Krishnan M.S. (2006) Customer Satisfaction and Stock Prices: High Returns, Low Risk, *Journal of Marketing*, Vol.70, Issue 1, pp. 3–14
15. Fornell Cleas, Rust Roland T., Dekimpe Marnik G. (2010) The Effect of Customer Satisfaction on Consumer Spending Growth, *Journal of Marketing Research*, Vol.47 Issue 1, pp. 28–35
16. Grigoroudis Evangelos, Siskos Yannis (2010) Customer Satisfaction Evaluation: Methods for Measuring and Implementing Service Quality, *International Series in Operations Research & Management Science*, Vol.139, Springer US
17. Han Xiaoyun, Kwortnik Robert J. Jr., Wang Chunxiao (2008) Service Loyalty: An Integrative Model and Examination across Service Contexts, *Journal of Service Research*, Vol.11 No.1, pp. 22-42
18. Hutchinson Joe, Lai Fujun, Wang Youcheng (2009) Understanding the relationships of quality, value, equity, satisfaction, and behavioral intentions among golf travelers, *Tourism Management*, Vol.30, pp. 298–308
19. Iacobucci Dawn, Ostrom Amy, Grayson Kent (1995) Distinguishing Service Quality and Customer Satisfaction: The Voice of the Customer, *Journal of Consumer Psychology*, Vol.4 No.3, pp. 277-303
20. Jones Michael A., Reynolds Kristy E., Arnold Mark J. (2006) Hedonic and utilitarian shopping value: Investigating differential effects on retail outcomes, *Journal of Business Research*, Vol.59 Issue 9, pp. 974–981
21. Kirca Ahmet H. (2011) The effects of market orientation on subsidiary performance: Empirical evidence from MNCs in Turkey, *Journal of World Business*, Vol.46, pp. 447–454
22. Kohli Ajay K., Jaworski Bernard (1990) Market Orientation: The Construct, Research Propositions and Managerial Implications, *Journal of Marketing*, Vol.54, pp. 1-18
23. Lewis Barbara R., Soureli Magdalini (2006) The antecedents of consumer loyalty in retail banking, *Journal of Consumer Behaviour*, Vol.5, pp. 15-31
24. Martinelli Elisa, Balboni Bernardo (2012) Retail service quality as a key activator of grocery store loyalty, *The Service Industries Journal*, Vol.32 No.14, pp. 2233–2247
25. Narver John C., Slater Stanley F. (1990) The Effect of a Market Orientation on Business Profitability, *Journal of Marketing*, Vol.54 Issue 4, pp. 20-35
26. Olsen Svein Ottar (2002) Comparative Evaluation and the Relationship Between Quality, Satisfaction, and Repurchase Loyalty, *Journal of the Academy of Marketing Science*, Vol.30, No.3, pp. 240-249
27. Oliver Richard L. (1981) Measurement and evaluation of satisfaction processes in retail settings, *Journal of Retailing*, Vol.5 No.3, pp. 25–48

28. Parasuraman, A., Zeithaml V., Berry L. (1988) SERVQUAL: A Multiple-Item Scale for Measuring Consumer Perceptions of Service Quality, *Journal of Retailing*, Vol.64, pp. 12-40
29. Parasuraman A., Zeithaml Valarie A., Berry Leonard L. (1991) Refinement and Reassessment of the SERVQUAL Scale, *Journal of Retailing*, Vol.67 No.4, pp. 420-450
30. Petrick James F. (2004) The Roles of Quality, Value, and Satisfaction in Predicting Cruise Passengers' Behavioral Intentions, *Journal of Travel Research*, Vol.42, pp. 397-407
31. Reichheld Frederick F. (1996) Learning from Customer Defections, *Harvard Business Review*, Vol.74 Issue 2, pp. 65-69
32. Setó-Pamies Dolors (2012) Customer loyalty to service providers: examining the role of service quality, customer satisfaction and trust, *Total Quality Management & Business Excellence*, Vol.23 Issue 11/12, pp. 1257-1271
33. Spreng Richard A., Mackoy Robert D. (1996) An Empirical Examination of a Model of Perceived Service Quality and Satisfaction, *Journal of Retailing*, Vol.72 No.2, pp. 201-214
34. Sweeney Jillian C., Soutar Geoffrey N. (2001) Consumer perceived value: The development of a multiple item scale, *Journal of Retailing*, Vol.77, pp. 203-220
35. Udo Godwin J., Bagchi Kallol K., Kirs Peeter J. (2010) An assessment of customers' e-service quality perception, satisfaction and Intention, *International Journal of Information Management*, Vol.30, pp. 481-492
36. Wu Ing-Long (2013) The antecedents of customer satisfaction and its link to complaint intentions in online shopping: An integration of justice, technology, and trust, *International Journal of Information Management*, Vol.33, pp. 166- 176
37. Yee Rachel W.Y., Yeung Andy C.L., Cheng T.C. Edwin (2010) An empirical study of employee loyalty, service quality and firm performance in the service industry, *International Journal of Production Economics*, Vol.124, pp. 109-120
38. Zeithaml Valarie A. (1988) Consumer perceptions of price, quality, and value: a means-end model and synthesis of evidence, *Journal of Marketing*, Vol.52, pp. 2-22

THE STRATEGIC IMPORTANCE OF COMMITMENT IN THE CUSTOMER – SUPPLIER RELATIONSHIP

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Abstract: Academic research and business practice focus on the value of creating committed buyer – supplier relationship, which becomes an important tool for many companies. Successfully managed, supplier relationships may support a firm's strategic orientation and become a sustainable competitive advantage on the global market. The aim of the study is to examine the determinants of commitment in customer - supplier relationship which has become a key strategic concern. The data collected in this study are analyzed in the software package LISREL 8.80. Valid and statistically significant model is obtained, on the basis of proposed model and calculated statistical parameters. The results of the measurement model are obtained by confirmatory factor analysis (CFA), and the structural equation model (SEM) is examined by means of path analysis. Goodness-of-fit statistics, which indicated good fitting of the model, is presented.

Keywords: Commitment, Customer, Supplier, Strategy

STRATEŠKI ZNAČAJ POSVEĆENOSTI U ODNOSU KUPAC – ISPORUČILAC

Isidora Milošević, Tamara Rajić

Abstrakt: Akademska istraživanja i poslovna praksa usmeravaju pažnju na vrednost stvaranja posvećenog odnosa kupac – isporučilac, koja postaje važno sredstvo za mnoge kompanije. Uspešan odnos sa isporučiocem može podržati stratešku orijentaciju kompanije i da održi konkurentnu prednost na globalnom tržištu. Cilj istraživanja u ovom radu jeste da ispita determinatnte posvećenosti u odnosu kupac – isporučilac, koji postaje ključna strateška preokupacija. Podaci prikupljeni u ovoj studiji obrađeni su u softverskom paketu Lisrel 8.80. Na osnovu postavljenog modela i proračunatih statističkih parametara, dobijen je validan model čije vrednosti imaju statistički značaj. Rezultati mernog modela dobijeni su putem konfirmatorne faktorske analize (CFA), dok model strukturalnih jednačina testiran na osnovu analize putanje. Predstavljena je statistika fitovanja modela koja je dobro uklopila podatke.

Ključne reči: Posvećenost, Kupac, Isporučilac, Strategija

1. UVOD

Većina istraživanja usmerena je na izgradnju odnosa kupac – isporučilac, u kojima se objašnjava kako relacioni procesi dovode do ishoda, kao što su zadovoljstvo, poverenje, posvećenost [1].

U okruženju rastuće dinamike i globalne ekonomije, uspostavljanje i razvijanje trajnih odnosa sa isporučiocima i kupcima postaje ključna strateška preokupacija [2]. Naime, isporučilac nije više samo izvor od koga se obezbeđuje reprodukcioni materijal, on postaje partner svom kupcu, u dugorožnoj i posvećenosti saradnji može dosta doprineti sniženju materijalnih troškova, bržem obrtu relativno limitiranih obrtnih sredstava, racionalnijem odvijanju procesa proizvodnje, što dovodi do efikasnijeg poslovanja industrijskog preduzeća. Međutim, nedostatak kupčeve posvećenosti prema isporučiocu, može da limitira spremnost isporučioaca da ulaže napore u smanjenju troškova kupca, što može dovesti do povećanja operativnih troškova [1].

Cilj ovog istraživanja jeste da se izvrši stratešku analizu posvećenosti odnosa između kupaca i njihovih isporučioaca. Priroda ovog odnosa (kupac- isporučilac), postaje subjekt strategijske analize i odlučivanja. Između kupca i isporučioaca na poslovnom tržištu može postojati čitav spektar odnosa [3], koji privlači značajnu akademsku i menadžersku pažnju u poslednje dve decenije [4].

Odabir kvalitetnih isporučilaca u sadašnjim uslovima poslovanja, suženog prostora mogućih izvora nabavke nije jednostavan zadatak. Kompanije u ulozi kupaca, prilikom odabira isporučioaca, mogu primeniti neke dodatne mere, npr. ako postoje dva isporučioaca, od kvalitetnijeg kupovati veću količinu a od manje kvalitetnog manju, i tu informaciju učiniti dostupnom isporučiocima; tražiti potencijalne, nove isporučioce koji imaju interes da razvijaju taj proizvod; kao i uvesti bonifikaciju za kvalitet.

2. LITERATURNI PREGLED I DEFINISANJE HIPOTEZA

U postojećoj literaturi posvećenost u odnosu kupac - isporučilac predstavlja višedimenzionalni proces. Brojni naučnici dele posvećenost u afektivne, proračunate i (ponekad) normativne dimenzije [5, 6]. Drugi istraživači posvećenost objašnjavaju kroz dimenzije stavova i ponašanja, kao i da su afektivna i proračunata posvećenost deo šireg koncepta, koji zavisi od stava i / ili ponašanja [7, 8].

Među različitim odnosima marketing konstrukata, posvećenost se stalno navodi kao jedan od ključnih elemenata za uspešan odnos u kanalu distribucije. Među nekoliko faktora koji utiču na posvećenost mogu se izdvojiti percepcija zadovoljstva u odnosu kupca – isporučilaca, kao i nivo poverenja [8].

U ovoj studiji, fokus je na nekoliko prednosti za koje se veruje da utiču na posvećenost u odnosima kupac-isporučilac. To su uticaj zadovoljstva kao indirektan faktor i poverenje kao direktan faktor.

2.1. ZADOVOLJSTVO

Zadovoljstvo kupaca u poslovnom kontekstu može se posmatrati kao pozitivno afektivno stanje koje proizilazi iz procene vrednosti kupaca na svim aspektima njenog odnosa sa isporučiocima [9]. Isporučilac će vrlo verovatno morati da usvoji neke od kupčevih potreba ako želi da ih zadovolji i samim tim da ih zadrži u svom portfoliju korisnika. Nivo doživljenog zadovoljstva kupca koncipirano je njegovom procenom kumulativnog učinka

isporučilaca tokom vremena na različitim proizvodima / uslugama, kao i kvalitetom isporuka. Stoga, kvalitet se sve više posmatra kao esencijalni element koji određuje nivo doživljenog zadovoljstva kupca [10]. Prateći ovu diskusiju postavljamo sledeću hipotezu:

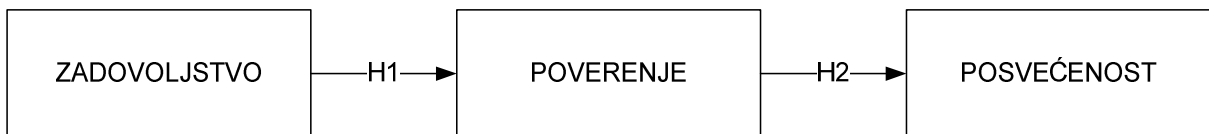
Hipoteza 1. Nivo doživljenog zadovoljstva kupca ima pozitivan uticaj na poverenje u isporučioaca.

2.2. POVERENJE

Poverenjem se naziva glavna determinanta posvećenog odnosa. Teško je i zamisliti ozbiljnu poslovnu posvećenost u poslovnom odnosu bez poverenja. Iz tog razloga, treba razviti okvir koji će povezati nivo poverenja i stepen posvećenosti, takve posvećenosti kojom će određene aktivnosti biti korisne za obe strane, radi poboljšanja opštih performansi lanca snabdevanja [11]. U svetlu prethodnih argumenata, može se uočiti da je poverenje indikator posvećenosti, odakle proizilazi sledeća hipoteza:

Hipoteza 2. Nivo poverenja ima pozitivan uticaj na posvećenost u odnosu sa isporučiocima.

Na osnovu iznetih hipoteza H1-H2, može se definisati teorijski model za uticaj određenih parametara na posvećenost u odnosu kupac – isporučilac, koji je prikazan na slici 1. Predložen je model koji prikazuje indirektan uticaj zadovoljstva i direktan uticaj poverenja na posvećenost u odnosu sa isporučiocem.



Slika 1. Konceptualni model

3. METODOLOGIJA

Ciljna populacija ovog istraživanja bile su kompanije koje kupuju proizvode i usluge za korišćenje u sopstvenom proizvodnom procesu, kao i za preprodaju. Upitnik je formulisan na osnovu pregleda relevantne literature u kojoj su obrađeni koncepti korišćeni i u ovom istraživanju [2]. Od ukupno 450 upitnika, distribuirano je 356 upotrebljivih, što je rezultiralo stopom odgovora od 79%. Kompanije koje su odgovorile na upitnik su uglavnom mala i srednja preduzeća. Upitnik su popunjavali menadžeri nabavke, a samo anketiranje menadžera bilo je anonimno. Za gredaciju dobijenih rezultata korišćena je Likertova petostepena skala.

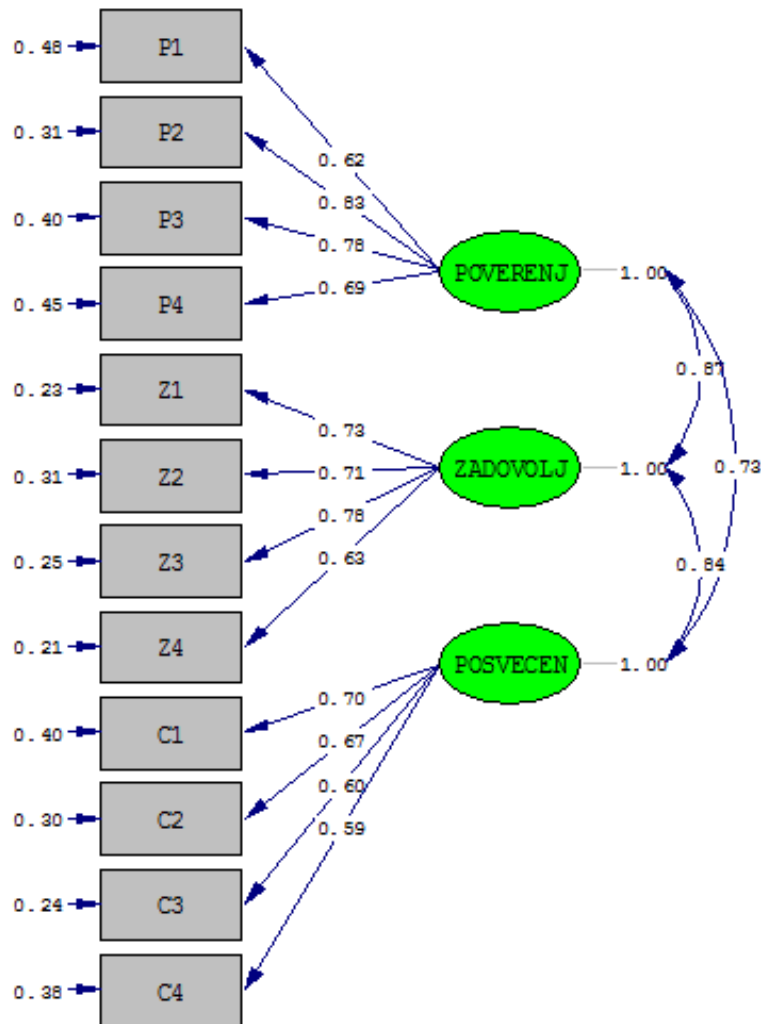
Ispitivane determinante u ovoj studiji, zadovoljstvo, poverenje i posvećenost, su fenomeni koji se razvijaju dugi niz godina, i veoma je teško manipulirati njima. S toga, ispitanici su uglavnom bili kompetentni da procene svoje odnose sa isporučiocima kompanije, odvojivši one sa kojim imaju učestaliju saradnju u cilju posvećenosti tog odnosa.

3.1. MERENJE MODELA

Predloženi model i hipoteze testirani su na podacima iz prikupljenih upitnika. Merni i strukturni modeli testirani su u softverskom paketu LISREL 8.80, korišćenjem modela

strukturne jednačine (SEM) [12]. Metod procene maksimalne verodostojnosti korišćen je za analizu podataka.

Pre testiranja strukturnog modela, neophodno je definisati korelacioni model (slika 2.), koji uspostavlja korelacione veze medju definisanim grupama pitanja, sa ciljem da se potvrdi da 12 merljivih varijabla reflektuju 3 latentne varijable na pouzdan način.



Slika 2. Korelacioni model

Primenom konfirmatorne faktorske analize (CFA) potvrđena jednodimenzionalnost u okviru sve 3 grupe u razmatranom modelu. Vrednosti koje su dobijene konfirmatornom faktorskom analizom predočene su u tabeli 1. Testirana je interna konzistentnost grupa tvrdnji koje se odnose na koncepte obuhvaćene istraživanjem. Za procenu interne konzistentnosti korišćen je Cronbach-ov koeficijent α , gde u okviru svake grupe pitanja [13, 14] predlaže da se vrednosti $\geq 0,7$ smatraju prioriternim. Cronbach's alpha faktor za ukupnu populaciju iznosi 0.928, dok su vrednosti po grupama prikazane u tabeli 1. CFA je korišćen za procenu konvergentne validnosti. Svi faktori opterećenja indikatora na njihovim strukturama su statistički značajni, što ukazuje da je konvergentna validnost postignuta [15]. Vrednosti faktora opterećenja i kritični odnos prikazani su u tabeli 1., i pokazuju da sve strukture imaju visoku konvergentnu validnost.

Tabela 1. Rezultati testiranja mernog modela

	Ne standardizovani faktori	t- vrednosti	Standardizovani faktori	Konvergentna validnost	Cronbach alpha (α)
POV ₁	0.62	13.59	0.67	0.568	0.835
POV ₂	0.83	18.37	0.83		
POV ₃	0.78	16.72	0.78		
POV ₄	0.69	14.92	0.72		
ZAD ₁	0.73	18.90	0.83	0.668	0.889
ZAD ₂	0.71	17.30	0.79		
ZAD ₃	0.78	19.03	0.84		
ZAD ₄	0.63	18.02	0.81		
POS ₁	0.70	15.44	0.74	0.558	0.832
POS ₂	0.67	16.43	0.77		
POS ₃	0.60	16.43	0.77		
POS ₄	0.56	14.05	0.69		

Indeksi fitovanja mernog modela i statistički značajna faktorska opterećenja ($t > 1.96$, $p < 0.05$), prikazani u tabeli 2, ukazuju na adekvatno fitovanje modela.

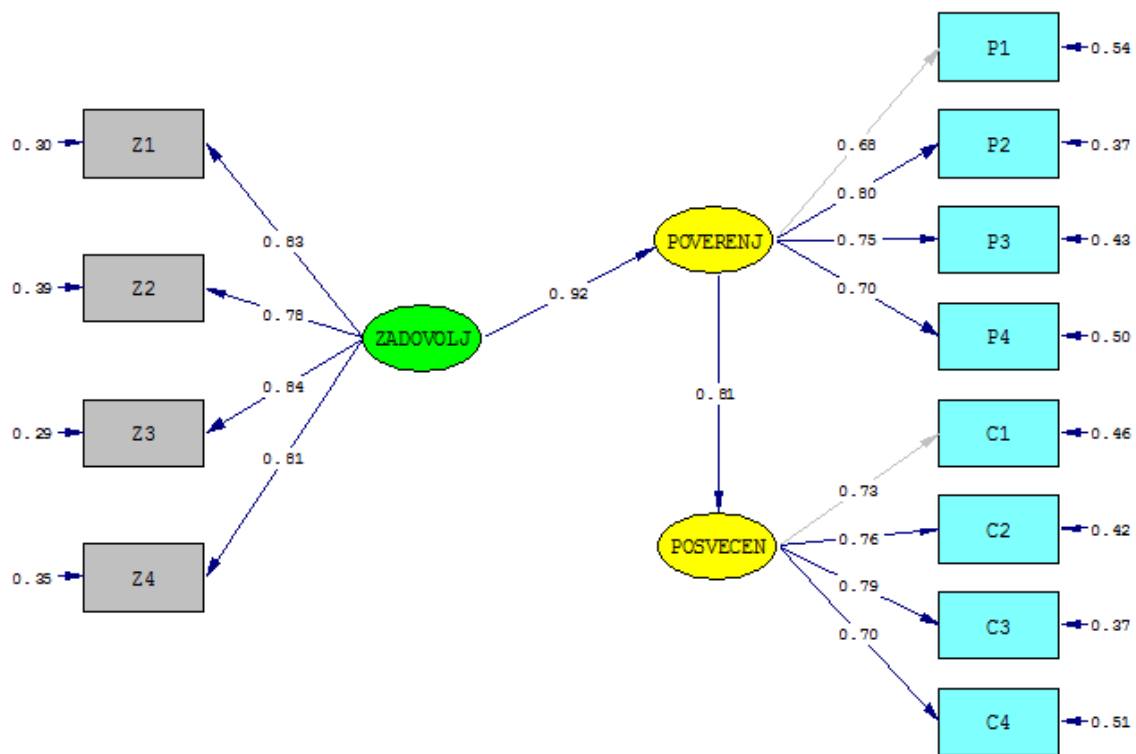
Tabela 2. Fitovanje mernog modela

χ^2	χ^2/df	NFI	NNFI	PNFI	CFI	IFI	RFI	GFI	RMR
$\chi^2 = 210.74$	4.132	.97	.97	.75	.98	.98	.96	.91	.036
df=51									
p<0.05									
Preporučene vrednosti	< 5	.90	.90		.90	.90	.90	.90	<.10

3.2. TESTIRANJE HIPOTEZA

S obzirom na adekvatno fitovanje mernog modela, u narednom koraku testiran je strukturni model, slika 3. Svi faktori opterećenja (tabela 3), kao i Chi-square goodness-of-fit statistika strukturnog modela $\chi^2 = 243.33$, $df = 52$, $p < 0.05$ (tabela 4) imaju statističku značajnost ($p > 0.5$).

Osnovni indeksi fitovanja, prikazani u tabela 4., pokazuju da je strukturni model primenljiv u dobroj meri na posmatranu matricu varijacije-kovarijacije u odnosu na merni model i ispunjenost uslova za tumačenje strukturnih koeficijenata [16].



Slika 3. Strukturni model

Tabela 3. Rezultati testiranja strukturnog modela

	Ne standardizovani faktori	t- vrednosti	Standardizovani faktori	Konvergentna validnost	Cronbach alpha (α)
POV ₁	0.63		0.68	0.539	0.835
POV ₂	0.79	13.22	0.80		
POV ₃	0.76	12.62	0.75		
POV ₄	0.68	11.90	0.70		
ZAD ₁	0.73	18.85	0.83	0.665	0.889
ZAD ₂	0.70	17.12	0.78		
ZAD ₃	0.78	19.22	0.84		
ZAD ₄	0.63	17.91	0.81		
POS ₁	0.69		0.73	0.556	0.832
POS ₂	0.65	13.30	0.76		
POS ₃	0.61	13.92	0.79		
POS ₄	0.59	12.36	0.70		

Tabela 4. Fitovanje strukturnog modela

χ^2	χ^2/df	NFI	NNFI	PNFI	CFI	IFI	RFI	GFI	RMR
$\chi^2= 243.33$	4.679	.96	.96	.76	.97	.97	.95	.90	.043
df=52									
p<0.05									
Preporučene vrednosti	< 5	.90	.90		.90	.90	.90	.90	<.10
Strukturni koeficijenti				Standardizovane ocene putanje				t- vrednosti	
H1: Zadovoljstvo-Poverenje				.92 (a)				13.00	
H2: Poverenje- Posvećenost				.81 (a)				10.70	

(a) Značajnost na nivou 99%

Za testiranje modela korišćeni su koeficijenti regresije (β koeficijenti) i determinacije R^2 . Koeficijenti regresije (β) objašnjavaju jačinu i karakter veza između zavisnih i nezavisnih varijabli, koji su prikazani u tabeli 4., a koeficijent determinacije R^2 pokazuje učešće objašnjenog varijabiliteta u ukupnom, odnosno koliko je varijacija zavisne promenljive objašnjena nezavisnom promenljivom.

Rezultati analize putanje pokazuju da su obe hipoteze potvrđene. Sagledavajući posvećenost kupaca svojim isporučiocima, zadovoljstvo kao indirektna determinanta posvećenosti ima veoma jak uticaj na poverenje ($\beta=0.92$), kao i poverenje kupaca, kao direktna determinanta, ima, takođe, jak uticaj na posvećenost ($\beta=0.81$). Obračunata vrednost koeficijenta determinacije pokazuje da je 75.5% varijanse posvećenosti u odnosu sa isporučiocima posledica zajedničkog uticaja tri latentne determinante.

4. ZAKLJUČAK

Ispitivanjem strateškog značaja posvećenosti u odnosu kupac – isporučilac u kompanijama u Srbiji, može se uočiti da konstrukti koji utiču na posvećenost u ovom odnosu, direktan i značajan uticaj ima poverenje, dok zadovoljstvo predstavlja indirektnu determinantu ovog odnosa.

Sticanje prednosti u odnosima isporučilaca predstavlja fundament za razumevanje uspeha i preživljavanja mnogih kompanija, što omogućava kompanijama (kupcima) da dobiju veću dodatnu vrednost, zbog same konkurentnosti, preko menadžmenta pozitivnih i trajnih odnosa obostrano, i sa kupcima, i sa isporučiocima [2].

Rezultati dobijeni u ovom radu uz pomoć mernog i strukturnog modela, ukazuju da zadovoljstvo i poverenje imaju pozitivan uticaj u odnosu kupac – isporučilac, koji se opisuje jačinom i karakterom veza, čime su postavljene hipoteze u konceptualnom modelu potvrđene. Za izgradnju poverenja u odnosu kupac – isporučilac potrebno je ostvariti stratešku saradnju među partnerima, čime bi se na najbolji način smanjila neizvesnost i povećao stepen poverenja. Isporučilac treba da pokaže privrženost prema kompaniji (kupcu), da bude iskren prema njemu, da održi dato obećanje, kao da bude pouzdan po pitanju bitnih informacija. U suprotnom, barijere koje postoje usled neizvesnosti na tržištu, neće moći da se prevaziđu. Dok zadovoljstvo kupaca, kao kritična komponenta sadašnjih i budućih performansi isporučilaca, predstavlja značajan izvor konkurentne prednosti, koja

se ispoljava kroz ispunjavanja obećanja na početku sklapanja saradnje, njihovim pozitivnim odnosom, kao i sposobnosti obe strane da ispune norme i na taj način manifestuju posvećenost.

REFERENCE

1. Joseph P. Cannon & Christian Homburg, Buyer-Supplier Relation and Customer Firm Costs, *Journal of Marketing*, Vol. 65, No. 1 (Jan., 2001), pp. 29-43.
2. Yolanda Polo-Redondo, Jesús Cambra-Fierro, Influence of the standardization of a firm's productive process on the long-term orientation of its supply relationships: An empirical study, *Industrial Marketing Management* 37 (2008) 407–420.
3. Hut, M. D. and T. W. Speh. (2010), *Business Marketing Management: B2B*. South Western, Cengage Learning.
4. Whipple, J. M., Lynch, D. F., & Nyaga, G. N. (2010). A buyer's perspective on collaborative versus transactional relationships. *Industrial Marketing Management*, 39(3), 507–518.
5. Ganesan, S., Brown, S. P., Mariadoss, B. J., & Ho, H. D. (2010). Buffering and amplifying effects of relationship commitment in business-to-business relationships. *Journal of Marketing Research*, 47(2), 361–373.
6. Gounaris, S. P. (2005). Trust and commitment influences on customer retention: Insights from business-to-business services. *Journal of Business Research*, 58(2), 126–140.
7. (Gilliland, D. I., & Bello, D. C. (2002). Two sides to attitudinal commitment: The effect of calculative and loyalty commitment on enforcement mechanisms in distribution channels. *Journal of the Academy of Marketing Science*, 30(1), 24–43.
8. Megha Jain, Shadab Khalil, Wesley J. Johnston, Julian Ming-Sung Cheng, The performance implications of power–trust relationship: The moderating role of commitment in the supplier–retailer relationship, *Industrial Marketing Management* 43 (2014) 312–321.
9. Geyskens, I., Steenkamp, J. E. M., & Kumar, N. (1999). A meta-analysis of satisfaction in marketing channel relationships. *Journal of Marketing Research*, 36(2), 223–238; Jap, S. D. (2001). Pie-sharing in complex collaboration contexts. *Journal of Marketing Research*, 38(1), 86–99.
10. Briscoe, J., Fawcett, S., & Todd, R. (2005). The implementation and impact of ISO 9000 among small manufacturing enterprises. *Journal of Small Business Management*, 43, 309–319.

11. Ik-Whan G. Kwon, Taewon Suh, Trust, commitment and relationships in supply chain management: a path analysis, *Supply Chain Management: An International Journal* 10/1 (2005) 26–33.
12. Joreskog, K.G., Sorbom, D., 1989. *LISREL 7: User's reference guide*. Scientific Software Inc., Chicago
13. Nunnally, J.C., (1978) *Psychometric Theory*, Second ed. McGraw-Hill, New York
- 14.
15. Hair, J.F., Anderson, R.E., Tatham, R.L., Black, W.C., 1998. *Multivariate Data Analysis*, fifth ed. Prentice Hall, New Jersey
16. Byrne, B. M. (2004). Testing for multigroup invariance using graphics: A road less traveled. *Structural Equation Modeling*, 11(2), 272-300.

LOW-TEMPERATURE GEOTHERMAL WATERS IN SOUTHERN SERBIA

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Abstract: Renewable energy is an important resource that has an alternative character compared to conventional fuels, according to many characteristics. Geothermal water resources are located below the surface, and published in the form of hot water or steam, which implies their use in the heating system or electrical transformation of this renewable energy source. There are multiple advantages of utilizing, as it can best be seen in the low-temperature resource characteristics. At the local level, the geothermal water at a lower temperature have options for heating buildings, crops, aquaculture, spa and sports facilities, swimming pools and other applications.

Resources of low temperature geothermal water can be a long-term policy support for energy development, which is in the south of Serbia is realized in the context of planning a sustainable economy, labour and energy independence from expensive fossil fuels. The article specifically lists results in Sijarinska, Bujanovačka and Vranjska Spa, which is a representative example of the current and future prospects of the management of these resources in practice.

Keywords: Low-temperature geothermal water, using, resource management, Serbia

NISKOTEMPERATURNE GEOTERMALNE VODE NA JUGU SRBIJE *

Njegoš Dragović, Milovan Vuković, Nada Štrbac

Apstrakt : Obnovljiva energija je značajan resurs koji ima alternativni karakter u odnosu na konvencionalna goriva po mnogim karakteristikama. Geotermalne vode su resursi koji se nalaze ispod površine, a koji izlaze u obliku vruće vode ili vodene pare, što implicuje njihovu primenu u toplifikaciji ili električnoj transformaciji ovog obnovljivog izvora energije. Postoje višestruke prednosti upotrebe geotermalnih voda, dok se to najbolje može uočiti kod resursa sa niskotemperaturnim karakteristikama. Na lokalnom nivou, geotermalne vode sa nižom temperaturom imaju mogućnosti za zagrevanje objekata, poljoprivrednih kultura, akvakultura, banjskih i sportskih terena, bazena i druge namene.

Resursi niskotemperaturnih geotermalnih voda mogu da budu oslonac dugoročne politike energetske razvoja, što se na jugu Srbije ostvaruje u kontekstu planiranja održive privrede, rada i energetske nezavisnosti od skupih fosilnih goriva. U radu se posebno

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prikazuju rezultati u Sijarinskoj, Bujanovačkoj i Vranjskoj Banji, koje predstavljaju reprezentativan primer trenutnih i budućih izgleda upravljanja ovim resursima u praksi.

Ključne reči: niskotemperaturne geotermalne vode, primena, upravljanje resursima, Srbija

1. UVOD

U uslovima kada se rezerve nafte smanjuju, kada se blokira snabdevanje prirodnim gasom ili rastu cene neobnovljivih izvora energije, moraju se utvrditi jasni kriterijumi i proceniti energetske potencijali kojima jedna sredina raspolaže. Obnovljivi izvori energije su važan resurs koji omogućuje da se dugoročno upravlja potencijalima koji imaju višestruke prednosti u odnosu na konvencionalna goriva. Jedan od obnovljivih izvora energije je geotermalna, koja se nalazi ispod površine zemljišta u stenama i fluidima. Ova energija je akumulirana nakon razlaganja radioaktivnih materija, kao i pod uticajem gravitacionih sila, egzotermnih hemijskih reakcija, kristalizacije, faznih prelaza i slično.

Geotermalna energija postoji otkad postoji Zemlja i predstavlja unutrašnju kaloričku energiju Zemlje. Zemlja se sastoji od jezgre, plašta i kore. Plašt se sastoji od užarenog tekućeg stenja koje se naziva magma. Na plaštu pluta zemljina kora, a kad se magma probije kroz površinu zemlje, kroz vulkan, nastaje lava. Na svakih 100 m dubine temperatura raste za 3° C. Ako bi merili onu na nivou od 3000 metara, došli bismo do temperature ključanja vode. Pojam geotermalna energija odnosi se na korišćenje toplote Zemljine unutrašnjosti koja u samom središtu iznosi 4000-7000° što je približno temperaturi površine Sunca. Najpraktičnija je eksploatacija geotermalne energije u područjima gde se vrela masa nalazi blizu površine zemlje. Na mnogim takvim lokacijama u svetu već postoje postrojenja-izmenjivači toplote koja zagrejanu vodu koriste za grejanje ili u industrijske svrhe. Od davnina je čovek prepoznao prednosti toplih izvora vode, pored kojih je gradio kupatila i koristio ih u zdravstvene svrhe, grejanje i higijenske potrebe.

2. GEOTERMALNE VODE SA NIŽOM TEMPERATUROM

Geotermalna voda je resurs koji na bazi akumuliranih voda ispod slojeva površine Zemlje poprima veći intenzitet toplote sa većom dubinom. Temperatura geotermalnih izvora zavisi od lokacije, u kome bitnu ulogu ima sastav zemljišta, mineralne sirovine i fluidi koji se nalaze ispod površine. Osim toga, zemljina kora je sastavljena od stena, vode i magme što indukuje različitu temperaturu, pri čemu nastaje hidrogeotermalna u podzemnim vodama sa temperaturom iznad 10 stepeni; petrogeotermalna u suvim stenama; magmotermalna energija u unutrašnjosti zemljine kore. Osnovna podela geotermalnih voda je izvršena prema visini temperature, i to u tri kategorije:

- niskotemperaturna (do 100 stepeni),
- srednjetemperaturna (od 100-150) i
- visokotemperaturna (preko 150 stepeni).

Pod terminom resurs podrazumeva se deo geotermalne energije koji je otkriven ili je još neotkriven, ali po svim indicijama postoji i koji tehnički može da se koristi na trenutnom nivou tehnološkog razvoja (Radaković 2011). Najveće prednosti geotermalnih voda su termalna svojstva, višestruka primena i relativno niska ulaganja. Dugotrajna istraživanja su doprinela da se tehnologije razvijaju te se geotermalni resursi mogu eksploatisati do 10 km

dubine, dokle doseže tehnologija u eksploataciji nafte i gasa. Posebno se ističe direktna i indirektna upotreba geotermalne energije, što znači da se neposredno stvaraju uslovi za obezbeđivanje besplatne toplotne energije, kao i moguće distribucije za privredne subjekte u svrhu zagrevanja objekata, hlađenje, sušenje, gajenje vodenih organizama, poljoprivrednih kultura, plasteničke proizvodnje, ili pak industrijske radne procese.

Veoma je dug spisak oblasti u kojima se geotermalne vode mogu uvesti kao alternativni toplotni izvor, koji čak i sa nižim temperaturama postiže zavidne rezultate, a ujedno se štedi na uvozu skupih energenata, brine se o okolini, nema otpadaka i obnovljiv je izvor energije iz neposredne okoline. Primena geotermalnih voda sa niskom temperaturom, tj. onom do 100 °C ima termalno-sadržajne prednosti, koje izvori sa većom temperaturom u transformaciji električne energije najčešće ne mogu da zadovolje.

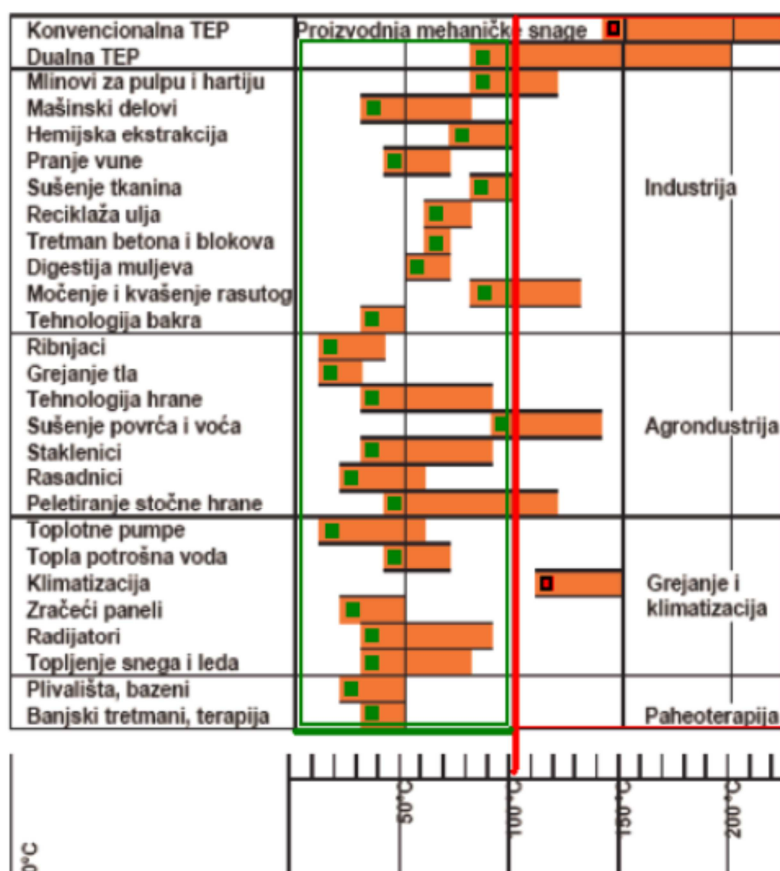
2.1. ZNAČAJ NISKOTEMPERATURNIH GEOTERMALNIH VODA

Nalazišta termalnih voda nastala su prodorom površinskih voda kroz vodopropusne slojeve Zemljine kore u dublje slojeve u kojima se ona zagreva (Lambić 2007). Negde su geotermalne vode lako dostupne, kada same izvire na površinu u vidu gejzera ili izvora termomineralne vode, dok su negde praktično nedostupne, kada se nalaze na velikoj dubini. Od unutrašnjosti do površine Zemlje se temperatura prostire u opsegu od oko 10 °C/km u sloju 100 km, što znači da akumulirana voda u zavisnosti od dubine rezervoara može imati različitu temperaturu, a u odnosu na mineralni sastav stena i drugačiji fizičko-hemijski sastav.

Osim toga, niskotemperaturne vode u pravilno postavljenom sistemu polaze od izvorišta na taj način da se prvo snabdevaju korisnici kojima je neophodna viša temperatura, a onda se protočnim kanalima snabdevaju oni koji imaju potrebe za nižom temperaturom. Na lokalnom nivou, geotermalne vode sa nižom temperaturom imaju velike mogućnosti za zagrevanje objekata, zatvorenih prostora (sportskih hala, konferencijskih sala, industrijskih objekata, radionica). U razvijenoj privredi, okruženje se brine za energetske potrebe korisnika i proizvođača iz neposredne blizine, kako bi se geotermalni resursi upotreбили na odgovarajući i održiv način.

Najbitnije je da se izbegne direktno isticanje hidrogeotermalne energije u vodotokove, jer se tako gube veliki energetske resursi koji mogu da se koriste u poljoprivredi, flaširanju, grejanju ili iskoristiti lekovitost pojedinih termo-mineralnih izvora. Kako je Srbija orjentisana na poljoprivredu kao stratešku granu, veliki značaj bi imala implementacija geotermalnih voda za različite poljoprivredne svrhe. Evidentno je da se agrarna proizvodnja mora zasnivati na smanjenju troškova, a to se može prepoznati u ranoj proizvodnji povrća (30-70 °C) za koje je neophodno izdvojiti dosta sredstava za plastenike ili staklenike, grejanje u hladnom periodu, sprovođenje vode za zagrevanje zemljišta i slično. Na klasičnom primeru se može potvrditi ekonomska i ekološka prednost upotrebe geotermalnih voda, onih koje se nalaze u blizini izvorišta, bez štetnih materija, sa zadovoljavajućom temperaturom, tako da se u kaskadnom sistemu mogu sprovesti pod zemlju, kao grejni izvor za biljke ili grejanje prostora za rano povrće ili cveće. Primena geotermalne vode sa nižim temperaturama u proizvodnim oblastima, poput uzgajanja riba, rakova i vodenih organizama (15-40 °C), u dugoročnom periodu može da preraste u pogon za uzgoj mladica i odraslih primeraka na otvorenom i u zatvorenom prostoru. Za sušenje poljoprivrednih proizvoda, geotermalne vode moraju imati temperature od 60-100 °C, u zavisnosti od toga da li se radi o voću, povrću, žitaricama, lekovitom bilju, kao i njihovom sastavu i vlažnosti sušenog materijala. Na slici 1 se vide oblasti primene geotermalne

energije, direktno i indirektno i putem transformacije (binarni ciklus, toplotne pumpe i drugo) prema optimalnim temperaturama.

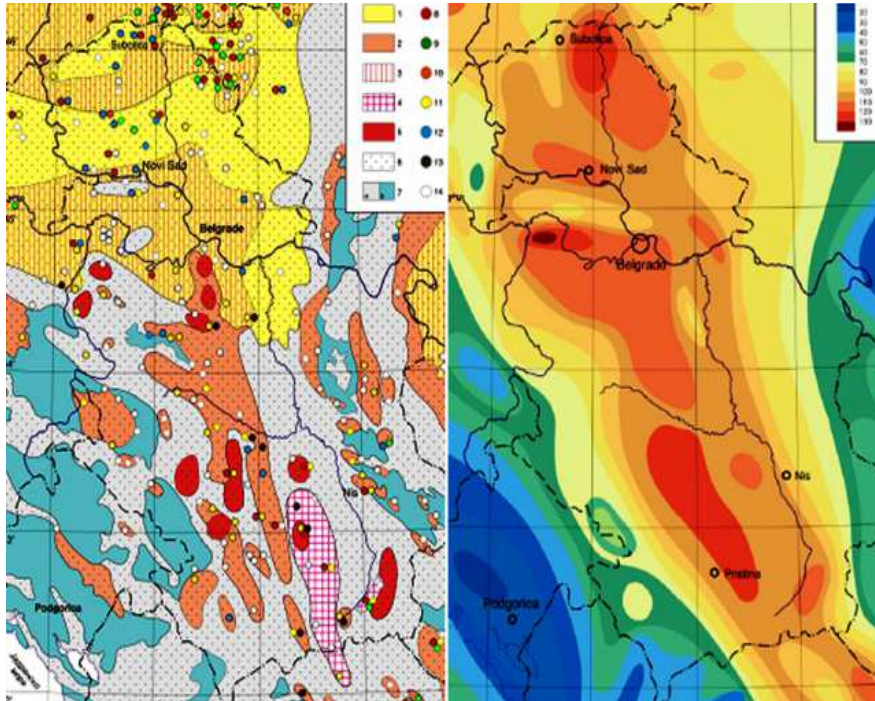


Slika 1. Oblasti primene niskotemperaturne geotermalne energije

Interesantna je činjenica da su termalne vode našle primenu u industrijskim sistemima, koji zavise od proizvodnih procesa različitih tehnoloških operacija ili termičkih tretmana (30-100 °C), kao što su recikliranje, digestija, fermentacija, hemijski tretmani, pranje i razlaganje materija. Prihvatanje datih upotrebnih karakteristika geotermalnih voda sa niskom temperaturom, moraju biti praćene distributivnom mrežom koja bi trebala da bude položena ispod staza i puteva, ili trotoara, koji bi u zimskom periodu služili za odleđivanje. Iako se geotermalne vode mogu koristiti za proizvodnju električne energije, one sa niskim temperaturama to u najvećoj meri ne mogu, ali se binarnim ciklusom proizvodnje i to postiže (od 70-150 °C).

3. GEOTERMALNI RESURSI SRBIJE

Republika Srbija ima velike mogućnosti da koristi svoje vodne potencijale, jer geotermalne vode imaju odlike obnovljivosti i predstavljaju važan geostrateški, energetska i ekonomski resurs za dugoročan razvoj. Najveći procenat voda kao energetska resurs se u Srbiji transformiše u hidroenergetskim centralama, za čiju su inicijalizaciju potrebna ogromna novčana sredstva, dok se zanemaruje prednost voda sa termalnim (geotermalni, hidrotermalni, termomineralni i mineralni izvori) svojstvima. Na slici 2 je prikazana mapa Srbije sa geotermalnim resursima i temperaturnim karakteristikama.



Slika 2. Geotermalna mapa Srbije sa termalnim odlikama terena

Geotermalne karakteristike teritorije Srbije imaju povoljan geološki sastav terena i hidrološke i geotermalne karakteristike terena. Sa gustinom geotermalnog toplotnog toka koji prosečno iznosi preko 60 mW/m^2 , kolika je vrednost za kontinentalni deo Evrope, Srbija ima oko 150 mW/m^2 . Iako u Srbiji postoji više od 400 izvora podzemnih termalnih voda, samo 40-45 odsto je istraženo (Radaković 2011). Ukupni geotermalni potencijal Srbije je 207,034 MW, u kome su oblasti podeljene u tri reona velikih geotermalnih izvora: Panonski basen, Vojvodina i centralna Srbije. Ukupna snaga izvorišta iz Panonskog basena je 52,14 MW, u Vojvodini je 23,18 MW, a u centralnoj i južnoj Srbiji je snaga izvora 131,7 MW. U tabeli 1 je dat prikaz korišćenja geotermalne energije u Srbiji sa toplotnom snagom. Od procenjenih 207 MW koristi se 86 MW toplotne snage geotermalne energije, pri čemu u balneološke svrhe 36 MW, direktno za zagrevanja prostorija 18,5 MW, za zagrevanje uz pumpe 12,0 MW, za staklenike 8,4 MW, za ribarstvo 6,4 MW, za industriju 3,9 MW, dok se najmanje koristi za sušenje žitarica i to 0,7 MW toplotne snage.

Tabela 1. Primena geotermalne energije u Srbiji sa toplotnom snagom

Svrha upotrebe	Toplotna snaga u MW
Balneologija i rekreacija	36,0
Direktno zagrevanje prostora	18,5
Zagrevanje sa toplotnim pumpama	12,0
Staklenici i plastenici	8,4
Ribarstvo i stočarstvo	6,4
Procesi u industriji	3,9
Sušenje žitarica	0,7
UKUPNO	86,0

Izvor: LiberPerpetuum

Uzimajući u vidu da se koristi mali broj geotermalnih kapaciteta u Srbiji, posebno je značajno što se oni koriste za grejanje i zdravstvene potrebe, što je mahom slučaj u

banjskim lečilištima i turističkim mestima. U hidrogeotermalnom sistemu Panonskog basena, termalna voda se koristi iz 23 bunara, od kojih se voda iz dva bunara koristi za grejanje plastenika, iz tri bunara za grejanje farmi svinja, po dva za industrijske procese u kožarskoj i tekstilnoj fabrici, tri za grejanje prostora, a trinaest bunara za različite svrhe u banjama i sportsko-rekreativnim objektima. Termalna voda u Lukovskoj banji se koristi u industriji tepiha, a projekat je završen za direktnu geotermalnu upotrebu u Debrcu za sušenje pšenice i drugih žitarica, kao i za grejanje prostora. Termalne vode van regiona Panonskog basena se koriste za grejanje u Vranjskoj banji, Niškoj banji, Ribarskoj banji, Sijarinskoj banji i Kuršumlijskoj banji.

4. UPRAVLJANJE GEOTERMALNIM VODAMA U BANJAMA

Na području uže Srbije i Kosmeta postoji 160 prirodnih izvora termalnih voda sa temperaturama iznad 15 °C, a ukupna izdašnost izvora termomineralnih voda u Srbiji procenjuje se na oko 1200 do 1800 litara u sekundi sa temperaturom od 20-96 °C. Uz to, ukupna izdašnost prirodnih geotermalnih izvora je oko 4000 litara u sekundi. Ako se kao najznačajniji parametar uzme temperatura geotermalnih voda, onda se na jugu Srbije nalaze najveći skup lokacija i to u Vranjskoj banji (96 °C, iako postoji bušotina čija je temperatura čak 111 °C), Jošaničkoj banji (78 °C) i Sijarinskoj banji (72 °C). U tom smislu, resursi niskotemperaturnih geotermalnih voda mogu da budu oslonac dugoročne politike energetskog razvoja, naročito na jugu Srbije u Vranjskoj, Sijarinskoj i Bujanovačkoj banji. Na slici 3 je prikazana pozicija ovih banja na teritoriji Republike Srbije.



Slika 3. Geotermalni izvori u Sijarinskoj, Vranjskoj i Bujanovačkoj banji

Ove tri banje se nalaze u dva okruga, Jablaničkom (Sijarinska) i Pčinjskom okrugu (Bujanovačka i Vranjska Banja) i predstavljaju reprezentativan primer ogromnih potencijala koji može da se iskoriste kako bi stabilizovali energetska situaciju, privredne tokove i unapredili lokalnu infrastrukturu, povećali zapošljavanje lokalnog stanovništva i smanjili uvoza skupih energenata i zagađenje. U tabeli 2 je dat uporedni prikaz fizičko-hemijskih karakteristika geotermalnih voda iz bušotina u Bujanovačkoj banji (BH-2), Sijarinskoj banji (B-4) i Vranjskoj banji (VG-2).

Tabela 2. Uporedni prikaz karakteristika GTV u BH-2, B-4 i VG-2

Karakteristika	Bušotina		
	BH-2	B-4	VG-2
T [°C]	44	75	90
Protok [l/s] (mogućnost)	6	30	26
Ph	7,2	7,5	7,3
Uk. tvrdoća [°dH]	5,6	10,0	2,8
Stal. tvrdoća [°dH]	0,8	0,9	0,6
Suvi ostatak [g L ⁻¹]	3,2	3,0	1,1
Provodlj. [S cm ⁻¹]	4,9	4,5	1,3
Mutnoća [NTU]	6,6	3,0	1,4

Izvor: Stojiljković, D. Todorović, B. Mitić, N. Geothermal Waters in the South of Serbia

Bušotina u Vranjskoj banji VG-2 sa 90 °C ima najvišu temperaturu, ali izdašnost (26 litara) je manja od one u Sijarinskoj banji (30 litara), dok je temperatura viša. Bunar u Bujanovačkoj banji BH-2 ima najmanju temperaturu i protok, sa šest litara i 44 °C.

Bujanovačka Banja ima blagotvorne termomineralne vode, lekovito blato i prirodni gas. Svojim hemijskim sastavom i prosečnom temperaturom od 43 °C, lekovite vode ove banje nalaze se u kategoriji natrijum - hidrokarbonatnih, fluoroidnih, sulfatnih i ugljeno - kiseli hipotermi. *Lečenje* se odvija kupanjem u lekovitoj vodi, orošavanjem, te oblozima od lekovitog blata (vulkanskog porekla) i to raznih bolesti poput reumatizma, stanja nakon povreda, kožnih, ginekoloških i neuroloških oboljenja.

Geotermalne vode (bušotine A2, BH7 i B1) u Bujanovačkoj banji se koriste od strane Zdravstvenog centra i Fabrike mineralne vode „Heba“ (Đajić i dr. 2007). Bušotina A2 se koristi za *flaširanje mineralne vode* u fabrici, kao i u *terapeutske svrhe* u Zdravstvenom centru, dok se voda iz bušotine BH7 koristi kao *pijaća voda* koja se flašira u punionici Zdravstvenog Centra. Bušotina B1 se koristi kao javna česma, bez energetskog efekta. Geotermalne vode u Bujanovačkoj banji moraju da se sprovedu u sistem za pripremu sanitarne tople vode i za grejanje uz korišćenje toplotne pumpe. Osim pripreme sanitarne tople vode iz termalnih voda, moglo bi da se pokrene poljoprivredna proizvodnja ranih kultura u plastenicima, staklenicima ili proizvodnja određenih vrsta riba. U tabeli 5 su prikazane karakteristike tri izvora u Bujanovačkoj banji.

Sijarinska Banja se nalazi u opštini Medveđa, udaljena oko 50 kilometara od Leskovca. Smeštena je uz reku Jablanicu i Banjsku i ima 26 izvora mineralne vode, dok se aktivno koriste 15 izvora geotermalne vode, pretežno u terapeutske svrhe. U "Donjoj Banji" postoje sledeći izvori: Glavni izvor, Izvor za inhalaciju, Mali Gejzir, Gejzir, Rimski izvor, Borovac, Spas, Raj i Hisar. U "Gornjoj Banji" postoje sledeći izvori: Jablanica, Zdravlje, Suzica, Snežnik, tri izvora u Blatištu, Kiseljak i bušotina "B-4". Voda pojedinih izvora po svom hemijskom sastavu je različita: alkalna, kisela, gvožđevita, sa temperaturom od 68-76 °C. Lekovite vode Sijarinske banje imaju različitu primenu i koriste se za kupanje, piće i inhaliranje. One pomažu u lečenju hroničnih reumatskih oboljenja, kožnih oboljenja,

stomačnih i bolesti žuči, oboljenja bubrega i mokraćnih puteva, anemiju i šećernu bolest, astmu i hronični bronhitis, kao i razne oblike neuroze i stanja lakše psihičke i fizičke iscrpljenosti. U tabeli 3 je dat pregled karakteristika najznačajnijih izvora u Sijarinskoj banji, sa toplotnom snagom izraženom u kilovoltima.

Tabela 3. Pregled karakteristika izvora u Sijarinskoj banji

Bušotina / izvor	Količina vode [l/s]	Топлотна снага [kW]	Температура [°C]
A-1	1,50	175,6	65
A-2	1,00	100,3	61
Veliki gejzer	2,80	398,0	71
Glavni izvor	0,07	7,6	63
Inhalator	0,80	93,7	65
Sn-2A	0,08	9,5	65
B-4	30,00	4766,0	75

Izvor: Sojiljković D. i dr., *Geotermalne vode Sijarinske Banje i Debrca*, 2014

Zbog raznolikog hemijskog sastava voda, od alkalne preko kisele do gvožđevite, vode se primenjuju za *lečenje različitih bolesti*, kupanjem, ispijanjem do inhaliranja (u Specijalnoj bolnici). Gejzer tople vode, sa hemijskim sastavom vode natrijuma, litijuma, hidrokarbonata i fluora, doseže visinu od 8 m, pored koga se nalazi novoizgrađeni kompleks mini bazena i fontana, koji služi u turističke svrhe. Bušotina B-4 ima izdašnost od 30 l/s sa temperaturom od 75 °C. Prilikom eksploatacije je dogovoreno da paralelno sa ispitivanjem budu sprovedena dva kraka. Krak A je pripao lokalnoj samoupravi, koja sa 5-6 l/s zagreva hotel „Gejzer“, dok je krak B pripao Energoprojekt, za dalja istraživanja, kao i grejanje njihovog objekta. U sezoni se geotermalna voda koristi za *zagrevanje sistema otvorenih bazena*, a može da se koristi i za sušenje povrća i voća, akvakulturu.

Vranjska Banja je udaljena 12 km jugoistočno od Vranja. Ova opština u gradu Vranju se nalazi na visini od 380 metara. Temperature iz desetak izvora od 94 do 111 °C beleže kapacitet od 140 litara u sekundi. Jedini izvor sa 111 °C je iznad kategorije niskotemperaturnih voda, dok ostali imaju niže temperature koje su lekovite zbog minerala, sumpora i blago alkalnih svojstva. Ove vode blagotvorno deluju na organizam, a naročito su delotvorne u tretiranju bolesti reumatizma, neuroloških i ginekološka oboljenja. U tabeli 4 se nalazi pregled karakteristika izvora u Vranjskoj banji.

Tabela 4. Pregled karakteristika izvora u Vranjskoj banji

Bušotina	Količina vode [l/s]	Dubina [m]	Температура [°C]
Gornji izvor	1,2	-	78
B-1 b	2,0	26	92
A-1	0,5	25	91
WG-2	26,0	1063	110
A-3	2,1	20	91
B-2	1,0	7	96
B-1	1,5	12	87
Sabirni kanal	70,0	905	84
A-2	1,0	25	84
WG-3	21,0	1603	98

Izvor: Petrović D., Ilić G. *Mogućnosti korišćenja energije geotermalne vode u Vranjskoj banji*

Korišćenje geotermalnih voda iz bušotina i izvora u Vranjskoj banji ima najbolje izgleda u Srbiji, ne samo zbog visoke temperature, već i zbog karakteristika ovih voda. Mogućnosti korišćenja se prevashodno odnose na zagrevanje objekata u banjskim apartmanima, sportskim centrima, bazenima, za pripremu sanitarne tople vode kada je sezona grejanja i slično. Trenutno se geotermalne vode iz ove banje koriste za *zagrevanje sportsko-rekreativnog bazena, klimatizaciju prostorija* za manifestacije, što bi trebalo da bude integrisano u distributivnu mrežu kroz kaskadni sistem. U blizini postoji *poljoprivredni kombinat* u kome se gajilo cveće, a nešto dalje i rasadnik, čijim staklenicima su potrebne temperature koje se obezbeđuju podzemnim cevovodom sa geotermalnom vodom (Petrović i Ilić, 2006). Primena geotermalne vode se širi u oblasti poljoprivrede, tako da je moguće sušenje proizvoda za tržište, za čuvanje, kako bi se obezbedila nezavisna proizvodnja sušenih poljoprivrednih proizvoda, čime se utiče na stabilnost cena. Najveća prednost geotermalnih voda u Vranjskoj Banji je povoljna temperatura voda za distribuciju u industrijske pogone gde je potrebno toplotno tretiranje u procesima rada (prehrambena industrija, sokovi, konzervisanje voća i povrća, mesa i mleka; hemijska industrija-sapuni i deterdženti).

Energetski kapaciteti geotermalnih voda sa niskom temperaturom imaju veliki značaj za nerazvijena područja, koja moraju da se oslone na sopstvene prirodne resurse koji imaju potencijale za korišćenje (tabela 5) u posmatranim banjama u Srbiji.

Tabela 5. Potencijali korišćenja GTV u Sijarinskoj, Bujanovačkoj i Vranjskoj banji

Lokalitet / Korisnik	Svrha korišćenja	Raspon temperatura [°C]	Izdašnost [l/s]
Sijarinska banja 26 izvora -Opština -RH Centar -Energoprojekt	-lečenje i turizam, -zagrevanje hotela, bazena, -flaširanje mineralne vode -zagrevanje zgrade i radionice, -sanitarna topla voda, -akvakultura, -grejanje staklenika i plastenika, -sušenje proizvoda, -elektirčna energija (binarni ciklus)	21-75	0,1-30,0
Bujanovačka banja 3 izvora -Fabrika „Heba“ -RH Centar	-lečenje i turizam, -flaširanje mineralne vode, -zagrevanje hotela, -sanitarna topla voda, -akvakultura, -grejanje staklenika i plastenika,	39-44	0,1-7,0
Vranjska banja 10 izvora -Opština -RH Centar -Privreda	-lečenje i turizam, -zagrevanje hotela, hala i stanova, -grejanje staklenika i plastenika, -sanitarna topla voda, -sušenje poljop.proizvoda, -tehnološki procesi u industriji, -akvakultura, -elektirčna energija	78-111	0,5-70,0

5. ZAKLJUČAK

U sistemu upravljanja resursima moraju postojati informacije koje će usmeravati i određivati buduće korake u korišćenju različitih parametara od značaja. Kad je u pitanju geotermalna energija, shvatanje njenih potencijala, resursa i onih koji se koriste u toplotne ili električne namene, zahteva se odgovorno i racionalno upravljanje jer kao obnovljiv izvor energije može da nadomesti upotrebu drugih ograničenih resursa.

Geotermalne vode kao ograničeni resurs, imaju toplotna svojstva nastala prenosom iz nižih slojeva vrućih stenskih masa. Njihova prednost se ogleda u lokalnom korišćenju, skromnim ulaganjima za direktnu upotrebu, uštedi uvoznih energenata (nafta, gas, ugalj) koji zagađuju životnu sredinu, kao i višestrukoj primeni. Kao i kod drugih strateških resursa, geotermalna energija i voda moraju biti podržani u vidu strategija i akcionih planova za sprovođenje, koje u osnovi podstiču obnovljive izvore kojima Srbija raspolaže. Najčešće se geotermalna voda u Srbiji upotrebljava za tradicionalne potrebe: balneološke i rekreaciju. Čak 59 termalnih voda se koriste za balneološke, sportske i rekreativne svrhe u turističkim centrima. Direktna upotreba toplotne energije za grejanje prostora ili energije je u početnoj fazi, osim u banjskim mestima, kao što su Sijarinska, Vranjska i Bujanovačka Banja, koje na različite načine koriste svoje geotermalne potencijale.

Toplotni uticaj geotermalnih voda mogu doprineti ne samo pokretanju svesti o značaju obnovljivih, besplatnih i čistih energetske izvora koji se nalaze u blizini, već i razvoju poslovanja u različitim oblastima. Shodno tome, zaključuje se da su geotermalne vode sa niskom temperaturom, do 100 °C izuzetno zahvalne za toplotno snabdevanje u oblastima koje su direktno pogodne za upotrebu (grejanje objekata, plastenika, sanitarna voda, agrar i akvakultura, sušenje, odmrzavanje puteva, industrijske svrhe) što usmerava pažnju na efikasnost, održivost korišćenja i resursnu politiku koja će podsticati upotrebu geotermalnih izvora.

REFERENCE

1. Đajić N., Ivezić D., Tanasković T. Mogućnost korišćenja geotermalne energije u Bujanovačkoj banji, kgh (3) 2007.
2. Lambić, Miroslav. *Energetika*, Tehnički fakultet „Mihajlo Pupin“, Zrenjanin, 2007.
3. LIBER PERPETUUM, OSCE book on the potential of RES in Serbia and Montenegro
4. Milanović D. Predrag. *Materijali i oprema za korišćenje geotermalne energije*, monografija, Beograd, 2002.
5. Petrović D., Ilić G. Mogućnosti korišćenja energije geotermalne vode u Vranjskoj banji (kgh.kvartetv.com/fajlovi/36.%20kongres/36-16.pdf), 2006.
6. Radaković Miloš. *Geotermalna energija*, AGM knjiga, Beograd, 2011.
7. Soleša M., Đajić N., Parađanin Lj. *Proizvodnja i korišćenje geotermalne energije*, monografija, Rudarsko-geološki fakultet, Beograd, 1995.

8. Stojiljković Dragan T., Milanović Predrag D., Mitić Nebojša Č.. *Geotermalne vode Sijarinske Banje i Debrca, svojstva i mogućnost iskorišćavanja*, monografija, Tehnološki fakultet Leskovac (u procesu izdavanja), 2014.
9. <http://gejzer.rs/gejzer/>
10. <http://www.geosee.eu/>
11. <http://bujanovackabanja.org/>
12. <http://www.kartasrbije.com/>
13. <http://www.vranjskabanja.co.rs/>

SECURITY AND ECOLOGICAL ASPECTS OF USING OF GEOTHERMAL ENERGY

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Abstract: Geothermal energy is a renewable source of energy that occurs below the soil surface. The most common form in which it occur geothermal energy can be in the form of heat and electrical sources of supply, depending on the capacity, temperature and pressure. The main advantage of geothermal energy as a renewable, clean, environmentally sustainable, and above all, it has a wide range of use. The use of geothermal energy for different purposes can be used directly (thermal factor) or indirectly (thermal - electric factor), whereby they can pass through one or more types of transformation.

This paper presents the security aspect of the use of geothermal energy, which contains environmental systems installed to protect the environment, providing a minimum of natural changes in the environment, and the impact on other important parameters for the sustainable use of geothermal energy.

Keywords: geothermal energy, use, safety, environment

BEZBEDNOSNO-EKOLOŠKI ASPEKTI KORIŠĆENJA GEOTERMALNE ENERGIJE*

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Apstrakt: Geotermalna energija je obnovljiv izvor energije, koji nastaje ispod površine zemljišta. Najčešći oblik u kome se javlja geotermalna energija može biti u vidu toplotnog i električnog izvora snabdevanja, u zavisnosti od kapaciteta, temperature, pritiska. Osnovna prednost geotermalne energije je što je obnovljiva, čista, ekološki održiva, a pre svega što ima veliki opseg korišćenja. Primena geotermalne energije može u različite svrhe da se koristi direktno (toplotni faktor) i indirektno (toplotno-električni faktor), pri čemu može prolaziti jedan ili više oblika transformacije.

U radu se predstavlja bezbednosni aspekt korišćenja geotermalne energije, koji u sebi sadrži ekološki postavljene sisteme za zaštitu životne sredine, obezbeđenje minimalnih prirodnih promena okoline, kao i uticaja na druge bitne parametre za održivo korišćenje geotermalne energije.

Ključne reči: geotermalna energija, korišćenje, bezbednost, ekologija

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1. UVOD

Na svim delovima ispod površine zemljišta postoji energija akumulirana u stenskim masama. Postojanje ovakvog vida energije u dubinskim slojevima Zemlje rezultat je postepenog razlaganja radioaktivnih materija, kao što su uran, torijum i drugi, pri čemu postoje i druga mišljenja o njenom nastanku, od gravitacije, hemijskih reakcija ili vulkanizma. Geotermalna energija može da se primenjuje u različite svrhe, od direktne upotrebe u zagrevanju do indirektna u stvaranju električne energije.

Pojavni oblik geotermalne energije u vidu tečnog fluida, nastaje u akumuliranim rezervoarima koji ispunjavaju vode, koje u kontaktu sa vrelim stenama dobijaju toplotne karakteristike. Tako topla ili vruća voda izvire na površinu prirodnim putem usled pritiska, ili veštačkim putem, tj. bušenjem kanala za eksploataciju hidrogeotermalnih ili termomineralnih voda. Drugi oblik geotermalne energije je daleko specifičniji, jer se toplota tla sprovodi kroz postupke hidrotermalne geotermije, postupka toplih suvih stena, kao i površinske geotermije, pri čemu je moguća proizvodnja električne energije. Osnovni uslov za održivo korišćenje geotermalne energije jesu prednosti koje ova energija ima, a to su obnovljivost, korišćenje čistih tehnologija, kapacitativnost i potencijali, primenljivost i ekonomska isplativost u dužem roku. Uprkos tome, korišćenje geotermalne energije može imati bezbednosne izazove, koji se ogledaju u intenzivnoj eksploataciji drugih resursa, koji prate istraživanja geotermalnih kapaciteta, kao mogućih efekata po životnu sredinu.

2. GEOTERMALNA ENERGIJA – IZVORI I KORIŠĆENJE

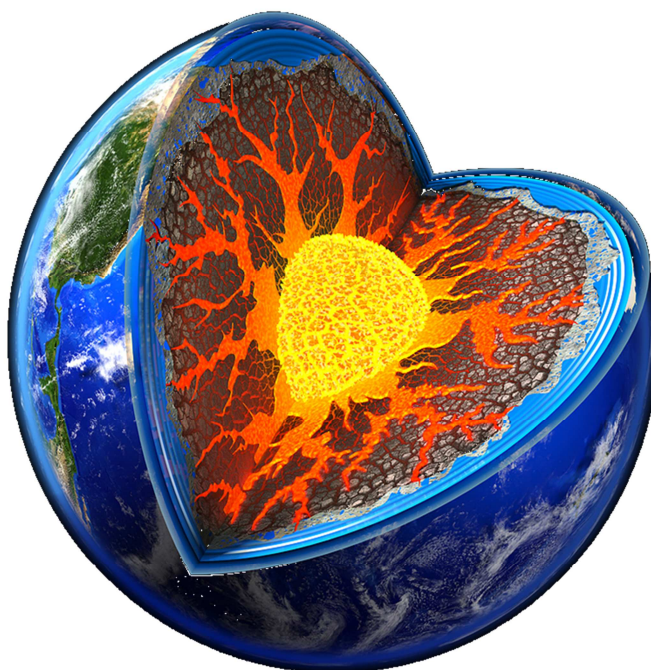
Pod geotermalnom energijom se podrazumeva toplota koja se nalazi ispod površine Zemlje, čiji je intenzitet zavisen od dubine. Od unutrašnjosti Zemlje ka površini prostire se toplota pri temperaturnom gradijentu od oko 10 °C/km u sloju 100 km ispod površine zemlje. Prosečna toplota gradijenta je oko 30 °C po kilometru. Današnje tehnologije dopiru do 10 km dubine, čime ostaje neiskorišćen veći deo geotermalne energije. Energija iz dubinskih slojeva zemljišta ima različit intenzitet toplote, u zavisnosti od nivoa dubine eksploatacionog polja. Toplotni fluks dejstva geotermalne energije se kreće od $3,34 \cdot 10^{-2}$ do $8,36 \cdot 10^{-2}$ W/m², a razlikuje se od materijala zemljine kore i koeficijenta provođenja toplote (Lambić, 2007).

Osnovni parametar koji ukazuje na geotermalnu potencijalnost neke oblasti je toplotno polje, koje određuje raspodela temperature i toplotnih protoka unutar i na površini Zemlje. U gornjim delovima kore do dubina gde se posmatra, toplotno polje zavisi najviše od izvora toplote u samoj kori i od toplote koja se prenosi iz unutrašnjosti kroz koru (prema Soleša i dr. 1995).

Energija iz zemlje ima dva izvora koja se mogu posmatrati kao unutrašnji ili planetarni (slika 1), i spoljašnji ili kosmički procesi. Moglo bi se reći da se geotermalna energija akumulira iz internih i eksternih izvora, pri čemu interni faktori imaju nelančane reakcije u unutrašnjosti, koje prenose toplotu inicijalnih procesa (prema Soleša i dr.1995), u sledećim oblicima:

- raspadanje radioaktivnih elemenata,
- trenja u zemljinoj kori usled privlačnih gravitacionih sila Sunca i Meseca,
- relaksaciju usled elastičnih naprezanja,
- gravitacionu diferencijaciju,
- kristalizaciju i polimorfološke procese,
- pregrupisanje elektronskih omotača atoma,

- toplotu od zemljotresa, vulkanizma i tektonskih pokreta,
- fazne prelaze i hemijske reakcije.



Slika 1. Dubinski presek Zemlje

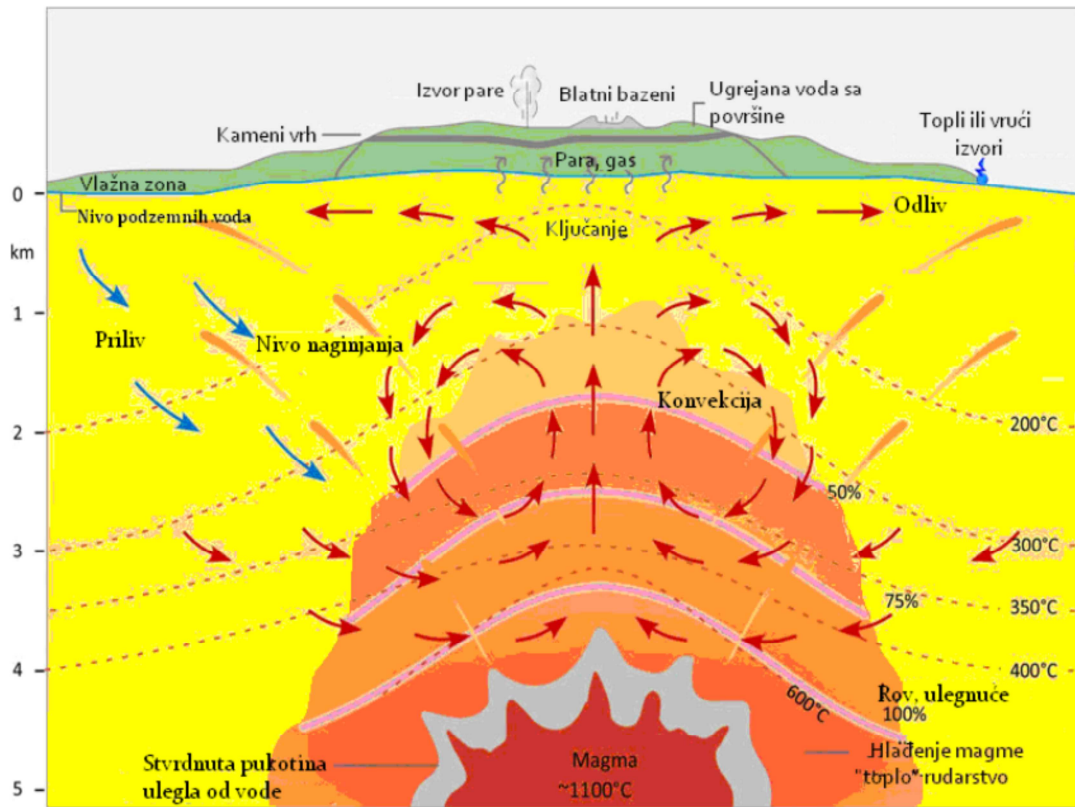
Važno je napomenuti da gustina i pritisak koji postoje unutar zemlje nemaju vrednost koja bi mogla da stvori lančanu reakciju svih prethodnih faktora, što znači da nisu u direktnoj korelaciji izazivača toplotnih reakcija. Uticaj na temperaturu površine Zemlje na bližim slojevima je uslovljena godišnjim dobima, tj. spoljnom temperaturom, kao i dejstvom sunčevog zračenja (Lambić 2007). Osim ovih, spoljašnji izvori toplote dolaze zračenjem ili putem elementarnih čestica – neutrina, kosmičke prašine i meteorita koji dolaze do površine i prenose se u unutrašnjost zemlje (Soleša i dr. 1995).

2. 1 KORIŠĆENJE GEOTERMALNE ENERGIJE

Najčešći oblik u kome se geotermalna energija može koristiti je kao toplotna i električna energija i to u zavisnosti od kapaciteta, temperature i pritiska. Naravno, korišćenje geotermalne energije je uslovljeno i drugim faktorima, kao što su:

- istraživanje i bušenje bunara,
- kvantitativni potencijal za izvođenje i implementaciju u sisteme snabdevanja,
- kvalitativni indikatori zemljišta, stenskih masa i voda,
- fizičko-hemijski sastav voda,
- temperaturne karakteristike stena i voda,
- uticaj na opremu, materijal i okolinu,
- pritisak iz ležišta i uticaj na aparaturu,
- toplotno-izolacijsko snabdevanje,
- blizina izvora i distributivnog sistema,
- elektroenergija iz geotermalnih izvora, te
- transformaciona postrojenja za proizvodnju električne energije i drugi.

Nastanak termalnih voda iz geotermalnih ležišta (slika 2), objašnjava se taloženjem atmosferskih voda kroz vodopropusne slojeve u dubinu. Prolaskom kroz različite slojeve, voda u kontaktu sa vrelim stenama dobija termalne karakteristike, koje dostižu vrednosti od oko 400 °C, a onda na prirodan način ili kroz bušotine se javlja u obliku vruće ili ključale voe, ili u obliku pare.



Slika 2. Proces nastajanja geotermalne energije u dubini Zemlje

Brojne su prednosti korišćenja geotermalne energije u odnosu na tradicionalne izvore energije. Osim što su tradicionalni izvori zasnovani na upotrebi fosilnih goriva, koja se iscrpljuju, oni imaju i negativne efekte na životnu sredinu, emisiju štetnih gasova (ugljen dioksid), efekata staklene bašte i globalnog zagrevanja, tako da stvaraju negativne posledice po čitav živi svet i multiplikatorski uništavaju ekonomske, ekološke, energetske i resursne osnove budućih generacija.

U načelu, prednost geotermalne energije je što je obnovljiva, čista, ekološki održiva, a pre svega što ima mogućnost korišćenja u različitim oblicima i oblastima. Za dobijanje električne energije nije potrebno transformisati ugalj ili bilo koji „prljavi“ i neobnovljiv energent, već se može koristiti prirodni izvori tople vode, vodene pare ili toplota stenskih masa iz dubine. Zalihe geotermalne energije su neiscrpne, a geotermalne elektrane bi mogle da budu prekretnica za električno snabdevanje jer ne zauzimaju veliki prostor, nemaju štetnih efekata na živi svet, vazduh i okolinu, grade se direktno na izvoru energije i snabdeva se lokalno područje toplotnom ili električnom energijom.

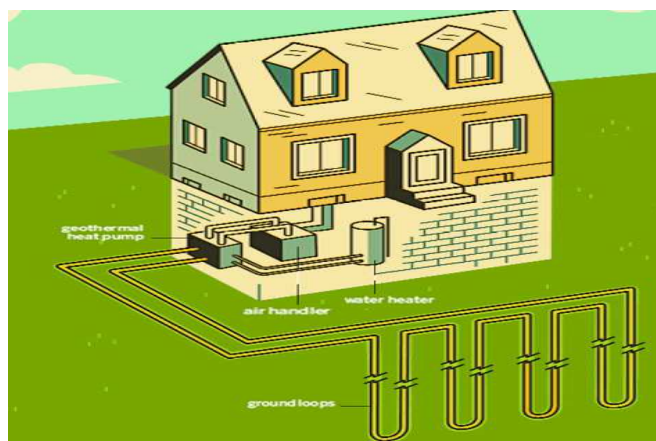
Elektrane iz geotermalnih izvora su pouzdane, jer zavise samo od energije iz zemlje, bez uticaja spoljašnjih faktora kao u drugim sistemima energetske elektrotransformacije (npr. količina padavina, intenzitet vetra, meteorološke prilike i sl.). Iz geotermalnih izvora se električna energija može neprekidno proizvoditi, dokle god ima odgovarajućih polaznih

inputa (toplote u stenama, akumulacije voda, pritiska i energije sa povoljnim karakteristikama temperature, količine, pritiska i sastava). U ekonomskom pogledu, geotermalne elektrane nemaju velike troškove proizvodnje, već se najveći deo ulaganja zasniva na većim investicijama na početku gradnje i opremanja, kao i niže troškove održavanja u odnosu na konkurentne izvore. Kod struje dobijene iz geotermalne energije, potrebna je samo energija za pokretanje vodenih pumpi, koju proizvodi sama elektrana.

2. 2 ENERGIJA GEOTERMALNIH RESURSA

Primena geotermalne energije može biti direktno (toplotni faktor) i indirektno (toplotno-električni faktor) upotrebljena. Na taj način, geotermalna energija prolazi jedan ili više oblika transformacije, shodno potrebama za najvišom ili za nižim vrednostima temperature. Najveća temperatura je potrebna za proizvodnju električne energije (temperatura viša od 180 °C), za industrijske potrebe, tehnološke procese u ekstrakciji ruda, hemijskoj industriji ili fermentaciji, dok se niža temperatura geotermalnih resursa poistovećuje sa grejanjem uz toplotne pumpe ili kroz geotermalne vode, koje sadrži termomineralne karakteristike. Niža temperaturna svojstva (do 100 °C) geotermalne energije pogodna su za toplifikaciju prostorija, plastenika, grejanje vode za gajenje riba, sušenje ili odmrzavanje i mnoge druge potrebe.

Toplotna energija iz geotermalnih izvora. Izvori geotermalne energije koji se koriste kao toplotna energija najčešće se koriste direktno za zagrevanje, lečenje, poljoprivredne svrhe, grejanje sanitarne vode ili uzgajanje vodenih organizama. Geotermalne vode sa niskim temperaturama svoja toplotna svojstva prenose direktno ili indirektno, kao lekoviti ili energetske resurs koji ima široku primenu. Direktna upotreba je jeftinija, ekonomski pogodnija, ali zbog manjka onih fluida sa visokom temperaturom i povoljnim sastavom imaju ograničene mogućnosti. Toplotna svojstva voda mogu se indirektno koristiti preko binarnog ciklusa uz razmenjivač toplote, koji niveliše temperaturu, ali povećava troškove ulaganja. Mogućnosti primene energije geotermalne vode, uz integraciju sa drugim obnovljivim izvorima (biomasa, solarna energija) ili samostalno, zasniva se na balneološkim potrebama, turističko-sportske potrebe, grejanje (slika 3), ventilaciju i klimatizaciju objekata, pripremu sanitarne tople vode, upotrebu u poljoprivredi, u industriji, akvakulturi i slično. U slučaju nižih temperatura termalnih voda, na geotermalni sistem se mora priključiti dogrejač (na konvencionalno gorivo) ili toplotna pumpa, koja omogućava racionalno iskorišćavanje raspoložive geotermalne energije sa nižim potencijalom (Radaković 2011).



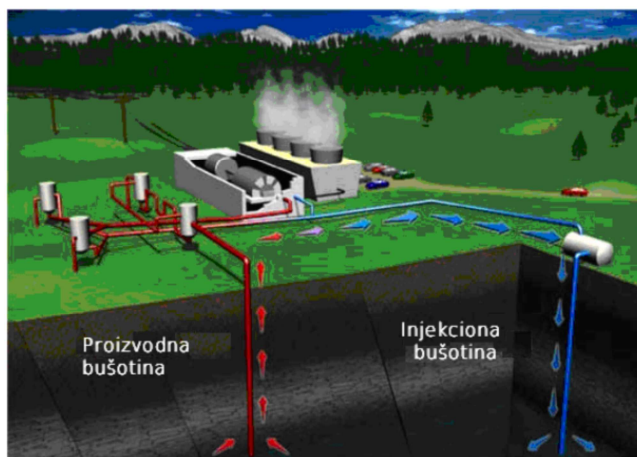
Slika 3. Upotreba geotermalne energije za grejanje i hlađenje

Električna energija proizvedena iz geotermalnih izvora. Zbog različitosti u kapacitetu, temperaturi i sastavu geotermalnog polja, ne postoji jedinstveno rešenje za proizvodnju električne energije na svim geotermalnim lokacijama. Mogućnosti iskorišćenja geotermalne energije za proizvodnju električne energije (Radaković 2011) su predstavljene kroz sledeće oblike:

1. direktno korišćenje pregrejane ili suvozasićene pare putem protivpritisne turbine,
2. korišćenje visokotemperaturnih mineralizovanih termalnih fluida putem isparivača,
3. direktno korišćenje pregrejane ili suvozasićene pare putem kondenzacione turbine,
4. jednostepeno isparavanje vlažne pare ili pregrejane vode,
5. dvostepeno isparavanje vlažne pare ili pregrejane vode.

Proizvodnja električne energije može da se izvede iz vrele vode i iz pare, a najjednostavniji princip korišćenja geotermalne energije za proizvodnju struje je direktno korišćenje pare u protivpritisnoj turbini, kada se para sprovođi u turbine, a iz nje se ispušta u atmosferu ili usmerava na dalje korišćenje. Nedostatak je što troši veliku količinu pare, čak dvostruko veću od kondenzacionih postrojenja. Primena je vezana za sastav fluida, koji ukoliko prelazi granice nekondenzujućih gasova izmešanih sa parom, takvo izdvajanje smanjuje efikasnost postrojenja i ekonomičnost proizvodnje.

U slučaju da termalni nosilac ima visoku temperaturu i štetne sastojke, koristi se isparivač za razmenu između primarnog nosioca i sekundarnog fluida koji isparava i odlazi u turbinu. Izrađena para ili kondenzat se vraća u dubinu, ili ispušta u okolinu (slika 4), a gasovi i primese se odstranjuju. Mineralne primese se ekstrahuju iz termalnog rastvora i proizvode korisne supstance poput bora, amonijaka i drugih.



Slika 4. Upotreba geotermalne enerije za proizvodnju električne energije

Posebna pogodnost toplotnih šema sa isparavanjem je kombinovana proizvodnja električne i toplotne energije, koja izdvaja vrelu vodu iz separatora da bi se koristila u sistemima za toplifikaciju. Binarni ciklus u proizvodnji električne energije može koristiti vrelu vodu temperature od 70-150 °C, kao primarni fluid za zagrevanje sekundarne tečnosti poput freona, izobutana i slično (Radaković 2011). Nedostatak binarnog ciklusa je što zahteva regenerativni razmenjivač toplote koji je skup, a zbog pada temperature smanjuje ulaznu temperaturu; lakoisparivi gasovi su ekološki štetni, pa se moraju pažljivo čuvati da ne bi otišli u atmosferu; neophodna je napojna pumpa što povećava ulaganja i troši proizvedenu struju.

3. IZAZOVI U KORIŠĆENJU GEOTERMALNE ENERGIJE

Uprkos mnogim prednostima u korišćenju geotermalne energije, velike prirodne katastrofe i odgovornost prema budućim pokolenjima obavezuju da se posebno posveti pažnja mogućim problemima u oblasti geotermalne energije. Stabilno korišćenje geotermalne energije se poistovećuje sa utvrđenom procedurom kojoj prethode istraživanja geoloških lokacija, ispitivanja potencijala i karakteristika, te tako i upotrebe resursa koji se nalaze u krugu izvorišta. S tim u vezi, prednosti korišćenja se ne mogu zameniti ili osporiti velikim nedostacima, ali se moraju sagledati bezbednosni faktori koje može da izazove nesagledive posledice. Prilikom korišćenja ove energije iz predostrožnosti se moraju proučiti različiti parametri i pripremiti situacione studije, zbog sledećih nedostataka:

- neistraženost ili manjak lokacija za adekvanto iskorišćavanje,
- transportni problemi od izvorišta do udaljenih mesta,
- bezbednost prilikom ispuštanja korišćenih voda,
- povećana trusnost područja gde se koristi geotermalna energija.

Iz razloga što nepostoji na svakom mestu mogućnost da se izgradi geotermalna elektrana, ova energija ponekad ostaje neiskorišćena. Pojedine lokacije nisu prikladne za iskorišćavanje geotermalne energije, zbog svog reljefa, sastava zemljišta ili dubine, dok su najbolje pozicije onih mesta sa visokim nivoom temperature vrućih stena, na povoljnoj dubini za bušenje i čije je zemljište dovoljno meko. Problem transportovanja geotermalne vode je značajan sa aspekta toplifikacije udaljenih mesta, koja ne mogu koristiti njene blagodeti. Tako se geotermalna voda i energetska potencijal koristi za toplotno snabdevanje lokalnih objekata i potrebe korisnika, transformaciju i integrisanje sa drugim obnovljivim izvorima ili za proizvodnju električne energije.

Da bi se stvorila efikasna bezbednosno-ekološka situacija u domenu geotermalne energije, potrebno je sprovesti opsežno istraživanje prednosti korišćenja ove energije. Bitne oblasti koje predstavljaju izazov su energetska bezbednost, sigurnost upotrebe, snabdevanje i uticaj na klimatske promene, koje je Evropska Unija klasifikovala u sedam specifičnih ciljeva, i to: smanjenje energetske potrošnje i ugljen-dioksida, niže cene, niže ugljenično snabdevanje strujom, alternativna goriva i mobilni izvori energije, jedna, pametna evropska električna mreža, nova znanja i tehnologije, šire odlučivanje i javno učešće, tržišno shvatanje energije i IKT inovacije.

U svakom od ovih ciljeva, postavljenih od smanjenja upotrebe štetnih energenata, preko substitutivnih izvora energije, do integrisanja i novih tehnologija, geotermalna energija ima multiaplikativni značaj. Energetska efikasnost je stavljena u okvire kratkoročne i dugoročne politike održivosti korišćenja obnovljivih izvora energije, jer se fokusira na funkcionalne oblasti u kojima se brine o potrošnji energije, štednji i povezanosti sa tehnologijama, u kojima postoje relevantni faktori uticaja (slika 5) na geotermalnu energiju, kako spoljašnji, unutrašnji, tako i ljudski faktor, jer mogu izazvati negativne reakcije i oštećenja, a tiču se bezbednosti i ekološke održivosti sredine i čitave planete.



Slika 5. Faktori uticaja na geotermalnu energiju

3.1. BEZBEDNOSNI ASPEKTI KORIŠĆENJA

Geotermalna energija je energija ispod dubinskih slojeva zemljišta, koja inicijalno transponuje toplotnu energiju kroz različite materijale. Prenošenje energije je najbitnija karakteristika geotermalnih izvora koji su udaljeni od postrojenja za korišćenje, bez razlike da li se radi o direktnom ili indirektnom, toplotnom ili električnom obliku transformacije. Polazeći od toga da se geotermalna energija stvara u dubini i da prolazi kroz različite transformacione oblike, to nas upućuje na interne probleme, kojima treba posvetiti posebnu pažnju pri obezbeđivanju geotermalnih polja i instalacija za korišćenje geotermalne energije. U tom smislu, treba da se izvrši analiza sastava zemljišta i terena na kome se vrše geotermalna bušenja, fizičko-hemijski sastav fluida, ispitivanje trusnosti područja, vulkanizma, kristalizacije i drugih internih činioca, kako bi se stvorila mogućnost za nesmetano korišćenje geotermalnih potencijala koje imaju stenske mase i voda.

Bezbednosni aspekt korišćenja geotermalne energije je izuzetno važan za otpočinjanje eksploatacije. Ovaj princip u sebi mora da sadrži ekološki postavljene sisteme za zaštitu životne sredine, koji preventivno i pravovremeno deluju u slučaju vanrednih katastrofa, na primer u slučaju zemljotresa, većeg pritiska, sigurnosnih pretnji i slično. U komplementarnom sistemu, primena bezbednosnih principa obezbeđuje minimalnu promenu okruženja, bez uticaja na druge parametre za održivo korišćenje geotermalne energije. Potrebno je razmotriti moguće posledice u vezi ekspanzivnog korišćenja geotermalne energije, iz bezbednosnih razloga koji mogu biti u vidu uticaja na reljef, morfološko stanje zemljišta, potonuća ili nastanka raseda u zemljištu, potapanja ili uticaja na poljoprivredne kulture usled nedostataka toplih izvora i slično. U tabeli 1 su prikazane najznačajnije bezbednosno-ekološke pretnje koje prate korišćenje geotermalne energije.

Tabela 1. Najznačajnije bezbednosno-ekološke pretnje pri korišćenju GTE

Uticaj	Opis problema
Interni faktori	Karakteristike stena, provodljivost zemljišta, pritisak, temperatura, hemijski sastav voda, termičke reakcije, kristalizacija, dubina izvora
Eksterni faktori	Kosmičke reakcije, ozračenost, gravitacija, toplota
<i>Ljudski faktor</i>	Neadekvatno, ekspanzivno korišćenje
-Zagađenje	Ekologija, ispuštanje minerala, gasova ili fenola u rečne tokove, zemljište, buka
-Bezbednost	Po okolinu zbog pritiska, ulegnuća, zbog lokalne bezbednosti, terorizam
-Instalacije i oprema	Stalne provere opreme, otporne na visoke temperature, hemijske sastojke
<i>Reakcije</i>	Zemljotresi, pojave vulkana

3.2. EKOLOŠKI ASPEKTI KORIŠĆENJA

Ekonomska opravdanost proizvodnje električne energije je povezana sa obnovljivošću i niskom cenom geotermalne energije i ekološkim prednostima upotrebe ove energije. Svrha postojanja nekog energetskog postrojenja je da se zadovolje potrebe za snabdevanjem toplotnom ili električnom energijom. U tom smislu, geotermalni kapaciteti se postavljaju u blizini ležišta bušotine sa geotermalnom vodom, iz razloga što bušotine dopiru do rezervoara i nalaze se blizu toplotnog izvora vrelih stena. Samim tim, korišćenje energije je direktno dostupno, a ugradne kolone zaštitnih cevi moraju da istrpe projektovane nivoe opterećenja tokom bušenja, težinu u periodu cementacije i neophodnu sigurnosnu opremu za nekontrolisanu erupciju bušotine.

Eksploatacija toplote iz zemlje je proces koji je uslovljen tehnološkim trendovima, naučnim istraživanjem, ljudskim faktorom ponašanja, ali je limitiranost u korišćenju određen merama predostrožnosti. Iako su prednosti u ekonomskom i resursnom smislu očigledne, značaj predostrožnosti prilikom korišćenja je osnovni uslov održive eksploatacije geotermalne energije. Preventivne mere postoje ne samo kada se dogode katastrofe, vanredne situacije ili postoji rizik za nastanak, već moraju stalno da upozoravaju na moguće pretnje. Iako one ne mogu da eliminišu zagađenje, mogu da svedu zagađenje od proizvodnje geotermalne energije na prihvatljiv nivo.

Postoji nekoliko potencijalnih ekoloških problema u proizvodnji geotermalne energije, a to su emisija gasova, čvrsti otpad, odlaganje isplake, hemijsko ili toplotno zagađenje površine ili podzemnih voda, buka, indicirana seizmičnost i sleganje tla (Đajić i dr. 2007). Uticaj na ekosistem u okruženju geotermalnih polja je ograničen blizinom, kao i karakteristikama termalnih voda i geohemijskim sastavom, koji može da otiče u slivove reka, da promeni vlažnost i temperaturni ambijent, utiče na biljne vrste, šume i buku, sa najvećim malusom u vidu isparavanja štetnih hemikalija u atmosferu.

Ovaj preeksplatacioni proces ima negativni uticaj koji može da se sprovede u ekološki bezbedan sistem eksploatacije geotermalne energije, koji će u tehnička rešenja uvesti savremene tehnologije, koje bi ograničile ispuštanje štetnih materija u vodu ili vazduh. Problem nekih termalnih voda sa većih dubina je sadržaj fenola, koji je toksičan, pa se posle korišćenja takve vode ne smeju ispuštati u površinske vodotokove. Ujedno, redukcija gasova ugljen-dioksida se može ostvariti tako što će se koristiti sistem za pripremu sanitarne tople vode, koji umanjuju te vrednosti skoro 70% u odnosu na postojeće vrednosti.

4. ZAKLJUČAK

Prihvatanje geotermalnih potencijala kao alternativnih resursa snabdevanja toplotnom ili električnom energijom imaju vsehstruke prednosti, pri čemu se prvenstveno primenjuju standardi bezbednosti u procesu istraživanja, te onda i implementacije postrojenja, kao i eksploatacije i sigurnosnih mehanizama koji sprečavaju ekološke probleme. Istraživački principi u posmatranju i ispitivanju bitnih karakteristika voda, stenskih masa u dubini zemlje, provodljivosti, efekata na instalaciju i opremu, materijale i cevi, dopremanje i snabdevanje, neumitno su okruženi bezbednosnim pitanjima, koja moraju da preduprede rizične situacije.

Iako geotermalna energija pokazuje značajne pogodnosti za energetske snabdevanje, korišćenje fluida sa termalnim karakteristikama može da se sprovede uz stvaranje sistema koji čuva životnu sredinu i ne ugrožava ekosistem. Već je pomenuto da se kao značajni faktori u bezbednosnom smislu javljaju interni ili planetarni činioci (pritisak, karakteristike voda, temperature, sastav stena i druge), dok se na eksterne činioce (gravitacija, kosmičke reakcije i slično) ne može značajnije uticati, ali je uticaj čoveka ogroman, jer se javlja kao posrednik između energije i primene, koji manjim odstupanjem može dovesti do negativnih reakcija.

Evidentno je da se geotermalni resursi smatraju prednošću, ali se bezgranični entuzijazam po tom pitanju ne može shvatiti kao neprikosnoveni energent koji nema mane. Kao u svakom odgovornom i ozbiljnom procesu, eksploatacija i korišćenje geotermalne energije ima određene specifikume koji su određeni procedurama radi obezbeđenja efikasne upotrebe resursa, ekološke održivosti, ekonomske isplativosti i sigurnosti opreme koja ne utiče negativno na životnu sredinu.

Ekološka bezbednost je osnovni postulat odgovornog ponašanja, koje je svojstveno tehnologijama koje se koriste u eksploataciji geotermalne energije. To znači da uticaj nepravilnog korišćenja tehnologije uvek može da izazove štete, koje se pre ili kasnije primete. Osim toga, najbitnije je da se kapaciteti koriste racionalno, nepreopterećujući ih robusnim tehnologijama, koje mogu izazvati dalekosežne posledice u vidu mikroseizmičkih reakcija, kao i ispuštanja otrovnih gasova u atmosferu ili još teže posledice po strukturu zemljišta i procese koji se odvijaju ispod površine.

REFERENCE

1. Đajić N., Ivezić D., Tanasković T. Mogućnost korišćenja geotermalne energije u Bujanovačkoj banji, kgh (3) 2007.
2. Lambić, Miroslav, *Energetika*, Tehnički fakultet „Mihajlo Pupin“, Zrenjanin, 2007
3. Radaković Miloš, *Geotermalna energija*, AGM knjiga, Beograd, 2011
4. Soleša M., Đajić N., Parađanin Lj. *Proizvodnja i korišćenje geotermalne energije*, monografija, Rudarsko-geološki fakultet, Beograd, 1995
5. <http://ec.europa.eu/programmes/horizon2020/>
6. <http://www.cangea.ca/geothermal-energy/>
7. <http://www.conserve-energy-future.com/>
8. <http://www.unugtp.is/en/organization/what-is>

ADAPTING THE CURRICULUM OF MANAGEMENT STUDY PROGRAM TO CONDITIONS OF DISTANCE LEARNING

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Abstract: Distance learning implies that the supplier and the recipient of knowledge are separated by time or distance, or both, during the implementation of the teaching process. The specified distance is overcome by using the appropriate communication technologies. Evolutionary development of distance learning was caused by the communication technology development level and from historical point of view it was carried out through five generations (correspondence courses, multimedia communications, telecommunications, interactive multimedia communications, e-learning based on intelligent databases). The actual process of distance learning is carried out with the help of distance learning systems, which represent the corresponding software or web-based technology that is used to manage the learning process. Successful implementation of distance learning requires fulfillment of certain conditions, namely: that the area of education is suited to distance learning, the curriculum of study program is adapted for distance learning, the distance learning system is available, and the appropriate methodological approach to organizing distance learning is selected. This paper argues that management, as a discipline, is suitable for distance learning, and also presents how the curriculum of management study program can suitably be adapted to this form of teaching. Distance learning systems have generally more of a universal character, and therefore, for their successful implementation is important to choose the proper framework for adapting the study program curriculum. In this sense, this paper presents a model framework for such an adjustment of management study program, which integrates the following elements, namely: thematic units, a form of learning, learning content, learning operationalization.

Keywords: distance learning, curriculum, management, study program

PRILAGOĐAVANJE KURIKULUMA STUDIJSKOG PROGRAMA MENADŽMENTA USLOVIMA UČENJA NA DALJINU

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Apstrakt: Učenje na daljinu podrazumeva da su isporučilac i primalac znanja prostorno i/ili vremenski udaljeni tokom realizacije nastavnog procesa, a evidentirane udaljenosti se prevazilaze primenom adekvatne komunikacione tehnologije. Evolutivni razvoj učenja na daljinu je bio uslovljen nivoom razvoja komunikacionih tehnologija i sa istorijskog stanovišta se odvijao kroz pet generacija (dopisna pošta, multimedijalna komunikacija, telekomunikacije, interaktivna multimedijalna komunikacija, elektronsko obrazovanje

bazirano na inteligentnim bazama podataka). Aktuelni proces učenja na daljinu realizuje se uz pomoć sistema za učenje na daljinu, koji reprezentuje odgovarajući softverski paket ili veb-bazirana tehnologija koja se primenjuje za upravljanje procesom učenja. Uspešna realizacija obrazovanja učenjem na daljinu zahteva ispunjenjane izvesnih uslova, i to: da je oblast obrazovanja pogodna za učenje na daljinu; da je kurikulum studijskog programa prilagođen za učenje na daljinu, da je raspoloživ sistem za učenje na daljinu, kao i da je odabran odgovarajući metodološki pristup organizovanju učenja na daljinu. U ovom radu se argumentuje da je menadžment, kao naučna disciplina povoljan za učenje na daljinu, a takođe i prezentuje način kako se kurikulum studijskog programa za menadžment može pogodno prilagoditi za ovaj oblik izvođenja nastave. Sistemi za učenje na daljinu su po pravilu više univerzalnog karaktera, pa je stoga, za njihovu uspešnu implementaciju od značaja izbor pravilnog okvira za prilagođavanje kurikuluma studijskog programa. U tom smislu u ovom radu se prezentuje jedan model okvira za takvo prilagođavanje studijskog programa za menadžment, a koji integriše sledeće elemente, i to: tematske jedinice, oblik nastave, sadržaj nastave, operacionalizacija nastave.

Ključne reči: Učenje na daljinu, kurikulum, menadžment, studijski program

1. UVOD

Obrazovanje je pojam pod kojim se podrazumeva ustanova, proces, sadržaj i rezultat organizovanog i/ili slučajnog učenja u funkciji razvoja različitih sazajnih sposobnosti, određenih veština, umeća i navika ili opšteg znanja, dobrog rezonovanja i mudrosti [1].

Obrazovanje se ispoljava u različitim vidovima, i u skladu sa tim može se podeliti po raznim osnovama:

- po načinu izvođenja (tradicionalno i nekonvencionalno),
- po formi (formalno i neformalno),
- po nivou (osnovno, srednje visoko),
- po širini obrazovnog sadržaja (opše, specijalizivano), i dr.

Tradicionalno obrazovanje podrazumeva da se prenos znanja odvija kroz nastavni proces između njegovih aktera, isporučioaca znanja - primaoca znanja, pri čemu se oni nalaze istovremeno na istom prostoru. Karakteriše se socijalnim aspektom, budući da je nastavni proces specifičan socijalni proces, a koji se sastoji u istovremenom prisustvu korisnika znanja približnog nivoa znanja, mogućnosti njihove neposredne međusobne komunikacije, mogućnosti njihovog direktnog obraćanja instruktoru.

Nekonvencionalno obrazovanje - učenje na daljinu podrazumeva da su isporučilac znanja i primalac znanja i prostorno i/ili vremenski udaljeni tokom izvođenja nastavnog procesa, a ta udaljenost se prevazilazi korišćenjem adekvatne komunikacione tehnologije, koja omogućava primaocu znanja da sa bilo koje lokacije i u bilo koje vreme pristupa željenom nastavnom sadržaju [7].

U ovom radu fokus je na **nekonvencionalnom obrazovanju**, odnosno **učenju na daljinu**.

Istorijski posmatrano razvoj učenju na daljinu [2] uslovljen je razvojem tehnologije i resursa. Učenje na daljinu u svom evolutivnom putu razvoja prošlo je više faza razvoja, u

čijoj osnovi stoje pre svega različiti modeli komunikacije između isporučioaca i primaoca znanja (Tabela 1).

Tabela 1. Evolutivni put razvoja učenja na daljinu

Faze razvoja	Model komunikacije
I	Zasnovan na <i>dopisivanju</i>
II	Zasnovan na <i>multimedijalnom modelu komunikacije</i> , koji uključuje tekst, audio kasetu, video kasetu, kao i računar i interaktivni video
III	Zasnovan na <i>telekomunikacijskom modelu</i> , koji uključuje telekonferenciju, video konferenciju, audiografsku komunikaciju, TV i radio emisije
IV	Zasnovan na <i>interaktivnoj multimedijskoj komunikaciji</i> , Internet, pristup Web izvorima, komunikacija uz pomoć računara
V	Zasnovan na <i>inteligentnom modelu učenja</i> , koji pored elemenata IV faze uključuje pristup univerzitetskom portalu sa institucionalnim procesima i resursima

Razvoj učenja na daljinu u visokom obrazovanju prati i njegova institucionalizacija, oličena u formiranju ustanova za njegovu realizaciju, i to [3]:

1859. godine Univerzitet u Londonu prvi je ponudio obuke za učenje na daljinu;

1946. godine Univerzitetu u Južnoafričkoj Republici je uveo kurseve za učenje na daljinu posredstvom poštanskog sistema;

1969. godine Open University u Velikoj Britaniji namenjen je isključivo učenju na daljinu

1974. godine Fern Univerzitet otvoren je u Nemačkoj u Hagenu....

Danas širom sveta egzistira više od 90 institucija, koje realizuju učenje na daljinu.

Učenje na daljinu (engl. Distance Learning) **definiše** se kao sistem i proces povezivanja primaoca znanja sa distribuiranim obrazovnim resursima, odnosno integrisana kombinacija tehnologija projektovanih da podrže podučavanje i učenje između osoba koje nisu fizički prisutne na istoj lokaciji [4].

Kada se upoređi tradicionalno obrazovanje sa učenjem na daljinu onda je evidentno da učenje na daljinu ima brojne prednosti, ali istovremeno i uvodi određene nedostatke. Danas se web-tehnologija prilagođava potrebama učenja na daljinu kako bi se proširile granice školskih učionica čime se prednosti učenja na daljinu maksimalizuju, a nedostaci svode na minimum [2].

Osnovne **elemente procesa** učenja na daljinu čine [5]:

učesnici (isporučioaci i primaoci obrazovnih sadržaja i osoblje za podršku),

obrazovni sadržaji (metodološki usklađeni sa uslovima i ciljevima obrazovanja i usmereni ka ciljnoj grupi primaoca znanja),

komunikacija (između učesnika procesa),

tehnologija (načini prezentovanja obrazovnih sadržaja i komunikacije učesnika),

organizacija (način i kvalitet izrade obrazovnih materijala, broj i osposobljenost isporučilaca obrazovnih sadržaja), kao i

menadžment (uloga institucije u planiranju, organizovanju i usklađivanju svih elemenata procesa).

Proces učenja na daljinu po pravilu se realizuje uz pomoć Sistema za učenje na daljinu (SUD). SUD je softverski paket ili veb-bazirana tehnologija koja se koristi za planiranje, implementaciju i procene specifičnog procesa učenja. Pod terminom SUD prodavci obuhvataju širok spektar usluga koje se razlikuju od jednog softverskog paketa do drugog,

što dodatno komplikuje izbor odgovarajućeg sistema. Samo u SAD, na komercijalnom tržištu za učenje na daljinu egzistira preko 100 prodavaca ovog sistema.

Za **uspešnu realizaciju** obrazovanja učenjem na daljinu neophodno je da budu ispunjeni izvesni uslovi:

- da je oblast obrazovanja pogodna za učenje na daljinu;
- da je kurikulum naučne discipline prilagođen za učenju na daljinu,
- da je raspoloživ Sistem za učenje na daljinu (SUD), kao i
- da je odabran odgovarajući metodološki pristup organizovanju učenja na daljinu.

U ovom radu se ukazuje da je menadžment, kao naučna disciplina, posebno pogodna za učenje na daljinu, a takođe i prezentuje način kako se kurikulum studijskog programa za menadžment može pogodno prilagoditi za ovaj oblik izvođenja nastave.

2. STUDIJSKI PROGRAM ZA MENADŽMENT

Studijski program za menadžment, u skladu sa [6], treba da sadrži *listu* i *strukturu* studijskih predmeta uključujući i njihov *opis*.

Listu studijskih predmeta predstavlja spisak svih predmeta (obaveznih i izbornih, uključujući i završni rad) jednog studijskog programa.

Strukturu studijskih predmeta reprezentuje kurikulum studijskog programa koji obuhvata odgovarajući raspored svih predmeta po semestrima, fond časova aktivne nastave i ESPB bodove²⁴.

Konceptom studijskog programa definiše se ukupan broj studijskih predmeta koji će biti obuhvaćeni kurikulumom, i u skladu stim:

- broj ispita koje student mora da položi tokom studija, uključujući i završni rad,
- broj obaveznih studijskih predmeta, kao i
- broj izbornih studijskih predmeta.

Studijskim programom takođe predviđa se da li su svi studijski predmeti jednosemestralni ili dvosemestralni, kao i vrednost ESPB po pojedinim predmetima.

Predmeti se raspoređuju po semestrima vodeći računa o ispunjenju uslova po standardima za akreditaciju studijskih programa, odnosno potrebnom:

- broju ESPB, min 30 po semestru, odnosno 60 po godini;
- fond časova nastave po semestru, minimalno 600 časova na godišnjem nivou;
- procentualnom iznosu ESPB izbornih predmeta u skladu sa nivoom studija;

Opis predmeta, sadrži: naziv, tip predmeta, godinu studija i semestar, broj ESPB, ime nastavnika, cilj predmeta sa očekivanim ishodom, znanjima i kompetencijama, preduslove za pohađanje, sadržaj predmeta, preporučenu literaturu, metod izvođenja nastave, način provere znanja i ocenjivanja studenta, kao i druge podatke.

Projektovani studijski program menadžmenta treba neposredno da doprinosi ostvarenju misije i ciljeva visokoškolske ustanove [9].

Realizacija studijskog programa omogućava sticanje potrebnih menadžerskih znanja od strane studenata, ali i od strane aktivnih menadžera u okviru permanentnog obrazovanja.

Ciljevi studijskog programa za menadžment obično obuhvataju:

postizanje osnovnih ili proširenih kompetencija (alternativno strukovnih veština), i ovladavanje odgovarajućim metodama za njihovo sticanje iz relevantnih oblasti menadžmenta, a u zavisnosti od nivoa obrazovanja;

²⁴ ESPB – Evropski Sistem Prenosa Bodova

razvoj sposobnosti dijagnostikovanja menadžerskih problema uključujući i projektovanje rešenja za njihovo prevazilaženje.

Savladavanjem studijskog programa student stiče opšte i predmetno - specifične sposobnosti, koje su u funkciji kvalitetnog obavljanja stručnih i naučnih delatnosti.

Opšte sposobnosti:

analize, sinteze i predviđanja rešenja i mogućih posledica menadžerskog delovanja na odgovorajućem hijerarhijskom nivou menadžmenta;

ovladavanje metodima, postupcima i procesima proučavanja problema odgovorajućeg hijerarhijskog nivoa menadžmenta;

projektovanje metoda i razvoj kritičkog i samokritičnog mišljenja i pristupa u rešavanju problematike;

sposobnost primene stečenih znanja u menadžerskoj praksi;

razvoj komunikativnih sposobnosti i spretnosti u kooperativnim odnosima sa užim i širim socijalnim okruženjem;

usavršavanje pristupa profesionalne etike u donošenju operativnih / taktičkih odluka.

Predmetno-specifične sposobnosti:

- temeljno poznavanje i razumevanje menadžmenta kao nauke i struke;
- sposobnost rešavanja menadžerskih problema korišćenjem matematskih metoda;
- povezivanje znanja iz menadžmenta i njegove primene u širem kontekstu poslovanja;

- sposobnosti praćenja i korišćenja inovacija u menadžmentu;

- razvoj veština i spretnosti u upotrebi znanja u području menadžmenta;

- ovladavanje i upotreba raspoloživih IKT u sticanju znanja u oblasti menadžmenta.

Da bi uspešno upravljao poslovnim procesima, menadžer mora tokom studija da ovlada određenim kompetencijama, koje se sastoje kako u multidisciplinarnom opšteobrazovnom skupu teorijskih znanja, tako i u ovladavanju niza praktičnih veština, koje se tiču praktičnog upravljanja procesom. Za to je neophodno da student ovlada sposobnostima upravljanja *ljudskim resursima*, kao i *timskim radom*.

Do dela kompetencija koje se tiču opšte teoretske edukacije može se doći kroz virtualnu nastavu – učenje na daljinu korišćenjem Sistema za upravljanje učenjem na daljinu (SUD). Preduslov za korišćenje SUD od strane studenata je poznavanje osnova rada na računaru, kao i korišćenja odabrane platforme za učenje na daljinu.

Kompetencije koje se tiču praktičnih veština menadžera ne mogu se realizovati na virtualan način ili simulacijom, već zahtevaju realan proizvodni ambijent, koga u ovom slučaju predstavlja tzv. Pilot fabrika.

Pilot-fabrika reprezentuje konkretno preduzeće koje ima funkciju da, u odabranom delu svoga delovanja, posluži kao praktični poligon studenata za: upoznavanje sa radom, snimanje stanja radnih procesa, projektovanje rešenja unapređenja procesa, implementaciju rešenja, uključivanje u tekući rad preduzeća. Edukacija treba da omogući da studenti vežbama i praktičnim radom upoznaju stvarno stanje u preduzećima i da umesto rešavanja tzv. školskih, svoje znanje i kreativnost upotrebe za rešavanje realnih, svakodnevnih problema u postojećim preduzećima. Konceptom studijskog programa se predviđa da se realizacija praktičnih radova obavi timski, što omogućava studentima i ovladavanje timskim radom [2].

Iz svega napred navedenog u okviru ovog poglavlja može se zaključiti da je menadžment naučna disciplina čije izučavanje postavlja određene specifične zahteve za realizaciju učenja na daljinu. Iskustvo autora na organizaciji i realizaciji učenja na daljinu upravo u

oblasti menadžmenta pokazalo je da se deo navedenih zahteva može zadovoljiti, ako se u procesu obrazovanja menadžera ispune kriterijumi za uspešnu realizaciju.

3. PRILAGOĐAVANJE KURIKULUMA STUDIJSKOG PROGRAMA ZA MENADŽMENT ZA UČENJE NA DALJINU

Kod prilagođavanja kurikuluma studijskog programa menadžmenta za učenje na daljinu od značaja su dva ključna polazišta [8], i to:

pedagoška osnova alata za učenje na daljinu,
okvir za prilagođavanje kurikuluma menadžmenta.

Pedagoška osnova alata za učenje na daljinu može biti:
tehnologija ‘u učenju na daljinu’,
tehnologija ‘za učenje na daljinu’.

Tehnologija “u učenju na daljinu” obuhvata sve generičke alate koji nisu dizajnirani za primenu u pedagoškoj praksi, ali se mogu koristiti (u određenom stepenu) u organizacionim procesima učenja na daljinu. Na primer, u ove alate spadaju alati za obradu teksta, izradu prezentacije, za grafičku obradu, misaono mapiranje i dizajn multimedija.

Tehnologija “za učenje na daljinu” obuhvata sve alate namenjene isključivo za učenje na daljinu, dizajnirane za konkretne pedagoške sadržaje. U cilju dizajniranja alata “za učenje na daljinu” neophodno je sprovesti istraživanje modernih IKT i teorija učenja, kao i uzeti u obzir mogućnosti za primenu tehnologije u učenju.

Okvir za prilagođavanje kurikuluma menadžmenta obuhvata sužavanje izbora (opcija) koje u okviru tehnologije ‘for e-learning’ nudi SUD u. U tom smislu kreira se oblik kurikuluma koji sadrži optimalizovan broj i vrstu ključnih elemenata u okviru učenja na daljinu, slika 1.

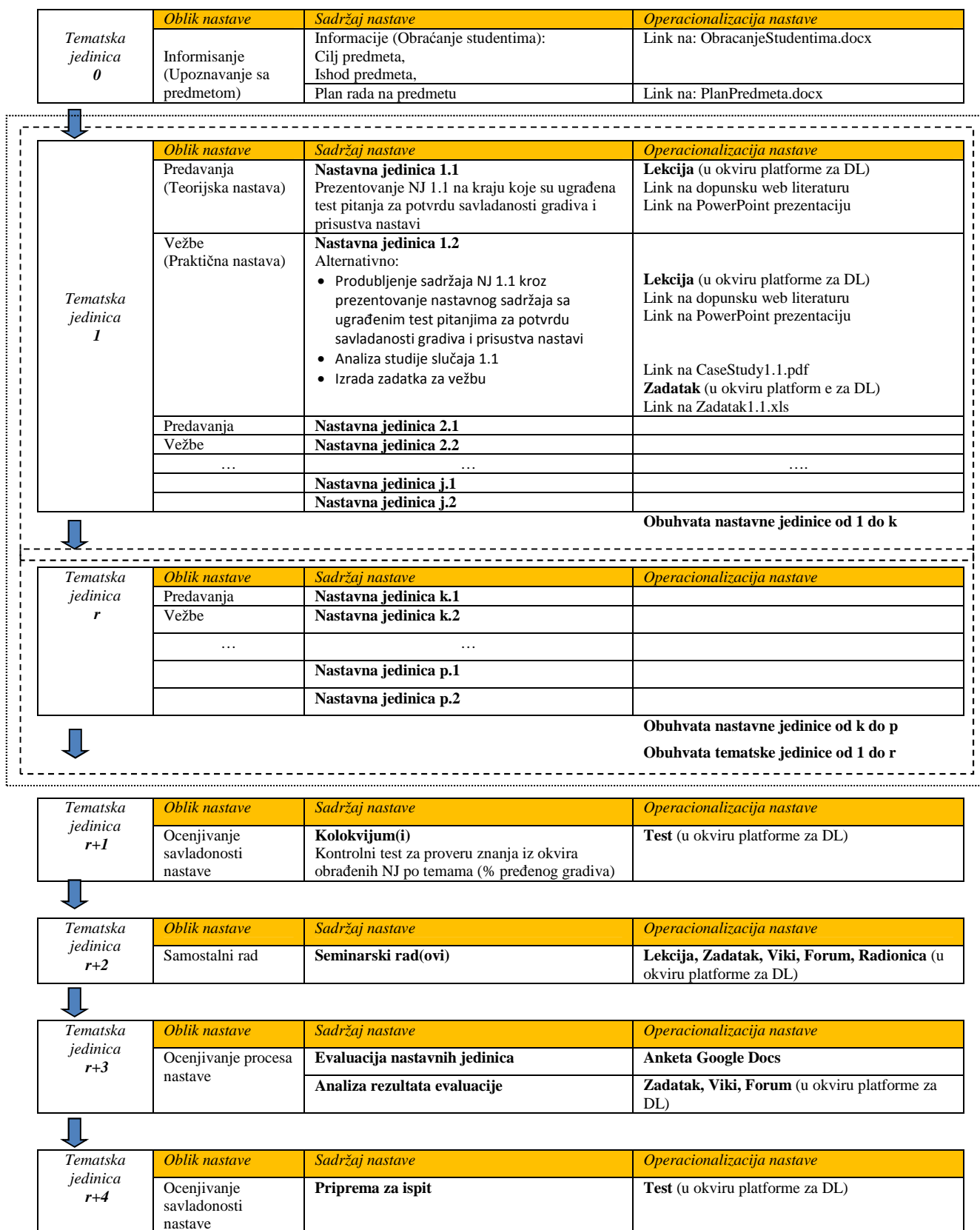
Ključni elementi u okviru učenja na daljinu prezentovani su na slici 1, i obuhvataju:

Tematske jedinice. Ovih elemenata može biti više, i u opštem slučaju broj tematskih jedinica se kreće od 1 do r, a nižu se u logičkom sledu izlaganja. Po pravilu tematske jedinice odgovaraju poglavljima u naučnoj oblasti koja se obrađuje u okviru studijskog predmeta;

Oblik nastave. Ovaj element obuhvata sledeće obilke nastave, i to: iformisanje (predstavljanje relevantnih informacija, kao što su Upoznavanje sa predmetom, Cilj, Svrha, Plan id r.), predavanja (teorijska nastava), vežbe (praktična nastava), ocenjivanje (evaluacija savladanosti nastave, nastavnog procesa), samostalni rad studenta;

Sadržaj nastave. Ovaj element obuhvata razne informacije, nastavne jedinice kojih može biti više, u opštem slučaju od k do p, a odvijaju se po logičkom sledu odvijanja nastave, a na kraju svake su ugrađena test pitanja za potvrdu savladanosti gradiva i prisustva nastavi. Važno je napomenuti da se tematske jedinice javljaju u parovima, prva tematska jedinica uvek predstavlja predavanja (teorijsku nastavu), a druga vežbe, koje mogu obuhvatiti produbljenje pređenog sadržaja, analizu odgovarajuće studije slučaja, ili izradu odgovorajućih zadataka za vežbu (sve u cilju uvežbavanja pređenog gradiva na predavanju ili prezentovanje mogućnosti njegove primene u praksi);

Operacionalizacija nastave. Ovaj element obuhvata interne alate u okviru tehnologije ‘in e-learning’ iz palete SUD, kao što su Lekcija, Zadatak, Viki, Forum, Radionica i Test, kao i eksterne alate, u okviru tehnologije ‘for e-learning’ kao što su linkovi na određene fajlove uskladištene bilo na web-u ili na raspoloženom informatičkom resursu.



Slika 1. Model kurikuluma menadžmenta prilagođenog za učenje na daljinu

4. UMETO ZAKLJUČKA

U ovom radu je razmotreno nekonvencionalno obrazovanje, odnosno učenje na daljinu sa aspekta načina prilagođavanja kurikuluma studijskog programa za menadžment. Stoga se u radu argumentuje zašto je menadžment naučna disciplina pogodna za učenje na daljinu.

Razvoj učenju na daljinu sa istorijskog stanovišta uslovljen je nivoom razvoja tehnologije i resursa, a pre svega razvojem komunikacije između isporučioaca i primaoca znanja. Aktuelni proces učenja na daljinu realizuje se uz pomoć Sistema za učenje na daljinu (SUD) koji reprezentuje softverski paket ili veb-bazirana tehnologija za menadžment procesom učenja. Budući da su SUD po pravilu više univerzalni, stoga je za njihovu uspešnu implementaciju od značaja izbor pravilnog okvira za prilagođavanje kurikuluma studijskog programa. U tom smislu u ovom radu se prezentuje jedan model okvira za takvo prilagođavanje studijskog programa za menadžment.

Navedeni model može da posluži kao uzor kako bi trebalo prilagoditi kurikulum studijskog programa za menadžment, u slučaju da se sa tradicionalnog načina izvođenja studija prelazi na učenje na daljinu.

REFERENCE

1. <http://hr.wikipedia.org/wiki/Obrazovanje>, preuzeto sa interneta 16.03.2014. godine.
2. Skorup A., Krstić M., Bojković R., Školovanje industrijskih menadžera primenom modela kombinovanog daljinskog učenja, Naučno-stručni simpozijum INFOTEH@-JAHORINA, str. 22.-24. mart, 2006, Jahorina, BiH., str. 360-363.
3. Milosavljević B., Krstić M., Bojković R., Pilog konceptiranju učenja na daljinu, XIV Skup Trendovi razvoja: "Efikasnost i kvalitet bolonjskih studija", 03.-06 03. 2008. Kopaonik, str. 163-166.
4. Milosavljević G., Vukanović S., Profesionalno obrazovanje na distancu, Fakultet organizacionih nauka, Beograd, 2000.
5. Krstić M., Skorup A., Milosavljević B., 2012., Methodological Approach To Organization of Distance Learning Studies of Management, First international conference "EMPLOYMENT, EDUCATION AND ENTREPRENEURSHIP", December 12 – 14, 2012, Belgrade, Serbia.
6. Komisija za akreditaciju i proveru kvaliteta - KAPK, Akreditacija i spoljašnja provera kvaliteta u visokom obrazovanju, Ministarstvo prosvete, nauke i tehnološkog razvoja, 2013., Beograd.
7. Krstić, M., Bojković, R., Milosavljević, B., 2010., Razvoj menadžerskih kompetencija korporativnim učenjem na daljinu, VI Majska konferencija o strategijskom menadžmentu sa međunarodnim učešćem 30. 5. - 1. 6. 2010., Kladovo, Srbija
8. Milosavljević B., Skorup, A., Krstić M., 2012., Higher Education Distance Learning Instructional Content Structure Design, First international conference "Employment, Education And Entrepreneurship", December 12–14, 2012, Belgrade, Serbia.
9. Bojković R., Krstić M., 2007., Akreditovan studijski program visoke škole strukovnih studija za poslovno industrijski menadžment Kruševac, Sistem kvaliteta uslov za uspešno poslovanje i konkurentnost, Deseti naučno stručni skup, JUSK PRO 07, str. 51-56, 29 - 30. Novembar 2007., Kruševac

RELATION AND INTERACTION BETWEEN ENTREPRENEURSHIP AND MANAGEMENT

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Abstract: The globalization of markets and the global economic crisis has caused many deviations and trends in the economic, financial and market categories. Privatization of public enterprises and the liberalization of markets have meant that all business entities partially become equal. Which means that the market has been opened to all those who have ideas, knowledge, resources, capabilities and skills to initiate, organize and manage certain economic activities. However, no person can simultaneously have all these qualities. For these reasons, a distinction is made between entrepreneurs and managers. And entrepreneurs and managers are the owners of a capital. In most cases, the entrepreneur is usually the owner of the property and financial capital, and the manager is the owner of the intellectual capital. The manager has the ability, knowledge and skills to manage certain activities and for him it is a personal intellectual capital. On the other hand, an entrepreneur is someone who has the money, so financial capital, although it may be the owner of the intellectual capital (the owner of trademark, patent, license). The manager is the one who should be imposed as an outstanding entrepreneur expert, organizer and leader, to make him an entrepreneur engaged. To be an entrepreneur engaged in "adventure" and started his own business must be aware of the situation that any market economy entails a certain amount of risk. One of the tasks of a manager, why hire a contractor and manager is to minimize the risk and maximizing profit. Entrepreneurs and managers are not competing each other, but partners who mutually cooperate.

Keywords: entrepreneur, manager, ideas, capital

ODNOS I INTERAKCIJA IZMEĐU PREDUZETNIŠTVA I MENADŽMENTA

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Abstrakt: Globalizacija tržišta i svetska ekonomska kriza izazvale su mnoge devijacije i kretanja u ekonomskim, finansijskim i tržišnim kategorijama. Privatizacija javnih preduzeća i liberalizacija tržišta doveli su do toga da su svi privredni subjekti delimično postali ravnopravni. Što znači, da je tržište postalo otvoreno za sve one koji imaju ideje, znanja, resurse, sposobnosti i veštine da pokrenu, organizuju i upravljaju određenim privrednim aktivnostima. Međutim, ne postoji osoba koja istovremeno može imati sve ove osobine. Upravo iz tih razloga, napravljena je razlika između preduzetnika i menadžera. I preduzetnik i menadžer su vlasnici određenog kapitala. U najčešćim slučajevima,

preduzetnik je obično vlasnik finansijskog i imovinskog kapitala, a menadžer je vlasnik intelektualnog kapitala. Menadžer poseduje sposobnosti, znanja i veštine za upravljanje određenim aktivnostima i to za njega predstavlja lični intelektualni kapital. S' druge strane, preduzetnik je neko ko poseduje novac, dakle finansijski kapital, mada može biti vlasnik i intelektualnog kapitala (vlasnik žiga, patenta, licence). Menadžer je taj koji treba da se nametne preduzetniku kao izvanredan stručnjak, organizator i lider, kako bi ga preduzetnik angažovao. Da bi se preduzetnik upustio u „avanturu“ i pokrenuo sopstveni biznis mora biti svestan situacije da svako tržišno privređivanje za sobom povlači određenu dozu rizika. Jedan od zadataka menadžera, zbog kojeg preduzetnik i angažuje menadžera je i da minimizira taj rizik i maximizira profit. Preduzetnik i menadžer nisu konkurenti jedno drugom, već partneri koji uzajamno saraduju.

Ključne reči: preduzetnik, menadžer, ideja, kapital

1. UVOD

Priča o preduzetništvu i menadžmentu seže iz dalekih godina. Vrlo je teško precizno utvrditi vreme nastanka ova dva pojma, budući da su i preduzetništvo i menadžment verovatno oduvek bili prisutni u ljudskom društvu, samo sigurno u drugačijem obliku nego što je to danas. Prvobitne pojedinačne proizvođače mogli bi da uporedimo možda sa današnjim preduzetnicima, a današnje menadžere sa tadašnjim trgovcima, koji su imali zadatak da organizuju robnu razmenu, na obostrano zadovoljstvo oba proizvođača, naravno zadržavajući za sebe određeni deo. U prvobitnim robnim razmenama, tadašnji menadžer (trgovci) svoj procenat uzimali naturalno – u robi. Uvođenjem novca, trgovci su svoju zaradu počeli da naplaćuju u novcu. Nemoguće je precizno utvrditi sta se prvo pojavilo, preduzetništvo ili menadžment. Mada, preduzetništvo je kao nauka mlađa u odnosu na menadžment, pa mnogi tvrde da menadžment prethodi preduzetništvu.

Priča o preduzetništvu u menadžmentu, kad je u pitanju sam nastanak ova dva pojma, može se uporediti sa pričom: „Šta je starije? Koka ili jaje?“. Na ovo pitanje, na koje ni najveći umovi sveta nisu znali da daju precizan odgovor, možda su uspeli engleski naučnici. Naime, Tim naučnika sa engleskih Univerziteta Šefild i Vorvik, utvrdili su da je kokoška ipak starija. Obrazloženje za ovakav odgovor ovih stručnjaka, je da se protein neophodan za formiranje ljuske jajeta nalazi isključivo u jajnicima kokoške. Dakle, po njihovim tvrdnjama, jaje može nastati jedino ako se pre toga nalazilo u kokoški, pa po toj logici, kokoška je starija. Ali, na jedno pitanje i dalje ne postoji odgovor. Kako je nastala kokoška?

Analogno tome, na pitanje: „Šta je starije? Preduzetništvo ili menadžment?“, takođe ne postoji konkretan i siguran odgovor. Kada se uzmu u razmatranje definicija i svojstva i preduzetništva i menadžmenta, može se reći da preduzetništvo u nekom smislu prethodi menadžmentu. Zašto? Odgovor na ovo pitanje može se potražiti u činjenici da je preduzetnik taj koji angažuje menadžera. Dakle, uslov da bi menadžer bio angažovan, je osnivanje poslovnog sistema od strane preduzetnika. Preduzetnik da bi osnovao poslovni sistem, mora da prati tržišna kretanja, da poznaje tržište i da u pravom trenutku iskoristi šansu koja mu je na tržištu ukazana. Tek kada potencijalni preduzetnik pronade svoju šansu na tržištu i uvidi sta je to u čemu bi on mogao da ostvari svoj poslovni uspeh, preduzetnik će se uhvatiti za svoj džep i videti da li ima finansijskih mogućnosti da uđe u posao ili ne. U slučaju da ima, krenuće u posao i tek onda će menadžer dobiti svoj

angažman. U slučaju da nema, potražiće pomoć na finansijskom tržištu. Zaduživanje na finansijskom tržištu je veoma rizično, pa s tim u vezi preduzetnik će verovatno i u tom slučaju morati da angažuje stručnog menadžera za tu oblast, kako bi izvršio analizu opravdanosti zaduživanja.

2. PREDUZETNIK I PREDUZETNIŠTVO

Imajući u vidu da se preduzetništvo praktično pojavilo sa pojavom ljudskog društva, a kao nauka, vrlo spontano razvijalo, jedinstvene definicije za preduzetništvo nema. Kako se razvijalo preduzetništvo, tako su se i definicije preduzetništva menjale i dopunjavale. Definiciju preduzetništva dali su mnogi autori. U zavisnosti od toga koje su struke autori, kao i sa kog aspekta posmatraju preduzetništvo, postoje različite definicije.

Danas, u savremenom tržišnom poslovanju preduzetnika možemo definisati kao osobu koja ulaže sve svoje napore, finansijski i intelektualni kapital, kako bi kroz zadovoljavanje potreba svojih klijenata i kupaca, ostvario što veći profit, svesno prihvatajući rizik od neuspeha na sebe.

Analizom shvatanja uloge preduzetnika mogu se izdvojiti sledeći osnovni koncepti [1]:

1. Preduzetnik je nosilac rizika,
2. Preduzetnik je nosilac vlasništva nad kapitalom,
3. Preduzetnici su izuzetni pojedinci,
4. Preduzetnici su lideri,
5. Preduzetnici kreiraju ekonomski ekvilibrijum,
6. Preduzetnici kreiraju ekonomski disekvilibrijum,
7. Preduzetnici su inovatori,
8. Preduzetnici imaju pojačanu budnost prema prilikama.

Ko postaje preduzetnik? Preduzetnik postaje osoba koja pronade ideju i poslovnu priliku da se dokaže i pronade u nekom poslu. On je dužan da prati i iskoristi šanse koje su mu se u datom trenutku ukazale na tržištu.

Preduzetništvo se najčešće vezuje za mala i srednja preduzeća. Razvoj malih i srednjih preduzeća karakteristično je za zemlje u razvoju, koje nemaju mogućnosti osnivanja velikih poslovnih sistema i uključivanja u svetsko tržište. Upravo u tome se ogleda značaj preduzetništva za Srbiju. Srbija je veoma povoljno područje za razvoj porodičnog biznisa, malih i srednjih preduzeća, tako da razvoj preduzetništva u Srbiji može imati veliku ulogu u razvoju nacionalne ekonomije.

3. MENADŽER I MENADŽMENT

Što se tiče definicije menadžmenta, za razliku od preduzetništva, sve u suštini imaju isto značenje. Jedna od definicija glasi: „Menadžment je proces planiranja, organizovanja i kontrolisanja rada ljudi u datim uslovima radi postizanja ciljeva [2]“. Ovoj definiciji moglo bi se dodati da je menadžment pored planiranja, organizovanja i kontrolisanja i proces vođenja ili rukovođenja, budući da menadžer ne može biti osoba koja nije lider. Menadžer je osoba koja poseduje harizmu da vodi određeni poslovni poduhvat, projekat ili celo preduzeće, kao neko ko zna da usmeri ljude da rade upravo ono što menadžer želi.

Može se reći da je menadžer i neko ko koordinacijom rada drugih, pokušava da efikasno i efektivno obavi određeni zadatak. Menadžer je osoba koja se, može se reći, nalazu u „sendviču“ između poslodavca i zaposlenih. Iz tog razloga, menadžer je u obavezi da napravi sklad ili balans između zaposlenih i poslodavca.

Budući da je radno mesto menadžera veoma stresno, turbulentno, neophodno je da menadžer bude odlično organizovan i da adekvatno upravlja vremenom.

„Kako bi na najbolji mogući način iskoristili raspoloživo vreme, cilj svakog menadžera je da bude produktivan i efikasan, da obavlja određeni posao na pravi način i ostvari maksimalne rezultete uz minimalno angažovanje raspoloživih resursa. Oni koji ne koriste tehniku upravljanja vremenom uvek su u žurbi, često vode neproduktivne i

duge, često iznurujuće sastanke, izazivaju krizne situacije, jer se posao mora uraditi na brzinu i u poslednjem trenutku. Krajnji rezultat toga je loše organizovano raspoloživo vreme, a i samim tim loše odrađen posao. Menadžeri koji upravljaju ljudima, moraju neprekidno učiti nove stvari, učiti nove tehnike, a jedna od novih tehnika, je zapravo tehnika upravljanja vremenom, svojim i vremenom svojih zaposlenih.

Veština upravljanja, pored planiranja aktivnosti i vođenja dnevnika podrazumeva i mnogo više. To je skup alata koji omogućavaju raspoređivanje vremena, bolju pripremu sastanka, sprečavanje beskorisnosti u radu, pravilno nadgledanje projekta. Upravljanje vremenom je veština koja treba da se: planira, nadgleda i kontinuirano analizira. Uspešno upravljanje vremenom pomaže i otklanjanju i sprečavanju pojave tzv. „*praznog hoda*“ u poslovnim procesima (bilo da se radi o proizvodnji, trgovini ili pružanju usluga). [3]“

4. RAZLIKE IZMEĐU PREDUZETNIKA I MENADŽERA

Ako pođemo od osnovne pretpostavke, da je preduzetnik onaj ko poseduje kapital, a menadžer osoba koja je angažovana da upravlja nečijim kapitalom kako bi došlo do njegove oplodnje, odmah se nailazi na prvu razliku: ***preduzetnik je vlasnik kapitala, dok menadžer samo upravlja tim kapitalom.*** S' tim u vezi, menadžer je odgovaran za svoj rad preduzetniku, i može se reći da je dužan da mu „*polaže račune*“, dok je preduzetnik gazda i nije dužan da svojim radnicima, pa ni menadžerima polaže račune. Preduzetnik svoje račune polaže jedino državi, kroz obavezno prikazivanje finansijskih izveštaja, i uredno vođenje poreske evidencije.

Iz ovoga sledi druga razlika izmedju preduzetnika i menadžmenta, a to je da ***preduzetnik traži i angažuje menadžera***, što znači da je menadžeru poslodavac preduzetnik.

Preduzetnik ima ideju i prepoznaje tržišnu šansu, a menadžer ima zadatak da tu ideju realizuje. Preduzetnik ima viziju i ideju o pokretanju biznisa. Kada prepozna tržišnu šansu preduzetnik ulazi u biznis i angažuje menadžera. Posao menadžera je da tu ideju preduzetnika realizuje i ostvari oplodnju uloženog kapitala.

Preduzetnik razmišlja šta da radi, a menadžer kako da se uradi. Posao preduzetnika je da pronade i prepozna biznis koji će mu omogućiti oplodnju svog kapitala, a menadžer je taj koji ima zadatak da nađe najefikasniji i efektivniji način da se to realizuje. Menadžer je taj koji treba da dâ predloge i načine za ostvarivanje planiranih ciljeva preduzetniku.

Menadžer je stručnjak (ekspert) za određeni posao. Preduzetnik je osoba koja ne mora da poseduje znanja i stručnost iz određene oblasti da bi se time bavio. On je jednostavno vlasnik kapitala, prepoznao je tržišnu šansu i želi da je iskoristi. Angažuje menadžera koji ima potrebna znanja, iskustva, veštine da zajednički ostvare željeni cilj.

Preduzetnik je osoba koja prihvata uvek veći rizik od menadžera. Preduzetnik u svom poslu rizikuje da izgubi bukvalno sve u životu što ima. Što bi se kod nas u narodu reklo „*od gotovog, pravi veresiju*“. Ovo se vrlo lako može desiti preduzetnicima, da od kapitala koju su imali ne ostane ništa ili čak da ostanu samo dugovi. Menadžer ovih briga nema. On ne ulaže svoj novac, tako da ne može ni da ostane bez njega. Ono što menadžer može da izgubi u slučaju da preduzetnik propadne je posao i eventualno zarada koja mu nije isplaćena.

5. SLIČNOSTI PREDUZETNIŠTVA I MENADŽMENTA

Da li svaki preduzetnik može da bude menadžer? Svaki sigurno da ne može, ali preduzetnik koji ulaže svoje finansijske resurse u oblast u kojoj je stručan, može biti istovremeno i uspešan preduzetnik i uspešan menadžer. Primer ovakvih poslovnih sistema su privatne apoteke. Da bi preduzetnik osnovao apoteku, mora biti diplomirani farmaceut. Dakle za ovaj poslovni poduhvat, preduzetniku nije dovoljno da poseduje samo finansijska sredstva, već mora da poseduje i intelektualni kapital, tj. diplomu određenog fakulteta. U ovim slučajevima ista osoba je praktično uvek i preduzetnik i menadžer.

Obrnuto, da li svaki menadžer može da bude preduzetnik? Takođe, sigurno da ne može svaki. Onaj menadžer koji nema dovoljno finansijskih resursa da se upusti u određeni poslovni poduhvat, sigurno da ne može biti i preduzetnik. Ali, česti su primeri menadžera koji imaju dovoljno finansijskih resursa pa se ipak ni oni ne oprobavaju u ulozi preduzetnika. Razlog za to je, što takvi menadžeri ne žele da snose rizik od propasti posla. Sa druge strane, vrlo su retki slučajevi kada menadžeri napuste preduzetnika kod koga su radili, i pokrenu sopstveni biznis pa istovremeno budu i menadžeri i preduzetnici. Može se desiti i situacija da preduzetnik menadžeru ponudi i partnerstvo u biznisu, pa menadžer pored poslova koje obavlja kao menadžer, ima jednim delom i ulogu preduzetnika.

Mnogi teoretičari tvrde da se menadžeri rađaju, upravo zbog harizme koju je neophodno da menadžeri imaju. Ali da li je samo harizma dovoljna da bi neko bio uspešan menadžer? Da je tako, menadžment kao nauka ne bi ni postojao. U tom slučaju, cela nauka o menadžmentu pala bi u vodu. Milijarde stranica o menadžmentu mogle bi da stanu u 3 reči: „*Menadžeri se rađaju*“.

Ono što ukazuje na činjenicu da nije dovoljno da neko poseduje samo harizmu da bi bio uspešan menadžer je postojanje velikog broja univerziteta, fakulteta i visokoškolskih ustanova koji se bave menadžmentom i školuju buduće menadžere.

A da li se i preduzetnici rađaju? Odgovor je isti kao i za menadžere. Ono što zaista jeste zajedničko za preduzetnika i menadžera je da i jedan i drugi imaju harizmu, ali da moraju biti školovani kako bi izdržali na surovoj tržišnoj utakmici.

6. ODNOS I INTERAKCIJA PREDUZETNIŠTVA I MENADŽMENTA

Ali, da li je samo preduzetnik vlasnik kapitala? Da li menadžer poseduje neki kapital? Činjenica je da je svako od nas vlasnik određene vrste kapitala. **Kapitalom možemo smatrati sve čijom upotrebom možemo postati bogatiji.** Dakle, svi koji poseduju neki od kapitala kao što su: informacije, znanja iz određenih oblasti, sposobnosti, veštine, novac, zemljište, objekti, oprema imaju šanse da upotrebom nekog od tih kapitala koje poseduje uveća svoje bogatstvo. Činjenica je da se sav taj kapital **nikad** ne nalazi kod istog

čoveka. Upravo ova činjenica povezuje preduzetnika i menadžera i upućuje ih jednog na drugog na zajedničku saradnju.

Može se reći da je preduzetnik po pravilu vlasnik materijalnih sredstava, kao što su novac, oprema, zemljište, objekti, tj. **preduzetnik je vlasnik finansijskog kapitala**. Sve ostalo uglavnom je u posedu menadžera. Znači, informacije, znanja iz određenih oblasti, sposobnosti, veštine, sertifikati za obavljanje određenih poslova, po pravilu su u vlasništvu menadžera, tj. **menadžer je vlasnik intelektualnog kapitala**. Udruživanjem finansijskog i intelektualnog kapitala stvara se ogroman potencijal za oplodnju i jednog i drugog kapitala. Preduzetnik će svoj kapital oploditi kroz profit u svom preduzeću, dok menadžer oplodnju svog intelektualnog kapitala vrši kroz određenu nadohnadu za rad, odnosno platu kod preduzetnika.

6.1. NAČIN DA SE STRUČNJACI (MENADŽERI) ZADRŽE U PREDUZEĆU

Ono što svaki preduzetnik treba da ima na umu je da je **menadžer taj koji upravlja kapitalom preduzetnika**. Ni malo nije lako, poveriti svoj kapital nekome drugome na raspolaganje i upravljanje. Teško je uopšte naći osobu od poverenja, znanja i struke. Ali, šta je još teže od toga? Još teže je zadržati takvog menadžera u preduzeću. Upravo iz tih razloga, neophodno je poznavati načine na koje je moguće zadržati i stimulisati menadžera koji donosi dobre poslovne rezultate da ostane kod preduzetnika.

Načini da preduzetnik zadrži menadžera kod sebe u preduzeću su:

1. korektan i fer odnos preduzetnika prema menadžeru – u smislu poštovanja postignutih dogovora, uvažavanja menadžera kao ličnosti
2. povećanje plate srazmerno povećanju obima posla – u slučaju da se obim posla drastično poveća, menadžer će očekivati i veću naknadu za svoj rad
3. bonusi za ostvarene rezultate iznad planiranih – uvek treba uvažavati menadžera koji ulaže napore da ostvari veći rezultat od planiranog ili dogovorenog
4. isplata jubilarnih nagrada – ima psihološki efekat na menadžera, menadžer ima osećaj pripadnosti preduzeću u kojem radi
5. partnerstvo u poslu – ponuditi menadžeru vlasništvo u delu kapitala

Što se tiče partnerstva, to je poslednji način na koji treba pokušavati zadržati eksperta – menadžera. Pre nego što preduzetnik da ovakvu ponudu menadžeru, mora dobro da proračuna šta time dobija, a šta gubi. U svakom slučaju, ovaj način zadržavanja stručnjaka treba razmatrati kao poslednju opciju, jer treba imati u vidu da u tom slučaju menadžer jednim delom preuzima ulogu preduzetnika, pa vrlo lako može doći do konflikta. Ovakav način zadržavanja menadžera čest je u situacijama kada preduzetnik zbog nelikvidnosti ne isplaćuje menadžeru plate, pa mu ponudi partnerstvo u poslu. Ili se preduzetnik iz određenih razloga povlači iz biznisa, a menadžeru ostavlja da vodi ceo poslovni sistem.

7. ZAKLJUČAK

Analizirajući pre svega definiciju i nastanak i jedne i druge nauke, dolazi se do saznanja da su ove dve nauke ili profesije, veoma slične jedna drugoj, ali sa nekih aspekata i veoma različite, na šta je tokom rada već ukazano. Odnos ove dve nauke veoma je značajan za ljude koji se bave preduzetništvom, ili za one koji nameravaju da se bave preduzetništvom.

Čest je slučaj da mali i srednji preduzetnici ne angažuju menadžere, nego sami pored posla preduzetnika rade i posao menadžera. Ova pojava verovatno je učestala zbog

nedostatka finansijskih resursa ili zbog želje preduzetnika da sam vodi ceo biznis ili čak možda zbog činjenice da u Srbiji svi rade sve, pa ne pridaju značaj angažovanju stručnih ljudi. Ovakav tržišni milje rezultira slabim razvojem nacionalne ekonomije, odnosno sa aspekta preduzetnika slabim razvojem biznisa. Ovakav pristup ide u prilog tvrdnji da je za efikasan razvoj preduzetništva neophodno angažovati stručne ljude odnosno menadžere.

Da bi se preduzetnik upustio u „avanturu“ i pokrenuo sopstveni biznis mora biti svestan situacije da svako tržišno privređivanje za sobom povlači određenu dozu rizika. Jedan od zadataka menadžera, zbog kojeg preduzetnik i angažuje menadžera je i da minimizira taj rizik i maximizira profit. **Preduzetnik i menadžer nisu konkurenti jedno drugom, već partneri, odnosno tim koji uzajamno saraduju radi sticanja obostrane koristi.**

REFERENCE:

1. Babić M., „Preduzetništvo“, Unija poslodavaca Srbije, Beograd 2006. str 87
2. Đuričić M., Đuričić R., „Savremeno preduzetništvo“, „IR-MIR“, Užice, 2012. str 41
3. Babić G., „International May Conference on Strategic Management - IMKSM2013“ 2013, Bor, Serbia str 1102-1103

CRITERIA FOR SELECTION OF CRM SOFTWARE SOLUTIONS

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Abstract: Customer relationship management (CRM) is a business philosophy, or a business concept that, in order to increase profit, puts users of the product or a service in the center of business. The concept is realized by collecting, processing and using information about users, which results in the increase of the number of users and their consequent retention. Today, the CRM concept is based on information and communication technologies, which allow the short term processing of large amount of data about individual users . The commercial market is offering a whole range of different software solutions for CRM. Choosing the right CRM software solution for the company is as important as a strategic decision of the company which chooses the CRM philosophy. Without the help of the right technology, effective implementation of CRM strategy is nearly impossible. Hence, it is of particular importance to consider the problem of selection of CRM software solution that is based on multicriteria decision analysis. For this reason, this paper first gives an overview of the criteria for the selection of CRM solutions, and then some of the criteria are considered in detail. Besides the price, which is often (unjustifiably) pointed to the fore when choosing CRM solutions, the relevant criteria for selection are: hosting (installation of software on your own server or a solution based on "cloud " technology), the possibility of using solutions on mobile devices, contact management, compatibility with existing hardware and software systems, sales and marketing features, as well as employee tracking. Of no less importance is the question of choosing the supplier, or vendor of CRM solution. In conclusion, specific CRM software solutions that largely meet the above criteria are pointed.

Keywords: CRM, software, selection, criteria

KRITERIJUMI ZA IZBOR CRM SOFTVERSKIH REŠENJA

Ana Skorup, Milan Krstić

Apstrakt: Upravljanje odnosima sa klijentima (eng. Customer Relationship Management – CRM) je poslovna filozofija, odnosno koncept poslovanja koji, u cilju uvećanja profita, korisnika proizvoda ili usluge stavlja u centar poslovanja. Koncept se realizuje prikupljanjem, obradom i korišćenjem informacija o korisnicima, a što za posledicu ima uvećanje broja korisnika, kao i njihovo posledično zadržavanje. Danas je CRM koncept zasnovan na informaciono komunikacionim tehnologijama, koje omogućavaju da se u kratkom roku obradi veliki broj podataka o individualnim korisnicima. U komercijalnoj ponudi kompanijama se nudi čitava paleta različitih softverskih rešenja za CRM. Odabir

pravog CRM softverskog rešenja za kompaniju je jednako bitan kao i strateška odluka kojom se kompanija opredeljuje za CRM filozofiju. Bez pomoći prave tehnologije, efikasno sprovođenje CRM strategije gotovo da nije moguće. Otuda je od posebnog značaja razmatranje problematike selekcije CRM softverskih rešenja koje se zasniva na višekriterijumskoj analizi. Iz tog razloga se u ovom radu najpre daje pregled kriterijuma za izbor CRM rešenja, a potom se pojedini od kriterijuma i detaljnije razmatraju. Pored cene, koja se često (neopravdano) ističe u prvi plan pri izboru CRM rešenja, relevantni kriterijumi za izbor su: hostovanje (instalacija softvera na sopstvenom serveru ili rešenje bazirano na "cloud" tehnologiji), mogućnost korišćenja rešenja na mobilnim uređajima, upravljanje kontaktima, kompatibilnost sa postojećim hardverskim i softverskim sistemom, podrška prodaji i marketingu, kao i praćenje zaposlenih. Od ne manjeg značaja je i pitanje izbora isporučioaca, odnosno prodavca CRM rešenja. U zaključku se ukazuje i na konkretna CRM softverska rešenja koja u najvećoj meri zadovoljavaju navedene kriterijume.

Ključne reči: CRM, softver, izbor, kriterijumi

1. UVOD

Upravljanje odnosima sa klijentima (eng. Customer Relationship Management – CRM) je marketing koncept poslovanja koji se fokusira na klijenta, u cilju uvećanja profita. To se postiže prikupljanjem, obradom i korišćenjem informacija o klijentima, a što za posledicu ima uvećanje broja klijenata, kao i njihovo posledično zadržavanje. Danas je CRM koncept zasnovan na informaciono-komunikacionim tehnologijama (IKT), koje omogućavaju da se u kratkom roku obradi veliki broj podataka o individualnim klijentima. Odabir pravog CRM softverskog rešenja je jednako bitan kao i strateška odluka kojom se kompanija odlučuje za CRM filozofiju. Bez pomoći prave tehnologije, efikasno sprovođenje CRM strategije gotovo da nije moguće. Otuda je od posebnog značaja razmatranje problematike višekriterijumskog pristupa selekciji CRM softverskih rešenja. Iz tog razloga se u ovom radu daje pregled i detaljnije se razmatraju neki od kriterijuma za izbor CRM rešenja.

2. POJAM CRM

Upravljanje odnosima sa klijentima (eng. Customer Relationship Management – CRM) je koncept poslovanja (ili poslovna filozofija) koji klijenta (odnosno korisnika ili kupca) stavlja u centar poslovanja u cilju uvećanja profita, a što se postiže kroz uvećanje broja korisnika, kao i njihovo posledično zadržavanje. CRM podrazumeva identifikovanje vrednosti koja je posebno značajna za klijenta, kao i automatizaciju poslovnih procesa koji će omogućiti da se prodaja, marketing i usluge obavljaju efektivnije i efikasnije. Misija CRM je upravljanje odnosa sa klijentima koji su proizvođaču, odnosno pružaocu usluga, od najveće vrednosti i posebnog značaja [3].

CRM koncept ima zadatak da obradi informacije o klijentu i da ih prikaže na jednostavan način, kako bi bile primenljive u praksi. To podrazumeva prikupljanje podataka i evidenciju o tome šta korisnik kupuje, kada kupuje, zašto kupuje, koje su njegove preferencije, koje su njegove primedbe na proizvod (ili uslugu), šta bi želeo da promeni, evidencija reklamacija korisnika, predviđanje potreba korisnika, izgradnja korisničkih servisa za pomoć i dr.

CRM omogućava isporučiocima proizvoda i usluga (u daljem tekstu: isporučioци) da maksimalno unaprede svoje odnose sa korisnicima, kroz sistematizovano korišćenje tehnologije, kao i na osnovu korisničkih informacija potonje analize. CRM pokriva široku lepezu marketinških, prodajnih, uslužnih, organizacionih i tehnoloških inicijativa. Implementacija CRM aplikacije zahteva investicije i često prouzrokuje simultane promene poslovnih procesa i prioriteta [1].

CRM podrazumeva metodologije, strategije i softver koji pomažu proizvođaču da različite kupce tretira na različit način, odnosno da ostvari jedinstven pogled na korisnika. To znači da svi podaci o korisniku budu na jednom mestu kod isporučioца, da ih sakuplja i nadograđuje na organizovan, jedinstven način. Korisnik je centar poslovanja oko kojeg orbitiraju sve ostale poslovne aktivnosti i resursi, i na taj način gradi se specifični customer - centric poslovni koncept.

Customer - centric poslovni koncept je poslovni koncept u kome do punog izražaja dolaze lojalnost i stvarni broj profitabilnih korisnika.

Lojalnost korisnika postaje značajna poslovna snaga isporučioца. Istraživanja su pokazala da postoje brojni razlozi zbog kojih su lojalnost i zadržavanje postojećih korisnika itekako bitni, od kojih su najvažniji: prodaja proizvoda novom korisniku višestruko (5-8 puta) je skuplja u poređenju sa prodajom postojećem korisniku; jedan nezadovoljan korisnik će sa svojim lošim iskustvom upoznati značajan broj potencijalnih korisnika (8-10 njih); verovatnoća prodaje postojećem korisniku je 50%, dok je prodaja novom korisniku oko 15%; uvećanje zadržavanja postojećih korisnika za 5% godišnje, može uvećati profit isporučioца i do 85%. Uloga CRM je stoga u tome da otkrije tih 5% korisnika koje može zadržati, i u koje se usplati ulagati vreme i resurse. Korisnici su danas dobro informisani, njihova su očekivanja visoka i žele samo najbolje, i ako dobiju upravo ono što žele, na način na koji žele, oni se vraćaju iznova, odnosno postaju lojalni korisnici.

Stvarni broj profitabilnih korisnika je pitanje na koje mnogi isporučioци često nemaju pravi odgovor. Isporučioци obično znaju broj sklopljenih ugovora ili dnevno obrađenih transakcija, njihovo procentualno učešće na tržištu u poređenju sa konkurencijom, ali najčešće izostaju prave informacije koji se tiču tačnog broja lojalnih korisnika, koju količinu proizvoda oni konzumiraju, kako dolaze do odgovora na postavljena pitanja, odnosno da li uopšte komuniciraju sa proizvođačem. Za razliku od tradicionalnog marketinga čija je svrha definisanje velikih ciljnih grupa korisnika, svrha CRM je da se pronađe svaki korisnik ponaosob.

Brojne su prednosti primene CRM koncepta. One se ogledaju u: razumevanju vrednosti svakog pojedinačnog korisnika u životnom ciklusu proizvoda; prikupljanju potpunih, konzistentnih i strukturiranih podataka o korisnicima, i prepoznavanju korisnika kao pojedinca; integralnoj obradi korisnika preko svih raspoloživih komunikacionih kanala (telefon, e-pošta, internet, posete); zadržavanju korisnika programima za povećanje vernosti; planiranju strategije unakrsnog marketinga proizvoda; merenju efekata marketinških akcija i prodajnih aktivnosti; optimizaciji, automatizaciji i nadzoru marketinških, prodajnih i uslužnih procesa; racionalizaciji poslovanja uštedom vremena i novca [2].

Sa druge strane, nedostaci primene CRM se ogledaju u nedoslednosti organizacije isporučioца i načinu sankcionisanja neprincipijelnih korisnika. Najčešći nedostaci koji se javljaju usled nedosledne organizacije nastaju u situaciji kada se CRM sprovodi samo u okviru pojedinih funkcionalnih celina isporučioца (na primer marketing, prodaja..), a ne u svim organizacionim segmentima.

Od posebnog značaja danas je CRM koncept zasnovan na IKT, koji omogućava da se u kratkom roku informaciono obradi veliki broj podataka o individualnim korisnicima. U nastavku će biti više reči o CRM tehnologijama i softverima namenjenim CRM-u.

2.1. CRM TEHNOLOGIJA

Tehnološko rešenje upravljanja odnosima sa klijentima se sastoji iz tri glavna dela: operativnog, analitičkog i kolaborativnog.

Operativni CRM osigurava automatizaciju horizontalnih procesa: marketinga, prodaje i usluge. Operativni CRM omogućava razmenu podataka o klijentu između različitih odeljenja u preduzeću. Operativni CRM je zadužen za svakodnevnu komunikaciju sa klijentima. Analitički CRM nije u direktnom kontaktu s klijentima. On obrađuje čitav spektar podataka prikupljenih iz operativnog i kolaborativnog CRM-a i na osnovu rezultata generiše odluke i strategije.

Kolaborativni CRM omogućava interakciju između preduzeća i klijenata, partnera i dobavljača. Klijent sa svoje strane vidi samo kolaborativni CRM, deo usmeren njemu (kontakti, e-mail, web, aplikacije itd.) [3].

2.2. CRM SOFTVERSKA REŠENJA

Upravljanje odnosima sa klijentima je danas u najvećoj meri zasnovano na upotrebi softvera kao alata koji omogućava usklađivanje poslovnih koncepata. Pomoću ovakvih softvera, koji su najčešće bazirani na Internet tehnologijama, omogućeno je olakšano praćenje klijenata i njihovih želja, u vidu sakupljanja i obrade ključnih podataka, kako bi se proizvod ili usluga približili njihovim potrebama. CRM je poslovno rešenje koje pomaže kompaniji u izgradnji i održavanju kvalitetnog poslovnog odnosa sa klijentima, potencijalnim klijentima i partnerima.

U vodeće komercijalne CRM softvere danas spadaju: Salesforce, NetSuite, OnContact, Maximizer, Microsoft Dynamics CRM, Oracle CRM, Sage CRM, SugarCRM, Vtiger i Zoho [4].

3. KRITERIJUMI ZA IZBOR CRM SOFTVERSKIH REŠENJA

Prilikom izbora CRM softvera, neophodno je razmotriti više parametara u cilju donošenja optimalne odluke o izboru softverskog rešenja za određeno poslovno okruženje. Cena softverskog paketa se često (i to neopravdano) ističe u prvi plan pri izboru CRM rešenja. U kojoj meri će neki softver odgovarati uslovima kompanije, ne zavisi samo od njegove cene. Iz tog razloga se ovaj kriterijum neće dalje razmatrati.

Najčešći parametri (kriterijumi) za izbor konkretnog CRM rešenja su:

1. opcije hostovanja softverskog rešenja,
2. mobilni pristup,
3. upravljanje kontaktima,
4. podrška prodaji i marketingu,
5. praćenje i podrška zaposlenima,
6. jednostavnost korišćenja softverskog rešenja,
7. pomoć i podrška za korisnika,
8. izbor prodavca CRM softvera [5].

U nastavku teksta se detaljnije pojašnjavaju navedeni kriterijumi izbora.

3.1. OPCIJE HOSTOVANJA SOFTVERSKIH REŠENJA

Sa aspekta hostovanja CRM softverskog rešenja, korisnik prilikom kupovine softvera ima dve opcije: da kupi program koji se hostuje na kompanijskom serveru ili softver zasnovan na vebu. Obe vrste softverskih rešenja imaju svoje prednosti i mogu obezbediti neograničen pristup korisnika i neograničen broj računara klijenata.

Sa pojavom cloud tehnologije (eng. cloud computing – računarstvo u oblaku), sve je veći broj CRM rešenja koja se baziraju na ovoj tehnologiji. U tom slučaju, CRM softveri se hostuju na serverima CRM-kompanije, a ne na serveru kompanije korisnika softvera. Ova tehnologija ima svoje prednosti, ali su neophodne i određene mere opreza, baš kao i u slučaju CRM softvera hostovanih na kompanijskom serveru.

U nastavku se razmatraju razlike između dve pomenute vrste softvera, kao i neka pitanja koja je neophodno razmotriti prilikom odabira CRM softverskog rešenja.

Bezbednost

Najveća razlika između softvera koji se hostuju na kompanijskom serveru i softvera zasnovanih na vebu je mesto gde se čuvaju osetljivi poslovni podaci. Kod CRM softvera koji su preuzeti, ili instalirani, na kompanijskom serveru, mogu se pratiti sumnjive aktivnosti i obezbediti mere bezbednosti, kao što je na primer anti-virus softver. Sa tog aspekta je ova kategorija softvera sigurnija nego rešenja zasnovana na cloud-tehnologiji.

Cloud-baziran CRM softver je takođe obezbeđen na serveru host kompanije. Obzirom da je posao ovih kompanija da štiti veliki broj informacija velikog broja svojih kupaca, neophodno je da se ti podaci “čuvaju pod ključem”. CRM host serveri imaju dodatne mere bezbednosti softvera koje se najčešće ne mogu obezbediti kod kompanijskih servera, kao što je IT osoblje, čija je isključiva odgovornost da neprekidno prati ove informacije.

Mobilnost

CRM softver baziran na cloud tehnologiji je dostupan kad god je to potrebno. Korisnik CRM ne mora da bude za svojim računarom u svojoj kancelariji, kako bi pristupio profilu svog klijenta. Sa CRM zasnovanim na vebu, može se pristupiti informacijama sa bilo kog računara, laptopa ili mobilnog uređaja. Neki CRM softveri imaju mobilne aplikacije koje se mogu dodatno preuzeti. One omogućavaju unos podataka sa mobilnih uređaja, kao što su smart telefon ili tablet, pri čemu se CRM softver automatski ažurira tom informacijom. Ova informacija postaje istovremeno dostupna svima u kompaniji, bez obzira da li su oni zaposleni na liniji korisničkog servisa ili sklapanju investicionih ugovora.

CRM rešenja instalirana na serveru kompanije nemaju ovakvu fleksibilnost i mobilnost kao opcije CRM-a zasnovane na vebu. Obično se zahteva instalacija aplikacija na svakom računaru i njihovo umrežavanje kako bi svaki korisnik CRM mogao da ga koristi efikasno. Neka CRM softverska rešenja imaju mobilne aplikacije na raspolaganju koja omogućavaju da se njegov korisnik može povezati sa svojim serverom i pristupiti informacijama o klijentu, mada se za te potrebe često zahteva dodatni softver i hardver.

Prostor za skladištenje podataka

Za korisnike CRM softvera baziranog na webu, nema bojazni da će im ponestati prostor za skladištenje podataka. Ova rešenja nude gotovo neograničen prostor za podatke korisnika. Budući da se podaci čuvaju na spoljnom serveru, računari korisnika CRM takođe nisu opterećeni sa previše podataka. Ovo oslobađa dragoceni prostor računara za druge važne informacije i omogućava brže i efikasnije pokretanje sistema.

Sa druge strane, hostovanje CRM softvera na sopstvenom računaru zauzima prostor na serveru. U nekom trenutku će se ukazati potreba za dodatnim prostorom na serveru, što će koštati više izraženo u hardveru, softveru i ljudskim resursima da se dodatni serveri obezbede. Iako je moguće da se obezbedi "neograničen prostor" i CRM softver hostuje na sopstvenom serveru, ipak je nesumnjivo više isplativo da se ove informacije skladište u "oblaku" (eng. cloud).

Tehnička podrška

Svakom korisniku koji poseduje računar i elektronsku opremu, potrebna je tehnička podrška. U uslovima kada je kompanija još uvek mlada i u kritičnim fazama rasta, potrebno je da se što više kapitala investira u one oblasti poslovanja kompanije koje su u tom trenutku najvažnije. Korišćenje CRM rešenja baziranih na cloud-tehnologiji eliminiše potrebu za dodatnom IT podrškom, što znači da se sredstva mogu koristiti za druge kritične poslovne investicije.

Hostovanje CRM softvera na sopstvenom računaru će zahtevati veliku tehničku podršku, naročito u praćenju potencijalnih pretnji po bezbednost sistema. Ova opcija može biti poželjna u kompaniji, ukoliko se smatra da je čuvanje podataka lokalno na sopstvenom serveru važno. Ali u tom slučaju mora se računati na dodatne troškove poslovanja i njihovo uključivanje u budžet kompanije.

3.2. MOBILNI PRISTUP

Pojedini CRM softveri imaju mogućnosti mobilnog pristupa podacima, tako da korisnik softvera može u pokretu pristupiti važnim informacijama o klijentu. Korisnik CRM softvera ne mora da bude za svojim računarem u svojoj kancelariji, kako bi pristupio računu i profilu svog klijenta. Informacijama o klijentima se može pristupiti sa bilo kog računara, laptopa ili mobilnog uređaja. Ova mogućnost je već razmatrana u prethodnom tekstu i predstavlja veoma važan kriterijum pri izboru CRM softverskog rešenja za pojedine oblasti poslovanja.

3.3. UPRAVLJANJE KONTAKTIMA

Svako CRM softversko rešenje obuhvata funkcije koje omogućavaju kreiranje naloga za svakog pojedinačnog klijenta i praćenje interakcije sa njim. Bolji CRM softveri omogućavaju korisnicima povezivanje sa drugim korisnicima u kompaniji, kao što su zaposleni u tehničkoj podršci ili prodajno osoblje, u realnom vremenu, kako bi dobili pomoć neophodnu da odgovore na pitanje klijenta. Mogućnost ostvarivanja telefonskog poziva i povezivanje sa važnim kontaktima direktno iz CRM programa je korisno ukoliko kompanija poseduje odgovarajuću opremu.

Pri izboru CRM softvera, važno je znati koliko će odeljenja i zaposlenih u kompaniji koristiti CRM softver. Dok neka rešenja omogućavaju pristup neograničenog broja

korisnika za fiksnu cenu, većina rešenja se plaća u određenom iznosu po korisniku mesečno, pri čemu taj iznos raste za veći broj korisnika. Pored toga, neki CRM softveri ograničavaju koliko naloga korisnika može da se kreira, dok drugi omogućavaju neograničen broj naloga.

3.4. PODRŠKA PRODAJI I MARKETINGU

Pored upravljanja kontaktima, neki od CRM softvera obuhvataju i elemente podrške funkcijama prodaje i marketinga. Kod drugih softvera ove aplikacije se dodatno naplaćuju. Ove funkcije obuhvataju predviđanje marketinške kampanje, generisanje parametara prodaje, i praćenje konkurencije. Radi se o korisnim alatima koji se mogu koristiti za uvećanje baze klijenata i povećanje prihoda kompanije.

3.5. PRAĆENJE I PODRŠKA ZAPOSLENIMA

Jedna od važnijih karakteristika boljih CRM softvera je sposobnost praćenja interakcije zaposlenih sa klijentima. Ona podrazumeva uvid u to kada je klijent imao tehnički ili servisni problem ili pitanje, koji zaposleni mu je u tome pomogao i da li je problem rešen. Ove informacije mogu biti od koristi pri dodeli zadataka zaposlenima, kao i pri godišnjoj proceni učinka zaposlenih u slučaju primene sistema upravljanja pomoću rezultata.

Neki CRM softverska rešenja imaju mogućnost kreiranja socijalne mreže u okviru programa, tako da zaposleni mogu da saraduju i saznaju više o svojim funkcijama, fokusu kompanije i prodajnim taktikama.

3.6. JEDNOSTAVNOST KORIŠĆENJA SOFTVERSKOG REŠENJA

Bez obzira da li se podaci čuvaju na sopstvenom serveru kompanije ili u "oblaku", važno je da se informacije mogu brzo pronaći. Većina CRM softvera obuhvata uputstva i druge ugrađene vodiče kao pomoć pri upoznavanju sa softverom. Uputstva se najčešće mogu lako pratiti, i uključuju korak-po-korak uputstva sa slikama ili video tutorijalima. To može biti od neprocenjive pomoći, naročito ako korisnik nije dobro upoznat sa CRM softverom.

3.7. POMOĆ I PODRŠKA ZA KORISNIKA

Još jedna važna karakteristika CRM softvera je mogućnost da korisnik softvera može da se poveže sa nekim iz podrške ako ima problema sa njegovim korišćenjem. Nemaju svi CRM softveri interaktivnu komunikaciju ili telefonsku podršku na raspolaganju. E-mail je dostupan kod pojedinih softvera, dok drugi imaju na web sajtu e-mail formu za postavljanje pitanja. Većina proizvođača softvera je u mogućnosti da pruži odgovor korisnicima u roku od 24 sata.

3.8. IZBOR PRODAVCA CRM SOFTVERA

Pri izboru CRM softvera, pored izbora samog softverskog paketa, manje očigledan, ali jednako važan je odabir prodavca softvera, koji će sprovesti njegovu implementaciju i pružati podršku u korišćenju CRM softvera.

U praksi se pri nabavci softvera kompanije najčešće sreću sa prodavcima, a ne proizvođačima softvera. Pošto većinu CRM softvera nudi više prodavaca, izbor prodavaca je jednako širok, isto koliko i izbor samog softvera.

Međutim, neke softverske kompanije imaju direktnu prodaju i svoje proizvode prodaju bez posrednika. Pošto je cena softvera stvar pregovora, kompanija može dobiti povoljniju cenu od direktnog prodavaca. Međutim, u tom slučaju kompanija se suočava sa većim, često udaljenim softverskim kompanijama, koje ne mogu da razumeju probleme malih ili srednjih preduzeća, kao što je to u mogućnosti da učini prodavac.

4. UMETO ZAKLJUČKA

Kupovina CRM softvera predstavlja veoma važnu stratešku odluku, koja će u velikoj meri uticati na poslovanje kompanije. Izbor CRM softvera korišćenjem kriterijuma pobrojanih u ovom radu može pomoći menadžmentu kompanije da odluči na situacionom pristupu koje softversko rešenje najbolje odgovara poslovnim ciljevima i potrebama kompanije.

Kada je reč o konkretnim softverskim rešenjima, prema [6], izvršeno je rangiranje CRM softverskih rešenja u skladu sa pobrojanim kriterijumima, posebno uvažavajući u kojoj meri softver povezuje svaki aspekt iskustva interakcije sa klijentom, zatim njegovu sposobnost da više korisnika i odeljenja deli fajlove, jednostavnost instalacije i korišćenja, kao i ukupnog kvaliteta korisničkog servisa sa pomoćnim osobljem. Na taj način, načinjena je rang lista softvera, na kojoj su trenutno vodeći CRM softveri na tržištu Salesforce, Netsuite i OnContact.

REFERENCE

1. Echambadi N., (2007), Creating a CRM Business Case, Dearborn Trade Publishing, 2007.
2. Harp D. E. (2003), Customer Relationship Management Systems Handbok, Auerbach Publications, A CRC Press Company Boca Raton London New York Washington, D.C, <http://www.scribd.com/doc/123512507/Customer-relationship-management-systems-handbook>
3. Krstić M., Skorup, A., Vukadinović, S., From Product Customization To Customer Relationship Management, International Review, Izdavač Visoka škola za poslovnu ekonomiju i preduzetništvo Beograd, ISSN 379-25892-1111, rad prihvaćen za objavljivanje
4. Skorup, A., Krstić, M., Primena CRM koncepta u elektronskom obrazovanju, Naučno stručna konferencija Sinteza 2014, Univerzitet Singidunum, 25-26. april 2014., Beograd
5. <http://it.toolbox.com/blogs/insidecrm/choosing-a-crm-vendor-54723>
6. <http://crm-software-review.toptenreviews.com/>
7. <http://crmsearch.com/crm-software-selection.php>
8. <http://erpccloudnews.com/2013/05/a-guide-to-selecting-the-best-crm-solution-for-your-small-business/>

STRATEGIC MANAGMENT OF TOURIST DESTINATION

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Abstract: This paper's target is to prove that certain tourist destination may have their visitor's number increased and achieve far better position on the Serbia's Tourist Map, by having it's strategy well set in the following period. Strategic Management in function of Tourist Destination Management will have travel deals profiled in public, will make new and more modern travel deals that will single them out from an abundance of similar deals and whose combination of services will attract interest in the next period.

Keywords: tourist, destination, strategy

STRATEGIJSKO UPRAVLJANJE TURISTICKOM DESTINACIJOM

Srdjan Borić, Ivana Andrić, Jovan Rudež

Apstrakt: Cilj rada je da se dokaže da određena turistička destinacija u narednom periodu na osnovu dobro postavljene strategije može povećati broj turista i zauzeti još bolje mesto na turističkoj mapi Srbije. Strategijski menadžment u funkciji upravljanja turističkom destinacijom profilisaće turističku ponudu kod javnosti, stvoriti novu moderniju turističku ponudu, koja će se izdvojiti u obilju sličnih sadržaja i čija će kombinacija usluga biti interesantna u narednom periodu.

Ključne reči: turizam, destinacija, strategija

1. UVOD

Da bi se uspešno upravljalo turističkom destinacijom potrebno je pratiti promene koje se dešavaju u okruženju. Za menadžment je lakše predvideti promene u samom okruženju na nacionalnom nivou nego predvideti promene na globalnom nivou koje mogu biti neočekivane, i mogu imati negativan uticaj na poslovanje i dalji razvoj destinacije. Ako se ne reaguje na promene koje se dešavaju u okruženju dovede se razvoj turističke destinacije pod znakom pitanja, jer ne reagovanje na promene dovodi do menadžmenta

miopije ili slepila. Destinacija mora da reaguje efikasno na promene u okruženju da bi imala svoj rast i razvoj.

Menadžment je proces ostvarivanja definisanih ciljeva, da bi smo došli do ostvarenja moramo da realizujemo određene aktivnosti koje su međusobno uslovljene. Na slici 1. vidimo četiri faze strategijskog upravljanja turističkom destinacijom:

-Dijagnoza stanja, gde se sada nalazi turistička destinacija i koji su razlozi sadašnjeg stanja.

-Definisanje strategije razvoja turističke destinacije, odnosno naše buduće pozicije.

-Implementacija strategije, koja će nam omogućiti da izađemo iz trenutne pozicije i dodjemo do ostvarenja našeg cilja.

-Strategijska kontrola, kontrolišemo da li ispravno idemo ka našem cilju koji smo zacrtali u u našem planu.



Slika 1.Okvir procesa strategijskog upravljanja turističkom destinacijom[1]

2. ANALIZA MAKRO OKRUŽENJA

Turistička destinacija može da utiče na interni nivo, koji pod njenim uticajem.Nivo na koji može da utiče ali i ne da kontroliše je interni nivo, a nivo na koji ne može da kontroliše i utiče

je eksterni nivo ili makro okruženje. Za analiziranje makrookruženja koristi se PEST analiza.

Da bi imali realnu sliku makro okruženja moramo analizirati ekonomsko, socio-kulturno, tehnološko, ekološko i političko okruženje.

Ekonomsko okruženje

Ekonomska situacije diktira mnoge trendove. Logično je da kada se dešavaju velike ekonomske krize dolazi i do pada mnogih industrijskih grana.Samim tim i turizam nije imun na ove događaje. Svetska ekonomska kriza je ipak pokazala da je turizam po rezultatima WTO prvi izašao iz recesije. To je pokazatelj da ljudi imaju potrebu za putovanjima i odmorom i da je to jedno od poslednjih stvari kojih se odriču. Turizam

beleži veliki rast u poslednjim decenijama. Mnogi su razlozi koji dovode do povećanja turističke potražnje. Jedan od razloga je i skraćivanje radnog vremena odnosno povećanje slobodnog vremena. Najvažniji razlog je ekonomska situacija turista. Kineska vlada je svoje građane navodila na to da trebaju više da putuju, da izgrade tu naviku. Kinezi su poslednjih godina ekonomski veoma napredovali ali nisu trošili svoje zarade koje su porasle. Vlada je pospešivala putovanja u samoj zemlji da bi se novac trošio i tako razvio turizam. Postoji veliki broj ljudi u svetu koji poseduju veliko bogastvo i imaju takav posao da sami određuju vreme kada i gde putuju.

Stopa inflacije je takodje veoma bitna u odabiru zemlje koja se posećuje. Valuta određene zemlje je nekada mnogo jača od valute u kojoj se nalazi neka turistička destinacija što je veoma stimulirajuće za turistu.

Socio-kulturno okruženje

Najopštije se mogu diferencirati tri osnovne grupe životnih stilova sa delimično različitim vrednostima i ponašanjem od značaja za definisanje strategije razvoja turističkih destinacija[2];

- životni stil usmeren ka radu- ovu grupu čine pojedinci kojima je rad još uvek središte životnih interesa. Odmor i turistička putovanja su od drugorazredne važnosti. Motivacija za putovanja su oporavak i oslobodjenje nemanje obaveza.
- hedonistički životni stil- pojedinci kojima je rad sredstvo za ostvarivanje pretpostavki za željeno korišćenje slobodnog vremena. Suština života se vezuje za slobodno vreme, pri čemu su turistička putovanja najvažniji oblik njegovog korišćenja. Oni ostvaruju drugačija iskustva, promenu, istraživanje, aktivan odmor sa drugim ljudima, relaksaciju bez stresova, uživanje u prirodi i očuvanoj životnoj sredini.
- "novo jedinstvo svakodnevnog života" kao životni stil – pojedinci u ovoj grupi žele da smanje razdvojenost između rada i slobodnog vremena i teže samoispunjenju kroz sve oblasti života. Njihova motivacija za turistička putovanja čine: proširenje horizonta, učenje, komuniciranje sa drugim ljudima, povratak prirodi, otvorenost za druge ideje, spremnost za eksperimentisanje. Ovaj segmen će predstavljati najdinamičniji oblik životnog stila u predstojećem razdoblju i osnovu za poslovanje uspešnih destinacija na turističkom tržištu.

Političko okruženje

Država svojim zakonima stvara predušlove za nesmetanim bavljenjem turizmom. Rigidni zakoni onemogućavaju razvoj, a što je država demokratskija zakoni su skladu sa potrebama razvoja. Država mora da utiče kroz zakonska akta na zaštitu prirodnih resursa, infrastrukture, regulisanju uslova poslovanja, zaštiti potrošača i na još mnogo toga.

Današnji svet se suočava sa različitim opasnostima, od ratnih sukoba, terorizama pa do raznih zaraza. Primer "arapskog proleća" pokazuje da u takvim situacija turisti koji su u te zemlje išli biraju druge destinacije, i u ovom slučaju najveću korist imale su Španija, Grčka i Italija.

Jednostavno se na ovakva dešavanja nemože adekvatno reagovati.

Tehnološko okruženje

Uticao tehnologije na turizam se sastoji u novim informacionim tehnologijama koje turističku destinaciju približavaju potencijalnom turistu. Dolazi do bržeg razvoja podataka,

internet tehnologija koje mogu da opredele turistu na kojoj destinaciji će putovati. Tehnološki napredak u vidu prevoza putnika da li je reč o avionskom ili nekom drugom prevozu koji je sada brži udobniji i sigurniji. Turističke destinacije moraju imati vistok stepen tehnološke razvijenosti da bi bile zanimljive za dolazak turista.

Ekološko okruženje

Svest se poslednjih godina promenila, od toga da je najvažnija bolja stopa rasta turista i noćenja do toga da se sada ustupa mesto “humanom turizmu”. Povećava se svest očuvanja pripodnih resursa. Vrednost destinacije se mora održati a ne potrošiti u određenom malom vremenskom periodu. Moraju se imati informacije o vrednostima u destinaciji, sprečiti izgradnju koja može negativno da utiče na turizam. Mora se voditi računa o neophodnosti održavanja i unapređivanja okruženja. Neplanskim radom i nebrigom može se dovesti do pada tražnje određene turističke destinacije.

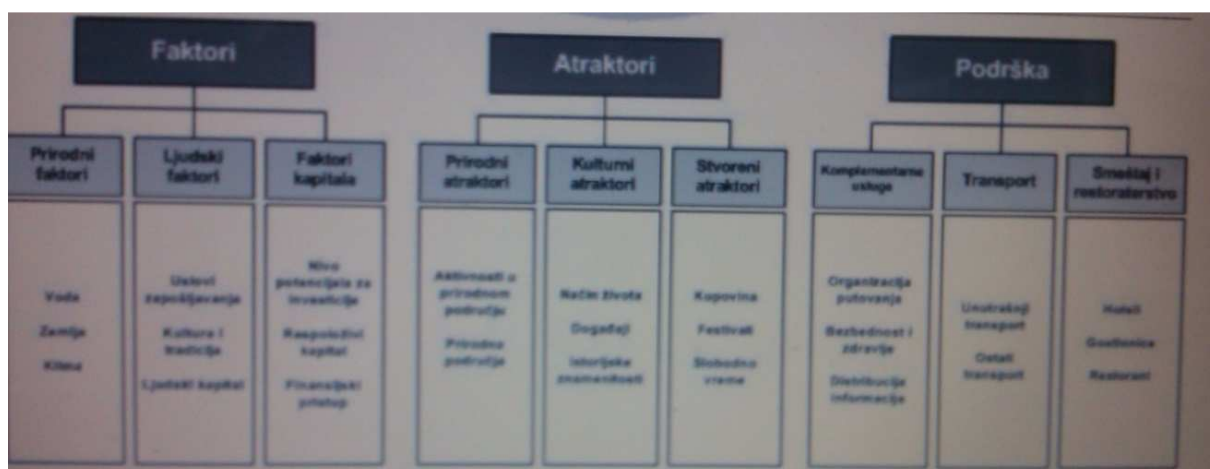
3. ANALIZA INTERNIH RESURSA TURISTIČKE DESTINACIJE SOKOBANJA

Pomoću FAS analize odredićemo vrednosti turističke destinacije. Metoda idetifikuje i klasifikuje elemente turističke ponude. Elemeti su podeljeni u tri grupe: Faktori, Atraktori, Podrška. Ova metodologija je zasnovana na identifikovanju i klasifikovanju relevantnih elemenata turističke ponude:[3]

Faktori –predstavljaju one resurse koji poseduju potencijale ali trenutno ne privlače mnogo turista. Sastoje se iz dva osnova elementa: prirodnih faktora, koji poseduju potencijal da postanu turističke atrakcije, i ljudi i kapitala kao faktori koji su ključni, od zavisnosti od procene, mogu da olakšaju ili otežaju pretvaranje turističkih atraktora u faktore.

Atraktori- njihovo utvrđivanje predstavlja polaznu tačku za utvrđivanje faktora i podrške. Mogu biti prirodni, kulturni i stvoreni. Predstavljaju turističke predele ili resurse koje posećuju turisti odnosno predstavljaju realnost turizma u momentu proučavanja.

Podrška- čine ih svi elementi koji podržavaju aktivnosti koje nastaju na osnovu delovanja turističkih atraktora odnosno predstavljaju delove turističke privrede. Uključuju objekte za smeštaj i ishranu, saobraćaj i komplementarne usluge.



Slika 2. Sadržaj FAS tehnologije[4]

4. SWOT ANALIZA TURISTIČKE DESTINACIJE SOKOBANJA

Jedna od tehnika koja najbolje prikazuju trenutnu situaciju jeste swot analiza. Identifikuju se jake strane, slabosti, šanse i pretnje. Na slici vidimo dobre i loše stvari u turističkoj destinaciji.

Na osnovu svega navedenog možemo kroz određene strategije da utičemo na budući razvoj turističke destinacije Sokobanja.

Tabela 1: Mapa SWOT analiza turističke destinacije Sokobanja

JAKE STRANE	SLABOSTI
turistička tradicija bogastvo termalnim i mineralnim izvorima najduža istorija banjskog turizma u Srbiji prva ekološka opština u Srbiji kulturno-istorijsko nasleđe vazдушna banja blizina koridora E-75 manifestacije flora i fauna klimatski uslovi sa nizom mikroklimatskih specifičnih zona	Neorganizovanost nosioca ponude Slaba higijena Slaba primena savremene tehnologije Loša komunalna opremljenost nemanje imida niska kupovna moć domaćih gostiju monopolski položaj u pogledu korišćenja prirodno lekovite vode isto tretiranje gosta i bolesnika neuredjenost Bovanskog jezera nerazvijena trgovina suvenirima zapostavljanje lekovitih potencijala Banje Jošanice neiskorišćeni hidro-resursi manjak smeštaja za visoko platežnu klijentelu nedostatak specijalizovanog osoblja i eksperata sezonska ponuda nepostojanje biciklističkih staza neiskorišćenost kapaciteta za ekstremne sportove slabo ulaganje u infrastrukturu nedovoljno uređena izletišta
ŠANSE	PRETNJE
razvoj kongresnog turizma razvoj sportskog turizma veći broj stranih gostiju ponuda welnes , spa i zdravstvenog (preventivnog turizma) ulazak kapitala kvalitetna baza za kadrove ponuda proizvoda i usluga raznovrsnog sadržaja saradnja sa drugim banjama u Srbiji potraživanje usluga u banjskom i seoskom turizmu produženje turističke sezone iskorišćenje kapaciteta Banje Jošanice iskorišćenje potencijala Ozrena, Rtnja, Bukovika i Bovanskog jezera toplifikacija	finansijska i ekonomska situacija u Srbiji nekontrolisanja gradnja loša privatizacija negativna migracija sezonski posao loša ekonomska pozicija opštine nespremnost turističkih radnika na promene zagadivanje prirode

5. STRATEŠKO RAZVOJNO PLANIRANJE TURISTIČKE DESTINACIJE SOKOBANJA

Da bi ostavarili određeni napredak moramo imati određenu viziju onoga što želimo da uradimo.

Vizija predstavlja, u suštini najprivlačniju budućnost koju bi destinacija trebalo da ostvari u nekom vremenskom periodu. Vizija je polazna strateška odluka i izuzetno je značajna za definisanje strategije.

Vizija Sokobanje je da će postati jedinstvena banjska turistička destinacija u zemlji, atraktivno uređenih ambijenata sa ponudom koja obuhvata zdrav način života, ponudom koja će biti u celoj godini a ne sezonskog karaktera, gde se turisti mogu u opuštajućoj atmosferi prepustiti novim sadržajima. Vizija se bazira na jedinstven spoj čoveka i prirode, na zdrav način života i na tradiciju i istoriju destinacije.

Definisanje postojećih i potencijalnih turističkih proizvoda

Turistički proizvod je povezan sa kapacitetima koji se nalaze u destinaciji. Dele se na primarne u koje spadaju prirodna bogastva kao što su kulturno-istorijska i etnološka baština, i na sekundarne u koje spadaju smeštajni kapaciteti, ugostiteljski, saobraćajno uređenje, turističke agencije i ostalo.

Na osnovu turističke potražnje kreiramo turistički proizvod. Ako ne shvatimo potrebu tržišta naš turistički proizvod biće promašaj koji turističku destinaciju izbacuje iz konkurencije. Cena proizvoda i kvalitet istog mora biti takav da su turisti zadovoljni njime. Naravno na kraju takav turistički proizvod mora da ima ekonomsku opravdanost da ostvaruje dobit.

Tabela 2. Matrica konkurentnosti i privlačnosti turističkih proizvoda destinacije Sokobanja

<p>Selektivno investirati</p> <ul style="list-style-type: none"> -plan konkurentnosti -relaksacijski odmori i kraći odmori -spa i wellness -zdravstvo -seminari i obrazovanje 	<p>Investirati u poboljšanje konkurencije</p> <ul style="list-style-type: none"> -planinarenje i biciklizam -uređenje puteva -kulturne, zabavne i etnološke priredbe i 	<p>Intezivno investirati</p>
<p>Upravljanje rastom</p> <ul style="list-style-type: none"> -prodaja domaćih proizvoda 	<p>Selektivno investirati</p> <ul style="list-style-type: none"> -lov i ribolov -ekološki odmor -otkrivanje prirode -ponuda hrane 	<p>Investirati u poboljšanje Privlačnosti</p> <ul style="list-style-type: none"> -kuhinja podneblja
<p>Striktno upravljanje</p> <ul style="list-style-type: none"> -kraće posete kulturne i prirodne baštine 	<p>Kontrolisani rast</p> <ul style="list-style-type: none"> -zdravstvo 	<p>Škole u prirodi</p>

Niska

srednja

visoka

KONKURENTNOST

Kod primarnih turističkih proizvoda u delu gde treba intezivno investirati ne postoji proizvod koji je konkurentan na međunarodnom tržištu. Proizvodi koji se mogu javiti u narednom periodu bili bi: spa i wellness proizvodi, relaksacijski i kraći odmori, seminari i obrazovanje.

U delu poboljšanja konkurentnosti nalaze se proizvodi koji su veoma atraktivni ali zbog infrastrukture manje konkurentni. Tu spadaju planinarenje i biciklizam i kulturni i zabavni događaji.

Identifikovani proizvod u delu investiranja i poboljšanje je tipična kuhinja podneblja, i on ima visok nivo konkurentnosti i srednje intezivan nivo privlačnosti. Potrebno je marketinški povećati njegovu privlačnost.

Kod sekundarnih turističkih proizvoda u delu gde treba selektivno investirati nalaze se relaksacijski odmori, kraći odmori, zdravstvo, golf. Ovi turistički proizvodi su veoma atraktivni na tržištu ali nisu aktivni elementi ponude Sokobanje, i potrebna je strategija postepenog ulaganja u razvoj novih proizvoda.

Selektivno investirati treba u sledeće proizvode: lov i ribolov i u ekološki odmor. Potrebno je investirati u infrastrukturu i u marketing. Ovi proizvodi spadaju u srednji nivo privlačnosti i konkurentnosti.

Tercijalni turistički proizvodi su prodaja proizvoda u prodavnicama, i za ove proizvode karakteristična je niska konkurentnost i srednja privlačnost.

Proizvod koji spada u kontrolisani rast jeste zdravstvo. Ove proizvode odlikuje niži nivo privlačnosti i srednje visoka konkurentnost. Ovde je potrebno manje investiciono ulaganje.

U striktno upravljanje i održavanje nalazi se proizvod kratke posete kulturne i prirodne baštine. Treba voditi računa o kulturnoj i prirodnoj baštini i investirati sredstava koja su dovoljna za njeno očuvanje.

6.ZAKLJUČAK

Upravljanje turističkom destinacijom je složen proces. Menadžment mora pratiti promene koje se dešavaju u okruženju i pravovremeno reagovati na određenu tražnju turista koji menjaju navike zbog kojih putuju. U skladu sa tim mora se imati vizija gde želimo da se turistička destinacija nadje u budućnosti.

Na osnovu praćenja trendova, analize tržišta i uz pomoć raznih metoda dolazimo do određenih zaključaka. Na osnovu resursa i mogućnosti razvoja koji su povezani sa investicionim ulaganjem turističku destinaciju pozicioniramo na određeno mesto koje je izdvaja od drugih destinacija. Upravo je posebnost turističke destinacije faktor koji treba da opredeli potencijalnog turistu da koristi usluge naše destinacije.

REFERENCE

1. Carter.R, Fabricius. M, Introduction to Destination Management, WTO Seminar, Adis Abeba, 2006, p.207
2. Martin.W.H.Manson.S., Social Trends and Tourism Futures, Tourism Management, No.2, 1987, p.110
3. Popesku.J, Menadžment turističke destinacije, Univerzitet Singidunum, Beograd, 2011, st 162
4. UNWTO, Diagnostic of rural Tourism in Serbia, Diagnostic Report, Third Draft, Spanish MDG Achievement Fund Joint Programme, 2010, p 26

ANALYSIS AND FACTORS AFFECTING THE SERBIAN BALANCE OF PAYMENTS

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Abstract: During the history, the balance of payments was represented in various forms, depending on the changes in trade and financial structure of international economic relations. During the time of mercantilism, the need to differentiate the payment of trade was not felt, because the trade transactions were performed mostly by paying in gold world currency. Practically exports and imports were equal to the inflow and outflow of funds, and matched the volume of international payments of the country. Balance of payments is one of the key statistical records and is a report made to ensure systematic monitoring and recording of economic transactions between residents of Serbia with the rest of the world (non-residents). It forms a sequence of balance sheet transactions to and from Serbia, provides a net flow of transactions between residents and the rest of the world and presents the way of financing the flow. It represents the balance of all income and expenditures arising on the basis of all economic transactions with other countries in a given period of time. The analysis of this paper is based on a study of the concept of the balance of payments, the structure of the balance of payments, balance of payments methodology and analysis of the balance of payments of Serbia, and the factors that affect the balance of payments of Serbia.

Keywords: the balance of payments, the structure of the balance of payments, balance of payments methodology, analysis and factors affecting the balance of payments Serbia.

ANALIZA I FAKTORI KOJI UTIČU NA PLATNI BILANS SRBIJE

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Apstrakt: Tokom istorije platni bilans se prikazivao u različitim oblicima, u zavisnosti od toga kako se menjala robna i finansijska struktura međunarodnih ekonomskih odnosa. U doba merakantilizma, potreba za razlikovanjem platnog od trgovinskog bilansa nije se osećala, zato što su se trgovinske transakcije obavljale uglavnom uz istovremeno plaćanje zlatnim svetskim novcem. Praktično je izvoz i uvoz bio jednak prilivu i odlivu zlata, odnosno poklapao se sa obimom međunarodnih plaćanja zemlje. Platni bilans je jedna od ključnih statističkih serija i predstavlja izveštaj sačinjen radi obezbeđenja sistematskog praćenja i beleženja ekonomskih transakcija rezidenata Srbije sa ostatkom sveta (nerezidentima). Njime se formiraju serije bilansa transakcija prema Srbiji i iz Srbije, obezbeđuje neto tok transakcija između rezidenata i ostatka sveta i iskazuje način finansiranja tog toka. On podrazumeva bilans svih primanja i izdavanja koja nastaju na osnovu ukupnih ekonomskih transakcija sa inostranstvom u datom vremenskom periodu.

Analiza ovog rada zasniva se na izučavanju pojma platnog bilansa, strukture platnog bilansa, metodologija platnog bilansa kao i analiza platnog bilansa Srbije i koji faktori utiču na platni bilans Srbije.

Ključne reči: platni bilans, struktura platnog bilansa, metodologija platnog bilansa, analiza i faktori koji utiču na platni bilans Srbije.

1. UVOD

Svaka država tj., zemlja ima platni bilans. Platni bilans se definiše kao sistemski dvostrani pregled svih ekonomskih transakcija obavljenih između rezidenata i nerezidenata u određenom vremenskom periodu, najčešće u jednoj godini. O platnom bilansu uvek govorimo sa aspekta jedne zemlje i pri tom se posmatraju uporedna dugovanja i potraživanja u datom periodu, uz konstataciju da platni bilans može biti aktivan, pasivan ili uravnotežen (u suficitu, deficitu ili uravnotežen). „Globalno posmatrano zemlje se međusobno razlikuju po stepenu ekonomske razvijenosti. U manje razvijenim tržišnim ekonomijama obim finansijskih transakcija je daleko manji u odnosu na razvijenije ekonomije sa razvijeni finansijskim tržištima. „[1]S toga možemo zaključiti da zemlje različito evidentiraju svoje transakcije sa svetom.

2. POJAM PLATNOG BILANSA

Platni bilans se naziva "ogledalom nacionalne privrede", pošto se iz njega može videti koliko se uspešno jedna zemlja uključuje u međunarodnu ekonomsku saradnju. Prema tome, „platni bilans se definiše kao sistematski prikaz svih ekonomskih transakcija rezidenata jedne zemlje sa rezidentima ostalih zemalja.“[1] Neophodno je obrazložiti neke aspekte kao bi se definicija razumela. Pod rezidentima se podrazumevaju pojedinci, firme i vladine agencije, dok transakcije se definišu kao ekonomski tok koji izaziva stvaranje, transformaciju, razmenu, transfer ili gašenje ekonomske vrednosti, robe ili finansijske aktive. Platnim bilansom se meri vrednost transakcije koje se ostvare u toku određenog vremenskog perioda (godinu ili o kvartalu).[2] Platni bilans omogućava nosiocima ekonomske politike jedne zemlje da dođu do saznanja o ekonomskim odnosima domaće privrede sa pojedinim regionima, integracionim celinama ili pojedinim privredama.

„Globalno posmatrano zemlje se međusobno razlikuju po stepenu ekonomske razvijenosti. U manje razvijeni tržišnim ekonomijama obim finansijskih transakcija je daleko manji u odnosu na razvijenije ekonomije sa razvijeni finansijskim tržištima. „[1] S toga možemo zaključiti da zemlje različito evidentiraju svoje transakcije sa svetom. Upravo zbog razlika u evidentiranju ekonomskih transakcija između zemalja, postoji opšte prihvaćeni metodološki okvir sastavljanja i prezentovanja platnog bilansa. Međunarodni monetarni fond je zaključno sa 1993.godinom objavio pet Priručnika platnog bilansa (Balance of Payments Manual), s tim da je poslednje izdanje priručnik BPM5 i dalje u primeni. Međunarodni monetarni fond je odgovoran za formulisanje i stalno prilagođavanje tog metodološkog okvira i uspešne strategije.

3. STRUKTURA PLATNOG BILANSA

Platni bilans se sastoji iz:

- tekućeg bilansa (balance od current account) bruto principu
- kapitalni i finansijski bilans – većina transaakcija se evidentira po neto principu

3.1. BILANS TEKUĆIH TRANSAKCIJA

Teukući bilans obuhvata evidentiranje ekonomskih transakcija između rezidenata različitih zemalja koje se odnose na robu, usluge, dohodak i tekuće transfere. Bilans tekućih transakcija predstavlja najznačajniji deo platnog bilansa. Bilans tekućih transakcija obuhvata: [2]

- trgovina robom – obuhvataju opipljive proizvode, a bilansom robnih transakcija obuhvaćana je razlika između vrednosti izvoza i uvoza robe.
- Trgovina uslugama – razmena usluga
- Prihodi/ rashodi od investiranja – priliv i odliv sredstava nastali kao rezultat domaćih investicija u inostranstvu i inostranih u domaćoj zemlji.
- Unilateralni transferi – obuhvataju stipendije ili poklone koji se daju drugim zemljama ili primaju iz njih, penzije koje se plaćaju rezidentima date zemlje koji žive u inostranstvu, doznake radnika iz inostranstva.

Tabela 1. Tekući bilans [1]

IZVOZ	+
UVOZ	-
TRGOVNISKI BILANS	=
IZVOZ USLUGA	+
UVOZ USLUGA	-
BILANS ROBA I USLUGA	=
PRIHODI OD DOHODKA	+
RASHODI OD DOHDKA	-
BILANS ROBA, USLUGA I DOHODKA	=
NETO TRANSFERI	+/-
TEKUĆI BILANS	=

3.2. BILANS KAPITALNIH I FINANSIJSKIH TRANSAKCIJA

Najznačajniji deo platnog bilansa predstavlja bilans tekućih transakcija, međutim njime nisu obuhvaćene sve transakcije. Prema tome, možemo zaključiti da bilans kapitalnih i finansijskih transakcija takođe predstavljaju značajan deo platnog bilansa. *U kapitalnom bilansu* evidentiraju se sve transakcije koje se odnose na stavku kapitalnih transfera i stavku sticanje/otuđivanje neproizvedene, nefinansijske aktive. [2] Takođe, u kapitalnom bilansu evidentiraju se promene imovine koju rezident jedne zemlje poseduje u

inostranstvu i promene imovine koju inostrani rezidenti poseduju u domaćoj zemlji. Biće iskazan i oprost svih vrsta dugovanja od strane kreditora (na strani pasive). Tada će se i sve dospele a neizmirene obaveze po dugu u tekućem periodu prikazati u plaćanju/naplatama kamata i glavnice, kao da su stvarno plaćene/naplaćene.

Finansijski bilans obuhvata po osnovu promene vlasništva finansijske aktive i pasive između rezidenata. Finansijske transakcije u platnom bilansu se dele:

- **Direktne investicije** - obuhvataju transakcije između preduzeća koja su finansijski i organizaciono povezana u različitim zemljama. U platnom bilansu direktne investicije se dele na direktne investicije u domaćoj ekonomiji i direktne investicije u inostranstvu. Ova podela omogućava evidentiranje direktnih ulaganja rezidenata u inostranstvu i kao i nerezidenata u domaćoj ekonomiji koje se evidentiraju u okviru stavki akcije, reinvestirana dobit, promene na međukompanijskim računima, kao i promene međusobne zaduženosti majke/ćerke preduzeća (supsidijara ili povezanih preduzeća).

Tabela 2. Direktne investicije [1]

DIREKTNE INVESTICIJE	DIREKTNE INVESTICIJE
1. Direktne investicije (inostranstvo)	Direktne investicije (inostranstvo)
1.1. Akcijski capital	Direktne investicije (domaća zemlja)
1.2. Reinvestirana dobit	
1.3. Ostali capital	
2. Direktne investicije (domaća zemlja)	
2.1. Akcijski capital	
2.2. Reinvestirana dobit	
2.3. Ostali capital	

- **Portfolio investicije** - obuhvataju sva ulaganja u kratkoročne i dugoročne hartije od vrednosti koja se ne mogu klasifikovati kao direktna ulaganja. Uključuju podatke iz statistike platnog prometa sa inostranstvom (*ITRS*). Portfolio investiranje deli se u dve grupe: vlasnička ulaganja (paket akcija manji od 10%) i dužnička ulaganja (ulaganja u obveznice, instrumente novčanog tržišta, finansijske derivate).
- **Ostale investicije** – uključuju sve ostale finansijske transakcije koje nisu uključene evidentiranjem u direkntne transakcije, portfolio transakcije. Ostale investicije mogu se svrstati u pet osnovnih grupa: 1. Trgovinski kredit predstavlja rezultat odvijanja međunarodne trgovine robom i uslugama. 2. Korišćenje fondovih kredita, zamjova od fondova; 3.Ostali zamjovi; 4.Valute i depoziti, 5. Ostala aktiva i pasiva.

4. METODOLOGIJA IZRADE PLATNOG BILANSA SRBIJE

Narodna banka Srbije je odgovorna za izradu platnog bilansa. "Na osnovu Zakona o deviznom poslovanju, Zakona o Narodnoj banci Srbije i pratećih odluka i uputstava, u NBS se vrši statističko sakupljanje i obrada svih transakcija između rezidenata i nerezidenata za potrebe izrade **platnog bilansa**, odnosno projekcija i praćenja realizacije monetarne politike." [3]

Statističko sakupljanje i obrada podataka o transakcijama između rezidenata i nerezidenata zasnovano je na izveštajima banaka o platnom prometu sa inostranstvom (ITRS), koji se dekadno, u elektronskoj formi, dostavljaju Centralnom prijemnom odeljenju Narodne banke Srbije, koje ih prosleđuje Odeljenju za platni bilans na proveru i obradu. Shodno uputstvu i pratećem šifarniku osnova naplata i plaćanja, koje propisuje Narodna banka Srbije, ti podaci se prema šiframa transakcija dostavljaju na nivou pojedinačne transakcije. Naplate i plaćanja obuhvataju tekuće (vezane za plaćanje i naplatu robe i usluga, dohotke i tekuće transfere), kapitalne i finansijske transakcije.

Republički zavod za statistiku je zadužen za obezbeđivanje podataka o uvozu i izvozu robe. Podaci koji nisu obezbeđeni preko banaka putem izveštavanja o platnom prometu sa inostranstvom obezbeđuju se preko tromesečnih izveštaja direktno od preduzeća. "Izveštaji o platnom bilansu sačinjavaju se na mesečnom nivou, izraženo u američkim dolarima (USD). U zavisnosti od raspoloživih izvora podataka, preračunavanje vrednosti transakcije iz originalnih valuta u izveštajnu valutu vrši se primenom: [3]

- zvaničnog srednjeg kursa NBS na dan transakcije, i
- zvaničnog srednjeg kursa dinara koji je utvrđen poslednjeg radnog dana unedelji koja prethodi nedelji u kojoj se utvrđuje iznos carine i drugih uvoznih dažbina."

"Platni bilans je jedna od ključnih statističkih serija i predstavlja izveštaj sačinjen radi obezbeđenja sistematskog praćenja i beleženja ekonomskih transakcija rezidenata Srbije sa ostatkom sveta (nerezidentima). Njime se, takođe, formiraju serije bilansa transakcija prema Srbiji i iz Srbije, obezbeđuje neto tok transakcija između rezidenata i ostatka sveta i iskazuje način finansiranja tog toka. Ekonomske transakcije uključuju: [3]

- izvoz i uvoz robe,
- izvoz i uvoz usluga,
- tokove dohotka, kao što su kamate i dividende,
- finansijske tokove, kao što su direktna ulaganja, investicije u hartije od vrednosti, vlasničke i dužničke, krediti i depoziti, i
- transfere, koji predstavljaju kontrapoziciju bilo koje jednostrane transakcije (koja ne podrazumeva quid pro quo), kao što su inostrana pomoć i donacije, doznake i druga sredstva migranata transferisana u Srbiju."

Osnovno pravilo pri sastavljanju platnog bilansa bazira se računovodstvenom principu dvojnog knjigovodstva. Ovaj princip zahteva da se svaka transakcija evidentira dva puta sa istim vrednostima. To znači, da je jedna transakcija evidentira kao potraživanja sa pozitivnim aritmetičkim zakonom, knjiže se: izvoz robe i usluga, primljeni prihodi, bespovratni transferi, povećanja u finansijskoj pasivi i smanjenja u finansijskoj aktivi. Druga transakcija se evidentira kao duguje sa negativnim aritmetičkim zakonom, knjiže se:

uvoz robe i usluga, ostala plaćanja, povećanja u finansijskoj aktivi i smanjenja u finansijskoj pasivi. Prema principu dvojnog knjigovodstva, dugovna i potražna strana uvek moraju biti jednake nule tj. platni bilans mora biti u ravnoteži.

5. PLATNI BILANS REPUBLIKE SRBIJE

U periodu od januara do novembra 2012. godin ostvaren je deficit tekućeg računa platnog bilansa Republike Srbije, iznosi 2.747 miliona evra (10,4% BDP-a), što se može uočiti na osnovu podataka iz tabele 3. Tekući deficit čini 10,4% BDP-a i za 1,4 procentna poena je iznad ostvarenog deficita u 2011. godini, a za oko 3 procentna poena iznad deficita u 2009. i 2010. godini. što se uglavnom može pripisati povećanoj domaćoj tražnji koja je bila rezultat fiskalne ekspanzije u vreme predizbornog perioda u prvoj polovini godine. Ipak, posmatrano po kvartalima zabeležen je trend opadanja tekućeg deficita - i u apsolutnom i u relativnom izrazu. Najveći deo poboljšanja tekućeg deficita duguje se smanjenju spoljnotrgovinskog deficita usled porasta izvoza i relativnog niskog uvoza. Na izvoz, povoljno je uticalo pokretanje proizvodnje u automobilskoj industriji, deprecijacija dinara iz prethodnog perioda, proizvodnja naftnih derivata, dok je, s druge strane, na njega loše uticao spor privredni oporavak EU i zemalja iz okruženja. Odloženi efekat deprecijacije deviznog kursa iz prethodnog perioda doveli su do smanjenja domaće tražnje i time uticali na usporavanje uvoza na kraju godine. U 2013. godini očekuje se da će doći do ubrzavanja izvoza, a tome će doprineti izvoz automobila i poljoprivrednih proizvoda, dok će odožen efekat apresijacije dinara imati negativan efekat. Smanjenje spoljnotrgovinskog i tekućeg deficita u 2013. u velikoj meri zavisi od privrednog oporavka zemalja EU i regiona, kao i od prestanka jačanja domaće valute.

Robni deficit u prva dva meseca Q4(kvartal 4) iznosi 829 miliona evra, odnosno 15,9% BDP-a, što je 2,7 procentnih poena BDP-a niže od ostvarenog učešća u oktobru i novembru 2011. godine. Na smanjenje robnog deficita u velikoj meri uticao je rast izvoza. U oktobru i novembru 2012. izvezeno je robe u vrednosti od 1.685 miliona evra, što je čak 16,4% iznad vrednosti iz istog perioda prethodne godine. Od januara do novembra 2012. po osnovu tekućih transfera ostvaren je neto priliv od 2,7 milijardi evra, što čini 10,3% BDP-a, i što je u skladu sa uobičajenim i očekivanim prilivom. Znatno priliv tekućih transfera pre svega je posledica visokog priliva doznaka koji tokom oktobra i novembra iznosi 428 miliona evra, a u periodu od januara do novembra 1,8 milijardi evra. Takođe, u periodu oktobra i novembra zabeležen visok priliv kapitala od 1.129 miliona evra, koji je posledica priliva od prodaje državnih obaveznica i povećanog interesovanja stranih investitora za ulaganje u dinarske državne hartije od vrednosti, usled pada premije rizika započetog u septembru. Kumulativni rast deviznih rezervi tokom oktobra i novembra iznosi 890 miliona evra. Od toga u oktobru devizne rezerve su uvećane za 394 miliona evra, a u novembru za 495 miliona evra. Porast deviznih rezervi tokom Q4 (kvartal 4) je posledica prodaje evroobaveznica na finansijskom tržištu.

Tabela 3. Platni bilans za period 2009-2012. [5]

	2009	2010	2011	2011				2012			
				Q1	Q2	Q3	okt-nov	Q1	Q2	Q3	okt-nov
u mil. evra											
TEKUĆI RAČUN	-2.084	-2.082	-2.828	-717	-587	-621	-470	-1177	-738	-546	-286
Roba	-5.118	-4.774	-5.376	-1271	-1196	-1209	-995	-1551	-1293	-1186	-829
Izvoz robe, f.o.b. ¹⁾	5.978	7.402	8.439	1955	2162	2171	1448	1852	2284	2244	1685
Uvoz robe, f.o.b. ¹⁾	-11.096	-12.176	-13.814	-3226	-3358	-3380	-2442	-3403	-3577	-3430	-2513
Usluge	18	5	162	28	12	13	68	29	1	33	57
Prihodi	2.500	2.667	3.032	631	720	816	544	667	747	839	532
Rashodi	-2.482	-2.662	-2.870	-603	-708	-803	-476	-638	-747	-805	-475
Dohodak	-502	-670	-758	-112	-252	-195	-75	-229	-211	-156	-122
Prihodi	500	438	428	101	100	101	86	109	134	138	78
Rashodi	-1.002	-1.108	-1.186	-214	-352	-296	-161	-338	-345	-293	-200
Tekući transferi-neto	3.518	3.356	3.143	638	849	771	531	574	765	762	607
od čega: zvanična pomoć	197	193	206	49	41	39	49	26	38	43	26
od čega: poslata sredstva (doznake)	2.618	2.383	2.165	450	596	546	325	359	523	483	428
KAPITALNI RAČUN- neto	2	1	-2	-1	0	-1	0	-3	-4	-1	-1
FINANSIJSKI RAČUN	2.207	1.986	2.610	601	531	579	482	1017	683	490	240
Direktne investicije- neto	1.372	860	1.827	307	259	661	287	-372	234	117	158
Portfolio investicije	-51	39	1.619	520	246	871	-19	76	58	-37	1450
Ostale investicije	3.249	158	966	-58	58	125	170	397	-708	71	-479
Trgovinski krediti	654	83	509	90	89	52	148	117	197	27	-44
Finansijski krediti	1.414	830	-413	-879	34	226	78	-20	-135	-160	-94
NBS	1.114	341	45	-4	52	-3	0	-4	0	-111	-105
Vlada	258	735	687	29	275	297	65	18	91	86	20
Banke	894	626	-729	-691	-132	-10	23	-150	-358	-63	92
Dugoročni	492	619	419	3	10	99	194	-84	-117	-80	-48
Kratkoročni	402	6	-1.148	-694	-142	-109	-171	-66	-241	18	139
Ostali sektori (privreda)	-853	-872	-416	-214	-160	-58	-10	115	132	-73	-101
Gotov novac i depoziti	760	-754	870	731	-65	-153	-56	300	-770	204	-341
Ostala aktiva i pasiva	0	0	0	0	0	0	0	0	0	0	0
Alokacija SPV	422	0	0	0	0	2	0	0	0	3	0
Sredstva rezervi (- povećanje)	-2.363	929	-1.801	-168	-33	-1078	44	916	1100	340	-890
GREŠKE I PROPUSTI- neto	-124	96	220	118	56	43	-12	163	59	57	47
UKUPNI BILANS	2.363	-929	1.801	168	33	1078	-44	-916	-1100	-340	890
PRO MEMORIA											
u % BDP-a											
Bilans tekućih transakcija	-7,2	-7,4	-9,1	-10,3	-7,2	-7,7	-8,8	-17,6	-10,2	-7,6	-5,5
Bilans robne razmene	-17,7	-17,1	-17,2	-18,2	-14,7	-15,0	-18,6	-23,1	-17,9	-16,5	-15,9
Izvoz robe	20,6	26,5	27,0	28,0	26,5	27,0	27,1	27,6	31,5	31,2	32,4
Uvoz robe	-38,3	-43,6	-44,3	-46,3	-41,2	-42,0	-45,7	-50,8	-49,4	-47,8	-48,4
Bilans robe i usluga	-17,6	-17,1	-16,7	-17,8	-14,5	-14,9	-17,3	-22,7	-17,8	-16,0	-14,8
Tekući transferi - neto	12,1	12,0	10,1	9,1	10,4	9,6	9,9	8,6	10,6	10,6	11,7
BDP u evrima ²⁾	28.966	27.956	31.203	6.976	8.155	8.051	5348	6.701	7.240	7.183	5198

6. SPOLJNI DUG

Na osnovu tabele 4. može se uočiti da spoljni dug Srbije na kraju decembra 2012. iznosi 25,7 milijardi evra, tj. 88,9% BDP-a. U 2012. godini ukupni spoljni dug uvećan je za 1,6 milijardi evra. Porast zaduživanja u inostranstvu doveo je do prekoračenja granice iznosa spoljnog duga u BDP-u od 80% već u prvoj polovini 2012. godine. Važno je napomenuti da prekoračenje granice u 2012. posledica zaduživanja javnog sektora koje premašuje razduživanje privatnog sektora u toku 2011. i 2012. Rast spoljne zaduzenosti zemlje u toku 2012. u najvećoj meri duguje se rastu spoljnog duga javnog sektora (89% - 1,4 milijarde evra). Rast spoljnog duga privatnog sektora zaslužan je sa 11% i isključivo je posledica rasta dugoročnog zaduživanja privrede u Q3(kvartal 3), dok su se banke razdužile i po osnovu dugoročnih i kratkoročnih kredita. Tokom Q4 (kvartal 4) ukupni spoljni dug porastao je za 889 miliona evra, tj. za 4 procentna poena BDP-a. Porast ukupnog spoljnog duga tokom Q4 je posledica rasta spoljnog duga javnog sektora (rast za 1.244 miliona evra, tj. za 5 procentnih poena tokom Q4). Rast spoljnog duga javnog sektora je posledica zaduživanja države na međunarodnom finansijskom tržištu - emisije evroobveznica.

Istovremeno, privatni sektor smanjio zaduženost prema inostranstvu za 355 miliona evra, od čega čak 485 miliona evra po osnovu dugoročnog zaduživanja, dok je kratkoročno zaduživanje blago povećano.

Tabela 4. Spoljni dug za period 2009-2012. [5]

	2009	2010	2011				2012			
			Mar.	Jun	Sep.	Dec.	Mar.	Jun	Sep.	Dec.
stanja, u milionima evra, kraj perioda										
Ukupan spoljni dug	22.487	23.786	22.672	22.734	23.860	24.125	24.068	24.086	24.832	25.705
(U % BDP-a) ²⁾	77,6	85,1	79,7	77,0	78,5	77,3	77,8	80,2	85,2	88,9
Javni spoljni dug	7.764	9.076	8.861	9.138	10.433	10.773	10.655	11.032	10.944	12.239
(U % BDP-a) ²⁾	26,8	32,5	31,2	30,9	34,3	34,5	34,5	36,8	37,5	42,1
Dugoročni	7.762	9.076	8.861	9.138	10.433	10.773	10.655	11.032	10.944	12.239
od čega MMF	1.110	1.529	1.475	1.506	1.582	1.618	1.581	1.644	1.524	1.408
od	422	449	434	428	449	459	449	467	462	458
Kratkoročni	1	0	0	0	0	0	0	0	0	0
Privatni spoljni dug	14.724	14.710	13.811	13.597	13.427	13.352	13.412	13.054	13.889	13.466
(U % BDP-a) ²⁾	51,0	52,6	48,6	46,0	44,2	42,8	43,4	43,5	47,7	46,8
Dugoročni	12.720	12.880	12.696	12.630	12.569	12.704	12.834	12.712	13.526	12.963
od čega banke	2.597	3.362	3.347	3.413	3.551	3.782	3.784	3.754	3.745	3.714
od čega privreda	10.123	9.518	9.348	9.217	9.018	8.922	9.050	8.958	9.781	9.249
Kratkoročni	2.003	1.830	1.116	966	858	648	578	342	363	504
od čega banke	1.713	1.731	1.036	895	785	582	515	275	292	436
od čega privreda	290	100	79	72	73	66	63	67	71	67
Neto spoljni dug ¹⁾ , (u% BDP-a) ²⁾	41,0	49,3	44,8	43,2	41,1	38,7	42,0	46,4	51,5	51,2

U fokusu javnosti u toku druge polovine 2012. godine je bio rast javnog duga i potencijalna opasnost od bankrotstva države. Rast spoljnog duga je potencijalno podjednako rizičan za Srbiju, a taj rizik bi se mogao ispoljiti u slučaju naglog usporavanja priliva stranog kapitala, jer bi u tom slučaju bilo teško u dužem periodu iz deviznih rezervi servisirati dospele obaveze po osnovu servisiranja spoljnog duga. S obzirom da je javni dug postaje sve veći procenat spoljnog duga, rizici od krize spoljnog i javnog duga postaju snažno korelisani.[5]

Javni dug je tokom 2012. godine porastao za preko 3 mlrd evra i njegovo učešće u BDP-u je povećano sa 49,5% na 63% i dalji nastavak ovakvog trenda bi Srbiju sigurno uveo u krizu. Stoga su bile neophodne odlučne mere kojima bi se smanjio fiskalni deficit u 2013. i narednim godinama i tako preokrenuo trend rasta javnog duga i izbegla kriza.

Snažan rez u fiskalnoj politici je napravljen u oktobru 2012. godine, kada je započeta fiskalna konsolidacija. Povećani su najvažniji porezi (PDV, akcize, porez na dobit), a nominalna indeksacija penzija i plata u javnom sektoru od 2% u oktobru 2012. i 2% u aprilu 2013. godine predstavlja zapravo njihovo realno smanjivanje, jer je ta indeksacija znatno niža od inflacije. Ma koliko bile snažne, ove mere nisu dovoljne da spreče dalji rast javnog duga u 2013. godini.

S toga je neophodno i dalje smanjivanje deficita i u 2014. i u narednim godinama. To može da se postigne samo sprovođenjem sveobuhvatnih strukturnih reformi već u 2013. godini, jer će one svoje prve opipljive rezultate imati tek godinu dana nakon svog otpočinjanja. Ozbiljnu pretnju sprovođenju reformi u 2013. godini mogu biti eventualni prevremeni izbori, koji će usporiti sprovođenje reformi. [5]

7. ZAKLJUČAK

Na osnovu podataka prikazanih u platnom bilansu Srbije može se uočiti da u period 2011. i 2012. godine ostvaren deficit tekućeg računa platnog bilansa. Deficit u 2011. iznosio je 2,97 miliona evra (9 % BDP-a), deficit u 2012. iznosio je 2,747 miliona evra (10,4% BDP-a). Tekući deficit u 2012. za 1,4 procentna poena je iznad ostvarenog deficita

u 2011. godini, a za oko 3 procentna poena iznad deficita u 2009. i 2010. godini, što se uglavnom može pripisati povećanoj domaćoj tražnji koja je bila rezultat fiskalne ekspanzije u vreme predizbornog perioda u prvoj polovini godine. Na porast tekućeg deficita na kraju 2011. uticao je rast deficita spoljnotrgovinskog bilansa. Na rast deficita spoljnotrgovinskog bilansa jednim delom uticale su fudamentalni faktori kao što je apresijacija dinara i pad tražnje na svetskom tržištu, dok drugi delom uticali su privremeni faktori (visok uvoz opreme za potrebe nekoliko velikih projekata, skok cene energenata i njihovog povećanog uvoza). Posmatrano po kvartalima u 2012. zabeležen je trend opadanja tekućeg deficita - i u apsolutnom i u relativnom izrazu. Najveći deo poboljšanja tekućeg deficita u 2012. duhuje se smanjenju spoljnotrgovinskog deficita usled porasta izvoza i relativnog niskog uvoza. Na izvoz, povoljno je uticalo pokretanje proizvodnje u automobilskoj industriji, deprecijacija dinara iz prethodnog perioda, proizvodnja naftnih derivata, dok je, s druge strane, na njega loše uticao spor privredni oporavak EU i zemalja iz okruženja. I u 2011. i u 2012. godini došlo je do porasta priliva kapitala. Na kraju decembra 2011. Došlo je do povećanja spoljnog duga koji je iznosio 24,125 miliona evra (73,3% BDP-a). Na rast spoljnog duga u 2011. najveći uticaj imao je porast inostranog zaduženja javnog sektora, dok je privatni dug znatno smanjen. Javni sektor za godinu dana povećao je svoj dug prema inostranstvu za 1,7 milijardi evra, dok je privatni spoljni dug za godinu dana smanjen za 1,36 milijardi evra. Takođe, i u 2012. došlo je do povećanja spoljnog duga, iznosio je 25,7 milijardi evra, tj. 88,9% BDP-a. Na osnovu prethodno prikazanih podataka možemo uočiti da je ukupan spoljni dug u 2012. u odnosu na 2011. godinu uvećao za 1,6 milijardi evra. Na početku 2013. godine makroekonomski indikatori pokazuju znake poboljšanja: privredna aktivnost se blago oporavlja, spoljni deficit se smanjuje. U prvim mesecima 2013. počeo se da primenjuje program fiskalne konsolidacije. Povećani su najvažniji porezi (PDV, akcize, porez na dobit), a nominalna indeksacija penzija i plata u javnom sektoru od 2% u oktobru 2012. i 2% u aprilu 2013. godine predstavlja zapravo njihovo realno smanjivanje. Započete reforme posle nekoliko meseci naišle su na zastoj kao posledica prevremenih izbora. Da bi došlo do smanjenja deficita u 2014. i u narednim godinama započete reforme moraju da se nastave, kako bi se izbeglo bankrotstvo zemlje.

REFERENCE

1. D. Miljković, *Međunarodne finansije*, Centar za izdavačku delatnost Ekonomski fakultet, Beograd, 2008, p. 58 – 80.
2. Z. Prekajac, *Međunarodna ekonomija*, Futura publikacije Novi Sad, Novi Sad, 2005, p. 271.
3. B. Savić, A. Pinkulj, *Metodologija platnog bilansa Srbije*, Centar za istraživanje Narodne banke Srbije, p.3 – 4.
4. Kvartalni monotorijum, Fond za razvoj ekonomske nauke, Beograd, br.27. oktobar - decembar, p.22
5. Kvartalni monotorijum, Fond za razvoj ekonomsk.e nauke, Beograd, br.31, oktobar – novembar, p. 6.
6. Zvanična internet stranica Narodne banke Srbije, <http://www.nbs.rs/internet/cirilica/index.html>
7. Zvanična internet stranica Fondacije za razvoj ekonomske nauke, <http://www.fren.org.rs/qm>

PUBLICITY IN THE MARKETING ACTIVITIES OF SERBIAN RAILWAYS

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Abstract: Promotion as a tool of marketing mix includes all activities among enterprises and customers aiming to create positive attitudes about products and services and enhance sales or acceptance of an idea. Publicity is a part of promotional mix and a way to inform, persuade and activate customers and it can help in motivating employees. Although publicity does not involve the use of paid media, many of advertising principles relate to publicity, and in communication with the environment it is essential that it is done in a planned and organized way.

After analyzing the situation in the past, focus should be put on planning events that could be used for publicity in the future. All predictable and important events should be described, analyzed and potential interest of the mass media should be evaluated. Unpredictable events should be taken into account, some of which may be positive and some negative, or harmful to the company. As text is the main element of publicity, there are numerous rules which should be adhered to so that the material gets a good chance to be accepted by media in the form of publicity (write short, interesting statement, to be creative and have a personal (direct) contact with journalists).

As Serbian Railways has inadequate image, publicity is an essential instrument for the company in order to improve the public image, whereas the activities should not be directed to users only, but also to the relevant social groups. Therefore this study examines current situation of Serbian Railways, by means of interviewing, in order to determine the reasons why fewer people opt for the services of this company. At the same time presence of Serbian Railways in print media has been analyzed.

This study's findings indicate that people have a negative attitude of the railway, most of them do not use the services of the railways, and if they do so the reason is lower ticket price. In order to regain its old glory Serbian Railways has to make a number of changes, such is, for example, the elimination of constant departure delays. Improvement of service quality of this public enterprise can be expected to result in improved public image of the company.

Keywords: marketing, publicity, railways, publicity planning, services

PUBLICITET U MARKETING AKTIVNOSTIMA ŽELEZNICA SRBIJE

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Apstrakt: Promocija kao instrument marketing miksa obuhvata sve aktivnosti između preduzeća i kupaca koje imaju za cilj da stvore pozitivan stav o proizvodima i uslugama, da pospeše prodaju ili prihvatanje neke ideje. Publicitet je deo promotivnog miksa i način

da se informišu, ubede i aktiviraju kupci, a može da pomogne i u motivisanju zaposlenih. Iako publicitet ne podrazumeva korišćenje plaćenih medija, mnogi principi u pogledu oglašavanja se odnose na publicitet, pa u komuniciranju sa okruženjem neophodno je da se to čini planski i organizovano.

Nakon analize stanja u prošlosti, trebalo bi se usmeriti na planiranje događaja koji bi se mogli iskoristiti za publicitet u narednom periodu. Sve predvidive, a važne događaje, trebalo bi opisati, analizirati, te proceniti mogući interes masovnih medija. Pri tom, trebalo bi računati i sa nepredvidivim događajima, od kojih neki mogu biti pozitivni, a neki i negativni, odnosno štetni po preduzeće. Kako je glavni element publiciteta tekst, postoje brojna pravila kojih bi se trebalo pridržavati da bi materijal imao dobru priliku da bude uvršćen u medij u formi publiciteta-pisati kratko, zanimljivo saopštenje, treba biti kreativan i imati lične, direktne, kontakte sa novinarima.

Kako Železnice Srbije imaju neodgovarajući imidž, publicitet za njih predstavlja nezaobilazan instrument u cilju popravljavanja slike u javnosti, pri čemu aktivnosti nisu usmerene samo na korisnike, već i na relevantne društvene grupe. Otuda se u okviru ovog rada sagledava trenutna situacija železnice primenom empirijske tehnike ispitivanja (upitnik) kako bi se utvrdili razlozi zbog kojih se sve manji broj ljudi opredeljuje za usluge Železnice Srbije. Uporedo, praćena je i zastupljenost sadržaja o železnici u štampanim medijima.

Utvrđeno je da građani imaju negativan stav o železnici, da većina njih ne koristi usluge železnice, a ako ih koriste, to čine zbog niže cene karte. Da bi Železnice Srbije povratile stari sjaj i privukle veći broj korisnika neophodne su višestruke promene poput, recimo, eliminisanja konstantnih kašnjenja polazaka. Unapređenjem kvaliteta usluge koje pruža vremenom se, očigledno, može očekivati i poboljšan imidž ovog javnog preduzeća.

Ključne reči: marketing, publicitet, železnica, planiranje publiciteta, usluge.

1. UVOD

Promocija kao instrument marketing miksa obuhvata sve aktivnosti između preduzeća i kupaca koje imaju za cilj da stvore pozitivan stav o proizvodima i uslugama, da pospeše prodaju ili prihvatanje neke ideje. Publicitet je deo promotivnog miksa i način da se informišu, ubede i aktiviraju kupci, a može da pomogne i u motivisanju zaposlenih. Iako publicitet ne podrazumeva korišćenje plaćenih medija, mnogi principi u pogledu oglašavanja se odnose i na publicitet, pa u komuniciranju sa okruženjem neophodno je da se publicitet koristi i to planski i organizovano, time je moguće maksimalno iskoristiti prednosti publiciteta.

2. PUBLICITET KAO OBLIK PROMOCIJE

Publicitet se definiše kao objavljivanje pozitivnih informacija o preduzeću i njegovim proizvodima i uslugama u sredstvima javnog informisanja od strane preduzeća. Preduzeće ne plaća za prostor ili vreme sredstvima javnog informisanja kao što to čini u privrednoj propagandi. Međutim, to ne znači da publicitet ne iskazuje troškove preduzeća za primenu materijala za publikovanje u sredstvima javnog informisanja. Smatra se da je vrednost publiciteta veća od poruka privredne propagande jer ne postoji svesna ili nesvesna namera da se manipuliše sa javnošću. U tom smislu publicitet ima blaži uticaj od privredne

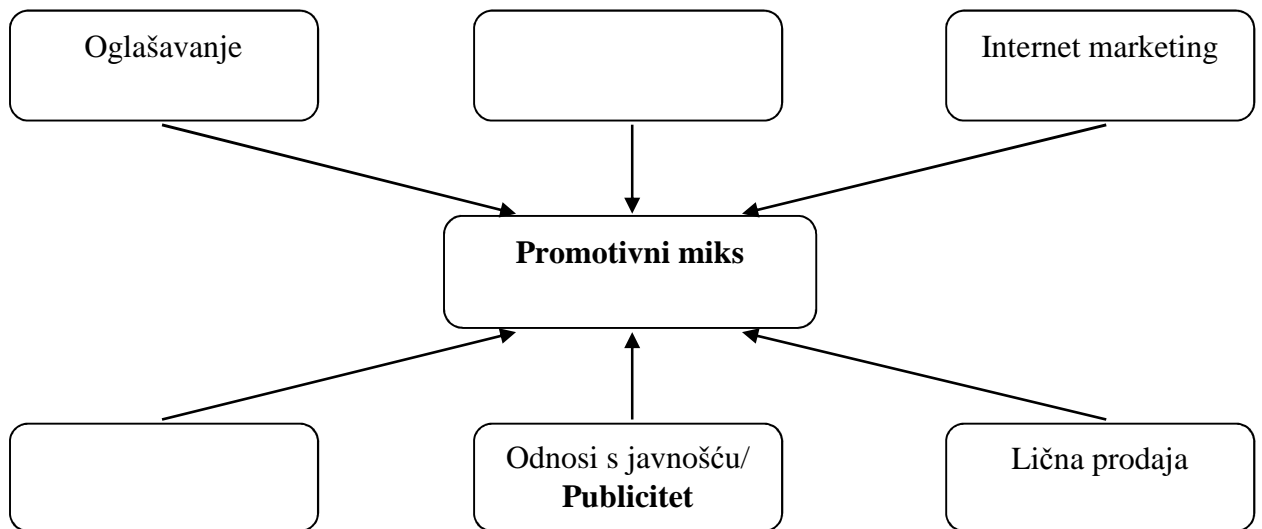
propagande. Kod publiciteta je akcenat na informacijama o preduzeću ili njegovim proizvodima, a ne na ubeđivanju da se kupe proizvodi preduzeća. Publicitet se koristi da se stvori ili poveća naklonost prema preduzeću i njegovim proizvodima.

Prednost publiciteta nad privrednom propagandom je i to, što se on plasira na tzv. udarnim mestima u sredstvima javnog informisanja (novinama, časopisima, TV, itd.). To nije uvek moguće sa privrednom propagandom čije se poruke obično objavljuju na zadnjim stranama listova. Nedostatak je što preduzeće ne može da utiče na sadržaj vesti koje se objavljuju kao kod propagandnih poruka. Naime, uredničke redakcije sredstava javnog informisanja su slobodne da reaguju i vest objave na mestu koje smatraju da odgovara za tu vrstu vesti ili članka, fotografije i slično. Preduzeća ponekad stavljaju primedbe da sredstva javnog informisanja prezentiraju loše vesti o preduzećima i proizvodima, umesto da više pažnje posvete pozitivnim informacijama koje će koristiti potrošačima. Kao jedna od formi da se demantuju loše vesti koriste se „pisma uredništvu” i konferencije za štampu.

Odnosi s javnošću (PR, *public relations, engl.*) i publicitet se često pogrešno koriste kao termini koji se međusobno zamenjuju. S. M. Katlip, A. H. Senter i G. M. Brum (2006) u devetom izdanju knjige „Uspešni odnosi s javnošću” navode: „*Odnosi sa javnošću se vrlo često pogrešno izjednačavaju i svode na delove pojedine promocije aktivnosti. Mnogi veruju da je termin publicitet drugi naziv za odnose sa javnošću, jer je često jedini vidljivi deo odnosa sa javnošću, ali je retko jedina strategija koja se koristi*”. Ukoliko postavimo pitanje o distinkcijama između publiciteta i odnosa sa javnošću, možemo se, za uvod u razlike između ova dva pojma, priseliti izjave Seta Godina: „*Publicitet nije PR*”. Čuveni svetski marketing stručnjak Seth Godin dao je definiciju i napravio distinkciju između ove dve profesije: „*Publicitet je obezbeđivanje objava u medijima koje nisu plaćene, ali rezultiraju pažnjom medija, pisanjem i izveštavanjem medija... Publicitet dobar ili loš, nije uvek bitno, dok se priča o vama*”. Iako svaki uspešan proizvod mora da ima priču, „*ne možete jednostavno da sednete za sto i da izmislite priču, pa da zatim očekujete da će ljudi poverovati u nju samo zato jer vi to želite*.” Ta priča na prvom mestu mora biti istinita i verodostojna u svakom delu lanca proizvodnje/usluživanja. A to je nešto gde većina (loših) marketing stručnjaka podbaci, pa i u Železnicama Srbije.

Odnosi s javnošću zahtevaju strateški pristup, pažljivo planiranje i rukovođenje. PR je strateško pozicioniranje priče. Fokusirano je na interakciju, taktike, produkt, cene, faktore koji kombinovani utiču na to kako će ljudi pričati o vama. PR firma će vam govoriti o pripovedanju priče, o tome kako da budete izvanredni i proširite reč. Regis McKenna je bio sjajan PR profesionalac. Stavio je Stiva Džobsa i Mac na naslovnu stranu više od trideset magazina u jednoj godini. To je bio publicitet – jedno od sredstava na raspolaganju za ostvarivanje ukupnog PR cilja, uspostavljanja i održavanja dobrih odnosa sa različitim publikama (Bagin i Fulginiti, 2005). Sve oblasti masovnih medija (televizija, radio, štampa) lokalnog i nacionalnog karaktera, mogu se koristiti za svrhe publiciteta.

Publicitet se smatra delom promotivnog miksa i jednom od njegovih bitnih tehnika. Kao kontrateza, posebno poslednjih godina, pojavljuje se stav (po nekima prilično radikalno) da je PR u stvari „majka” promocije (promocionog miksa) i da se pod ovu oblast može podvesti čitava komunikaciona sfera jedne kompanije, pa i publicitet. Jedan od stavova koji miri ova dva suprotstavljena gledišta je koncept totalne komunikacije ili korporativne komunikacije u kome sve promotivne sfere kompanije imaju ravnopravan položaj. U tom konceptu oglašavanje, unapređenje prodaje, lična prodaja, direktni marketing, publicitet i PR deluju zajednički kao klasični elementi promotivnog miksa (slika 1). Koncept je u novijoj svetskoj literaturi poznatiji kao integrisane marketing komunikacije-IMC (Jobber i Fahy, 2006.).



Slika 1. Elementi promotivnog miksa

Publicitet može biti nepoželjan, kao kada mediji „nanjuše” skandal ili zloupotrebu i odluče da publikuju stvari koje organizacija radije ne bi želela da se publikuje. Loš publicitet je negativna priča o firmi ili njenom proizvodu (usluzi) koja se pojavi u novinama. U društvu koje je sve više osetljivo na sredinu i u kojem mediji odmah saopštavaju greške organizacije nastoje da se usmere na ovu negativnu dimenziju publiciteta i to u toj meri da ponekad previđaju potencijal dobrog publiciteta. Da bi smanjile rizik lošeg publiciteta, većina organizacija kultiviše dobre odnose sa štampom i nastoje da zadovolje tu pohlepnost medija sa pričama sa „dobrim vestima“ koje će ići u prilog organizaciji. To se može postići preko brojnih mehanizama: saopštenja za javnost (štampe), konferencije za štampu i uključivanje medija.

Saopštenja za štampu se sastoje od jedne ili više kucanih strana informacija koje se objavljuju da bi generirale publicitet ili bacile svetlo na predmet interesovanja. Ta saopštenja sadrže objašnjenja novih tehnologija, najavu novih proizvoda, predstavljanje novih rukovodilaca preduzeća, neobičan sadržaj, potpisivanje značajnog ugovora, osnivanje fonda za stipendiranje najboljih učenika i studenata, opisivanje nekih aktivnosti vezanih za društvenu zajednicu u koje je uključeno preduzeće ili diskusije niza drugih pitanja. Profesionalci pronalaze ili kreiraju povoljne vesti o preduzeću i njegovim proizvodima ili ljudima. Ponekad se vesti koje se saopštavaju događaju prirodno, a ponekad osoblje može da sugeriše događaje ili aktivnosti koje mogu da kreiraju saopštenja. Za one koji žele da dobiju više informacija ostavljaju se imena lica za kontakt sa brojevima telefona. Takođe je uobičajena praksa da se saopštenje za štampu dokumentuje sa fotografijom i video materijalom, kako bi se potstakli mediji da objave priču.

Publicitet može da pomogne da se ostvari bilo koji cilj komuniciranja. Može se koristiti da se najave novi proizvodi, obznane nove politike, upoznaju zaposleni, opišu dostignuća u istraživanju ili saopšte finansijski rezultati. Ali da bi se postigao željeni cilj, poruke, osoba, grupa ili događaj o kojima se govori moraju uvažavati specifičnosti medija. To je ono što razlikuje publicitet od propagande – publicitet „ne prisiljava“ na slušanje. Kredibilitet publiciteta je obično mnogo jači od propagande. Ako se putem propagande, kao plaćene forme komuniciranja, kaže da je neki proizvod izvanredan, možda će slušaoci biti prilično

sumnjičavi. Ali ako nezavisna, neutralna, objektivna treća strana objavi u novinama da je dati proizvod zaista izvanredan, vrlo je verovatno da će se poverovati.

Među koristima publiciteta su i niži troškovi nego kod propagande i lične prodaje; naime, publicitet obično košta manje, nema troškova prostora ili vremena u medijima za prenošenje poruke i nema prodajnog osoblja za podršku. Publicitet povećava čitanost budući da su mnogi potrošači skloni da ignorišu propagandu ili u najmanju ruku joj poklone neznatnu pažnju. Publicitet se prezentira kao urednički materijal ili vesti tako da privlači veću čitanost. Publicitet donosi više informacija pošto se prezentira kao urednički materijal, a može sadržati više detalja nego uobičajena propagandna poruka – poruka uključuje više informacija uverljivog sadržaja. Preduzeće može dati saopštenje za javnost vrlo brzo kada se dogodi neki neočekivani događaj, što karakteriše pravovremenost.

Publicitet, naravno, ima i svojih ograničenja; među prvima to je gubitak kontrole nad porukom. Organizacija nema garanciju da će se saopštenje za javnost pojaviti u medijima. Uz to, ne postoji način za kontrolu koliko ili koji deo saopštenja će mediji da emituju. U slučaju propagande, s druge strane, postoji potpuna kontrola nad onim što se kaže, kada se kaže, ko kaže i gde kaže, dok je kontrola publiciteta u rukama medija. Ograničena eksponaža je ograničenje kojim će mediji da koriste materijal publiciteta obično da bi popunili prostor kada im nedostaju druge novosti i koriste ga samo jednom. Ako ciljani auditorijum propusti poruku kada je ona prezentirana, ne postoji druga ili treća šansa. Publicitet nije besplatan, jer čak i ako nema troškova vremena i prostora medija, postoje troškovi osoblja službe za publicitet i u pripremi i distribuiranju saopštenja za javnost. Izbor medija za plasman poruka zahteva i preciznu evidenciju medija koja postoje na određenom prostoru i njihovo razvrstavanje prema segmentima publike prema kojoj su usmereni. Takođe, trebalo bi posedovati spiskove novinara i urednika koji rade za pojedine medije i sa njima treba uspostavljati redovnu i kontinuiranu komunikaciju.

Može se zaključiti da publicitet ima dve glavne prednosti nad ostalim elementima promocije. Prva se odnosi na niže troškove, u nekim slučajevima bez ikakvih troškova, a druga na objektivnost i kredibilitet što povećava poverenje koje ljudi imaju u poruku. Najveći nedostaci publiciteta su nedostatak kontrole i kratak životni vek. Nedostatak kontrole može biti neugodan problem ako reporter ili izdavač ima snažnu odbojnost prema proizvodu (u ovom slučaju usluzi) ili organizaciji i to stanovište deli sa hiljadama čitalaca.

Iako publicitet ne podrazumeva korišćenje plaćenih medija, mnogi principi u pogledu oglašavanja se odnose i na publicitet. Ciljevi promocije jedne firme treba da budu smernica za izbor sredstava publiciteta. Publicitet može da pomogne firmi da proda više proizvoda (usluga), generiše vođstvo kupovne moći, daje doprinos dobrotvornim uzorcima ili ohrabruje ljude da se privole nekoj organizaciji. Postoje vrste publiciteta koje najbolje odgovaraju nekim zajedničkim ciljevima promocije (slika 2). Merenje efektivnosti promotivnih napora može biti nedostižno, delom zbog toga što svaka vrsta publiciteta ima različite mere, ali kao i kod oglašavanja, samo najbolje treba vezivati za ciljeve. Kada stvaraju publicitet menadžeri bi takođe trebalo da pretražuju internet stranice, video snimke, umrežene zajednice i ostala sredstva publiciteta, da iskoriste sve slike i reči koje komuniciraju s ciljnim tržištem. Uz to većina zakona koji pokrivaju reklamiranje, primenjuju se u okviru javnih pristupa. Takođe su bitni zdrav razum, iskrenost i poštenje.

Privlačenje pažnje i održavanje interesa	Razvijanje željene pozicije
<ul style="list-style-type: none"> - Direktno u izdanjima potrošačke štampe ili - Članak u štampi. 	<ul style="list-style-type: none"> - Razne igre, - Brendirane usluge, - Komercijalne bele knjige.
Probuditi želju i održavati akcije	Održavanje odnosa sa potrošačem
<ul style="list-style-type: none"> - Komentari, - Studije slučaja, - Webinari 	<ul style="list-style-type: none"> - Društveni mediji (Fejsbuk, LinkedIn), - Blogovi, - Umrežene zajednice i - Digitalna datoteka i webinar

Slika 2. Primeri različitih vrsta publiciteta i različiti ciljevi promocija

3. PLANIRANJE PUBLICITETA

Ako preduzeće želi da koristi publicitet u komuniciranju sa okruženjem, neophodno je da to čini planski i organizovano. Samo na taj način moguće je maksimalno iskoristiti prednosti publiciteta nad ostalim oblicima komuniciranja. Proces definisanja mesta i uloge publiciteta u preduzeću moguće je realizovati kroz sledeće faze: (1) istraživanje i analiza situacije, (2) utvrđivanje ciljeva aktivnosti publiciteta, (3) utvrđivanje budžeta publiciteta, (4) kreiranje poruka, (5) izbor kanala komuniciranja i (6) analiza efekata (Vuković, M. i Vuković, A., 2009). Faza analize situacije započinje istraživanjem prisutnosti preduzeća u određenom segmentu javnosti i njegovog imidža. Javnost veoma dobro poznaje preduzeće i različite efekte njegovog poslovanja, pri čemu stavovi javnosti, kao glavni kvalitet tog poznavanja, mogu da se kreću od krajnje negativnih do krajnje pozitivnih.

Posle istraživanja stanja u pogledu imidža preduzeća, neophodno je istražiti prisutnost preduzeća u sredstvima komuniciranja po kategorijama (novine i časopisi, radio i televizija). U slučaju publiciteta analiziraju se povod i inicijator uključivanja vesti o preduzeću u određeni medij. Da li je povod bio organizovana aktivnost publiciteta od strane preduzeća i koji (konferencija za štampu, saopštenje uprave preduzeća), ili je povod bio sasvim slučajan, novinar se samoinicijativno zainteresovao za rezultate rada preduzeća. Ono što je najvažnije, neophodno je oceniti stav autora u svakom pojedinačnom tekstu. Tu analizu treba obaviti i za sve glavne konkurente kako bi mogla da se napravi uporedna analiza našeg i prisustva konkurencije u masovnim medijima.

U sledećoj fazi se sprovode istraživanja stanja u samom preduzeću. Naglasak bi trebalo staviti na istraživanje razvojnih rezultata. Pitanje koje se dalje postavlja jeste zašto nije bilo interesa masovnih medija, odnosno da li ih je preduzeće informisalo o tome na adekvatan način ili ne. Nakon analize stanja trebalo bi se usmeriti na planiranje događaja koji bi se mogli iskoristiti za publicitet u narednom periodu. Reč je o tzv. predvidivim događajima, kao što su, recimo, proslave godišnjica, lansiranje novog projekta, izgradnja novog pogona,

izlazak na novo tržište, rešenje nekog važnog ekološkog problema i sl. Sve predvidive, a važne događaje, trebalo bi opisati, analizirati, te proceniti mogući interes masovnih medija. Ako se proceni da masovni mediji neće pokazati dovoljan interes za neki od tih događaja, trebalo bi napraviti plan podsticaja interesa, primenom dopunskih akcija. Moguće je datom događaju dodati neke elemente koji bi mu povećali medijski značaj.

Sem predvidivih događaja trebalo bi računati i sa nepredvidivim događajima od kojih neki mogu biti pozitivni, a neki i negativni, odnosno štetni po preduzeće. U prvu kategoriju svrstavaju se, na primer, dobijanje neke vredne nagrade za preduzeće ili nekog člana kolektiva. U drugu kategoriju potpadaju, na primer, moguća nesreća u procesu rada ili otkrivanje nekog većeg propusta. Sa takvim događajima moraju ozbiljno da računaju proizvođači opreme ili fabrike aviona jer su tu, po pravilu, materijalne štete velike a često su praćene i ljudskim žrtvama.

Nakon izvršenih istraživanja i analiza situacije u vezi imidža preduzeća može se pristupiti utvrđivanju ciljeva publiciteta. Ciljevi mogu biti izrazito komercijalni (obim prodaje), zatim komunikacioni – uvođenje imena proizvoda ili preduzeća, jačanje postojećeg imidža, njegova korekcija, odnosno građenje novog imidža. Pošto je napravljen plan akcija publiciteta i određeni ciljevi, moguće je pristupiti planiranju troškova publiciteta. U principu, reč je o svim kategorijama troškova koji se javljaju i kod propagande, sem što izostaje trošak medija. Reč je o troškovima istraživanja, pripreme i izrade poruka publiciteta, izrade grafičkog materijala, konferencija za štampu i slično.

Kreiranje poruka publiciteta je sasvim drugačije od istog posla u propagandi. Glavni element publiciteta je tekst, a zatim fotografija. U načelu, i zvanično, tekst piše novinar koji ga i potpisuje u novinama ali ostale elemente teksta novinaru mora neko da pripremi. Novinar nije istraživač sa neograničenim vremenom već osoba koja svakog dana „proizvodi” određeni broj stranica teksta i koje se moraju na vreme predati uredniku kako bi išle u štampu. To mora da ima u vidu i onaj koji je u preduzeću zadužen za pripremu materijala za slanje medijima.

Praksa odnosa s medijima prepoznaje sledećih deset zlatnih pravila kojih bi se trebalo pridržavati da bi materijal imao dobru priliku da bude uvršćen u medij u formi publiciteta:

1. Pisati kratko, zanimljivo saopštenje; odmah ići na ono što se želi istaći;
2. Pripremu, snimanje i izbor fotografija koje bi pratile tekst treba prepustiti novinaru-fotografu;
3. Materijal nasloviti na ime i prezime odabranog novinara, umesto uopšteno (na izdavača);
4. Novinar treba da primi materijal na vreme kad mora da priprema članak za štampu;
5. Konferenciju za štampu zakazivati samo ukoliko je zaista neophodna;
6. Ako ipak treba da se održi konferencija za štampu, nastup mora biti kratak i efekatan;
7. Određeno saopštenje pripremati za određeni medij, a ne isto za sve medije;
8. U saopštenju treba biti kreativan tako da centralna priča ima karakter novosti;
9. U slučaju intervjua predvideti kritička pitanja i pripremiti odgovore na njih;
10. U nastupima i u odgovorima usresrediti se najviše na tri tačke ili cilja koja želite da ostvarite.

Jedno od pravila koje takođe treba znati glasi: najvažnije je imati lične (direktne) kontakte sa novinarima. Bitno je da komunikacija bude redovna i kontinualna, a ne samo onda kada smo mi zainteresovani da neka naša novost bude publikovana. Pri tome neobjavljene materijale ne treba tretirati uvek kao izgubljen napor. Trebalo bi ih ponovo analizirati i ustanoviti da li su zaista imali u sebi nešto od novosti ili se radilo o klasičnom

oglasu te ga je kao takvog trebalo uputiti u oglasno odeljenje i tada platiti njegovo objavljivanje.

4. UPRAVLJANJE PUBLICITETOM ŽELEZNICE

Publicitet se koristi da bi pre svega popravio ili doveo na odgovarajući nivo imidž železnice kod postojećih ili potencijalnih korisnika usluga. Publicitetom se preko odgovarajućih medija šire, popularišu, karakteristike železničke ponude, tekućih i razvojnih planova, a posebno one aktivnosti koje imaju za cilj prevazilaženje određenih problema i izraženih negativnosti u poslovanju. Pošto Železnice Srbije imaju neodgovarajući imidž, publicitet je za njih nezaobilazan instrument; može se popraviti ili stvoriti pozitivna slika o železnici, pri čemu aktivnosti nisu usmerene samo na korisnike već i na relevantne društvene grupe. Tu su moguće sledeće mere: (1) stvaranje dobrih kontakata sa medijima, (2) održavanje konferencije za štampu, (3) korišćenje atraktivno-sastavljenih poslovnih izveštaja, (4) korišćenje elektronske tehnike i dr. (Vasiljević, 1999: 430).

Oni koji u praksi koriste model publiciteta, po pravilu, započeli su svoje karijere kao novinari i koriste svoje poznavanje medija da bi kreirali poruke i događaje koji će privući medijsku pažnju. Publicitet je proces sticanja vidljivosti kroz plasiranje informacija sa vrednošću u formi vesti sa ciljem dobijanja pažnje ili podrške javnosti. Publicitet Železnica Srbije ima za cilj da učini da one budu prepoznatljive, primećene i da kao uspešno javno preduzeće sebe stave na prvu stranu novena – svaka vest je dobra vest, to kaže služba publiciteta, ali ne i PR profesionalac.

Publicitet ima profesionalce koji obezbeđuju pozitivne objave u medijima, održavaju dobre veze sa novinarima i u pravom trenutku im šalju zanimljive priče u vezi sa klijentom kojeg predstavljaju. Oni su uglavnom fokusirani na klijenta kojeg predstavljaju i na njihovo pojavljivanje u medijima, na kreiranje pozitivnog publiciteta i održavanju kvalitetne veze sa medijima. To može uključivati: dogovaranje intervjua, kreiranje objava za medije, organizaciju bloga i najrazličitijih vrsta kontakata u društvenim medijima, rad na dobijanju publiciteta, organizovanje pojavljivanja u javnosti, savetovanje kako da se dobije željeni publicitet, ali ovi ljudi i događaji nemogu ispraviti lošu sliku poslovanja.

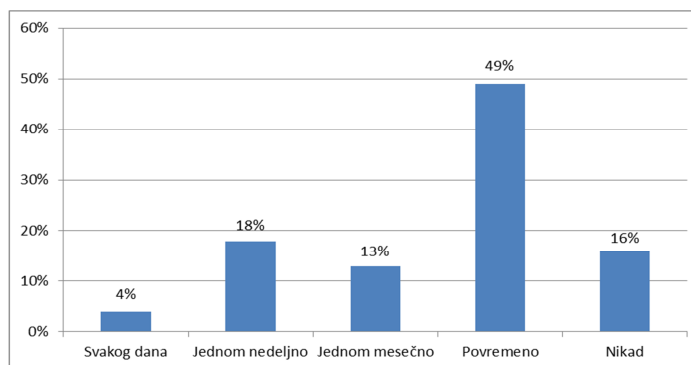
Publicitet se može smatrati formom besplatne reklame, ali je njegov mnogo bitniji aspekt da on mora predstavljati legitimnu vest. Osnovni cilj je kreirati vest, i to vest interesantnu medijima, a onda je plasirati na pravi način tako da ona bude i objavljena. S obzirom na to da živimo u pre-komuniciranom društvu, potpuno prezasićeni raznovrsnim informacijama, uloga publiciteta Železnica Srbije postaje još važnija. Ukoliko želimo da ljudima prenesemo poruku, ona će se takmičiti sa neverovatnom količinom informacija koje su danas prisutne svuda oko nas. Jedini način da ta poruka ima efekta, a to važi za bilo koju poruku (vest), je da ona kreira emocionalni efekat, da bi imala šansu da bude i zapamćena, primećena, mora da ima snagu da motiviše, na način koji Železnicama Srbije najbolje odgovara.

5. REZULTATI ISTRAŽIVANJA I ANALIZA MEDIJSKIH SADRŽAJA O AKTIVNOSTIMA ŽELEZNICE SRBIJE

Sagledavajući trenutnu situaciju Železnica Srbije, sastavljen je upitnik koji bi mogao da utvrdi da li postoji nezadovoljstvo putnika i koji su glavni razlozi zbog kojih se sve manji

broj građana opredeljuje za usluge *Železnica Srbije*. Upitnik je podeljen u dve celine i to na: demografska pitanja i anketna pitanja. U razmatranju su uzeti u obzir građani koji putuju javnim prevozima do svog posla, zatim đaci srednjih škola i studenti. Upitnik je bio anoniman, a stopa odziva visoka (100%) – na upitnik odgovorio planirani broj ispitanika, odnosno 200 građana. Svi upitnici koji su vraćeni, bili su uredno popunjeni sa svim potrebnim podacima.

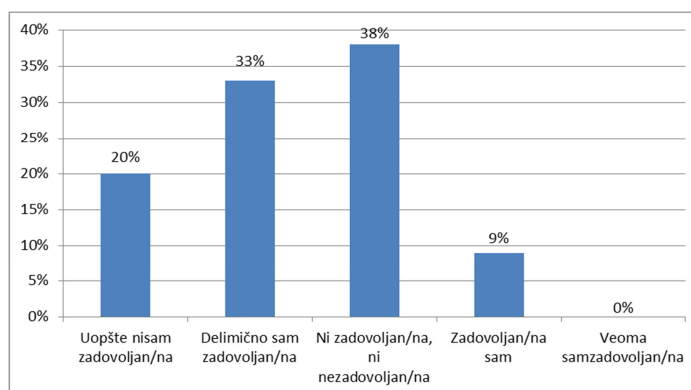
Prvo pitanje *Koliko često koristite usluge Železnice Srbije?* ima za cilj da proveri koliko građani putuje vozovima. Došlo se do zaključka da je najmanji procenat onih koji putuju svakog dana (samo 4%), dok je najveći procenat onih koji putuju povremeno – njih je 98, odnosno 49% (slika 3).



Slika 3. Grafički prikaz procentualnog korišćenja železnice

Sledi pitanje koje se odnosi na zadovoljstvo putnika o samoj usluzi naše železnice: *Koliko ste zadovoljni uslugama Železnice Srbije?* Najveći broj ispitanika je bio neodlučan –

76 ispitanika ili 38% - dok je najmanje bilo onih koji su veoma zadovoljni, odnosno njih upšte nije ni bilo, čak ni jedan ispitanik nije ovu opciju odabrao kao svoj odgovor (slika 4).



Slika 4. Grafički prikaz procentualnog zadovoljstva uslugama železnice

U pitanju *Od ponuđenih odgovora zaokružite ono što vam je najbitnije kada koristite usluge Železnice Srbije* od ispitanika se tražilo da odaberu šta je za njih najbitnije kada putuju vozovima. Najveći procenat građana se opredelio za cenu prevoza, čak 84 (42%), dok su se samo dva ispitanika (1%) odlučila da upišu odgovor po svom mišljenju –

higijena kabina. Cena karte je nesumnjivo jedan od glavnih faktora zbog koga se građani odlučuju koji će javni prevoz koristiti. Sa ovom konstatacijom se slaže veliki broj ispitanika (*Da li se slažete da za cenu karte koju platite dobijate adekvatnu uslugu?*) 80 građana (40%), a samo šest ispitanika (3%) se ne slaže. Pitanje (*Kada biste putovali od mesta stanovanja do Beograda, koji javni prevoz biste izabrali, voz ili autobus?*) je postavljeno u upitniku kako bi uvideli razliku u broju korisnika u odnosu na konkurenciju, odnosno autobuse. Iako je kod prethodnog pitanja utvrđeno da je cena karte za vozove odgovarajuća, ipak, mnogo više građana se odlučilo za putovanje autobusom, čak 154 (77%), a za voz se opredelilo skromnih 46 ispitanika (23%).

Na pitanje *Zašto birate taj javni prevoz?* ispitanici nisu imali ponuđene odgovore već su imali mogućnost da samo upišu svoje razloge zbog kojih bi izabrali voz ili autobus. Odgovori su bili usmereni na pet različitih faktora od kojih su tri u korist autobusa, dok su dva razloga na strani voza (Autobus ima brojnije putne linije, Autobusom se brže putuje, Autobuske stanice su brojnije, Volim da putujem vozom, Niža cena karte). Jedno od pitanja iz ankete tiče se upoređivanja Železnice Srbije sa drugim evropskim železnicama (*Da li smatrate da naša železnica u razvoju dosta zaostaje za drugim evropskim železnicama?*) Rečju, da li naša zemlja napreduje u koraku sa evropom, ili pak zaostaje? Čak dve trećine ispitanika smatra da veoma zaostaje, dok niko ne misli da uopšte ne zaostaje.

Sledeće pitanje se odnosilo na šanse koje se pružaju železnici i da li ih ona koristi kako bi napredovala u razvoju (*Da li se slažete da u poslednjih nekoliko godina Železnica Srbije dovoljno koristi sve potencijale i šanse koje joj se pružaju radi svog unapređenja?*) Najveći broj ispitanika je odgovorilo sa „slažem se” i „ne slažem se”, njih 96 (48%) jer nisu dovoljno informisani o tome, dok je najmanji broj onih koji se slažu 4 (2%).

Jedno pitanje se odnosilo i na kvalitet usluge koju pruža železnica, odnosno da li je to jedan od najbitnijih faktora kako bi se povećao broj potencijalnih korisnika (*Da li mislite da bi Železnica Srbije imala više korisnika kada bi se usluga koju pružaju poboljšala?*). Čak 106 ispitanika (53%) se slaže sa ovom konstatacijom, a samo 2 ispitanika (1%) se ne slaže. Pitanje *Da li znate da postoji prezentacija JP Železnice Srbije?* se odnosi na obaveštenost građana o prezentaciji Železnice Srbije, odnosno da li znaju da ona postoji. Rezultati su razočaravajući; naime, dve trećine ispitanika ne zna da postoji, njih je 124 (62%), a samo 76 (38%) ispitanika zna da postoji. Ovo pokazuje da se građani ne obaveštavaju na adekvatan način.

Sledeće pitanje se takođe odnosi na prezentaciju železnice, odnosno da li je građani posećuju (*Da li posećujete prezentaciju?*). Rezultati su slični odgovorima na prethodno pitanje. Zapravo mnogo više je onih koji ne posećuju prezentaciju (72%) od onih koji je posećuju (28%). *Da li se informišete o uslugama železnice preko sajta?* glasilo je pitanje u anketi koje se takođe odnosilo na prezentaciju. Ovoga puta pitanje je da li se pomoću nje građani informišu. U skladu sa prethodna dva pitanja i sada su rezultati bili negativni, odnosno 156 (78%) ispitanika se ne informiše pomoću prezentacije, a samo 44 (22%) ispitanika koristi prezentaciju kao izvor informacija.

Tokom perioda anketiranja, u štampanim medijima, uporedo je praćeno više događaja vezanih za železnicu i to: modernizacija Železnice Srbije, dovođenje stranih investitora, sve učestalije saobraćajne nesreće, redovna kašnjenja polaska i dolazaka, itd. U okviru kampanje dnevnih listova akcenat je stavljen na ulaganja radi modernizacije železnice s ciljem stvaranja pozitivnog imidža. Ukupan broj pojavljivanja tokom perioda iznosi 97 puta. Broj pojavljivanja po određenim dnevnim listovima se razlikuje. Dnevni list *Blic* svakako najčešće piše o dešavanjima na Železnici, dok se o tome nešto manje piše u *Večernjim novostima*, a najmanje u *Politici*.

U nastavku su predočene neke objave o železnicama: „Antić sa delegacijom iz Kine o modernizaciji železnice”, „Austrijanci u Srbiji prave klima uređaje za vozove”, „Železnice i Simens sutra potpisuju ugovor za Koridor 10”, „Do Subotice vozom 160 kilometara na sat”, „Pet razloga za smenu bahatog direktora Železnica”, „Završetak železničkog Koridora 10 od vitalnog značaja”, „Predstavnici srpske i kineske železnice o modernizaciji pruge Beograd-Budimpešta”, „Železnice: Broj putnika povećan za 10 odsto”, „Železnice Srbije: Krađe ugrožavaju bezbednost”, „Železnice Srbije: Obnova 120 kilometara pruge 2014. Godine”, „Železnice Srbije planiraju klimatizaciju vozova”, „Stižu kineski inženjeri za brze pruge: Do Pešte za tri sata”, „Vozovi do Bara 'jure' deset na sat”, „Tek za deceniju 100 na sat”, „Vozom kao biciklom”.

Od 97 analiziranih objava tokom istraživačkog perioda utvrđeno je da je u 22 teksta zastupljen afirmativan stav, 26 je neutralno intonirano, dok je tekstova sa negativnom ocenom objava bilo čak 49. Iako je u većini tekstova zastupljen negativan stav, postoji nekoliko tekstova u kojima su date pozitivne crte rada železnice. Ono što je najznačajnije je težnja i želja za unapređenjem i modernizacijom železnice, što obuhvata najpre izgradnju brže pruge i kupovina novih vozova. U prilog tome navedene su činjenice na koji način firme ulažu novac i šta im je prioritet.

Uzimanjem u obzir i tema i tekstova prilikom ocenjivanja, kao afirmativni su označeni oni koji govore o konkretnim aktivnostima javnog preduzeća Železnice Srbije, zatim tekstovi u kojima se obraćaju javnosti, tekstovi o nagradama, ulaganja radi modernizacije, kao i dovođenje stranih investitora. Negativni su tekstovi gde se kritički govori o činjenici da Železnica Srbije ne ispunjava mnoge osnovne uslove poslovanja, kao i česte nesreće izazvane lošim uslovima za rad. Zanimljiv primer negativnog publiciteta je objavljen u dnevnom listu „Politika” u broju od 6. Decembra 2013. godine. U pitanju je otvoreno pismo jednog čitaoca koji je užasnut situacijom naše železnice odlučio da svoje iskustvo podeli sa ostalim čitaocima.

6. ZAKLJUČAK

S obzirom na to da Železnice Srbije imaju neodgovarajući imidž publicitet za ovo preduzeće predstavlja nezaobilazan instrument pomoću koga se može stvarati pozitivna slika o železnici. U okviru ovog istraživanja, praćene su medijske objave o železnicama u najčitanim dnevnicima. Analiza sadržaja je pokazala da je zastupljen negativan stav autora, što povlači za sobom negativan publicitet za železnicu. Loš publicitet je negativna priča o firmi ili njenom proizvodu koja se pojavi u novinama. U društvu koje je sve više osetljivo na sredinu i u kojem mediji odmah saopštavaju greške, organizacije nastoje da se usmere na ovu negativnu dimenziju publiciteta i to u toj meri da ponekad previđaju potencijal dobrog publiciteta. Da bi smanjili rizik lošeg publiciteta, potrebno je da kultivišu dobre odnose sa štampom i nastoje da zadovolje tu pohlepnost medija sa pričama, sa dobrim vestima koje će ići u prilog organizaciji. To se može postići preko brojnih mehanizama kao, na primer, preko saopštenja za javnost (štampanje), konferencije za medije ili uključivanjem medija.

Takođe, u okviru istraživanja, izvršena je i anonimna anketa koja se odnosila na lično mišljenje građana o Železnicama Srbije. Ustanovljeno je da građani imaju negativan stav o toj temi. Naime, velika većina njih ne koristi usluge železnice, a oni koji ih koriste, to rade najviše zbog cene karte. Da bi Železnice Srbije povratile stari sjaj i privukle veći broj korisnika, potrebno je mnogo promena. Građane od vozova najviše odbijaju konstantna

kašnjenja polazka, sporost vozova, te mnogi drugi problemi koji prate železnički saobraćaj. Na kraju, može se očekivati da će mediji i u budućnosti biti zainteresovani da izveštavaju o Železnici Srbije – reč je o veoma bitnom sektoru svake nacionalne privrede, pa i privrede Srbije.

Na osnovu obavljene ankete tokom istraživanja ispitano je koliko su Železnica Srbije konkurentne u odnosu na drugi javni prevoz, odnosno autobus. Ustanovljeno je da građani mnogo više koriste autobuse od vozova, a glavni razlozi za to su: stalna kašnjenja polaska i dolazka, zatim zastareli vozovi koji su veoma spori i u lošem higijenskom stanju, kao i nesigurnost zbog čestih otkazivanja određenih linija. Pri tom, velika većina ispitanika je kao prednost železnice u odnosu na autobuse navela samo cenu karte. Od 200 ispitanih građana, njih 154 je odgovorilo da bi radije putovalo autobusom, a za voz se opredelilo skromnih 46 ispitanika (23%).

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REFERENCE

1. Bagin, D., Fulginiti, A., *Practical Public Relations: Theories and Techniques That Make a Difference* (1st edition), Kendall Hunt Publishing Company, 2005.
2. Jobber, D. And J. Fahy, *Osnovi marketinga* (drugo izdanje; prevod na srpskom jeziku, red. H. Hanić), Data Staus, Beograd, 2006.
3. Katlip, S.M., Senter, A.H., Brum, G.M., *Uspešni odnosi s javnošću* (deveto izdanje), Službeni glasnik, Beograd, 2006.
4. Kotler, P., *Upravljanje marketingom* (deveto izdanje), MATE, Zagreb, 2001.
5. Kljajić V., *Intervju u štampi, on-line magazinima i na Internetu*, Čigoja, Beograd, 2009.
6. Vasiljević, S., *Upravljanje marketingom železnice*, Saobraćajni fakultet; Želnid, Beograd, 1999.
7. Vračar, D., *Strategije tržišnog komuniciranja*, Ekonomski fakultet; Centar za izdavačku delatnost, Beograd, 2010.
8. Vuković, M., Vuković, A., *Odnosi s javnošću*, Tehnički fakultet; Grafomed-trade, Bor, 2009.

PARTNERSHIP OF TOURISM AND AGRICULTURE – BASIS FOR COMPETITIVE ADVANTAGE

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Abstract: Tourism is a very important component of the global economic system and forms the backbone of development of the Mediterranean countries. In contemporary conditions of the global competition, competitive advantage in tourism can be built in partnership with the companies operating in the field of agriculture. This provides a viable differential advantage and encourages development of the rural sector at the same time. The impact of tourism on agricultural development is multifaceted, while it is also a condition for the tourism offer diversification. Creating competitive advantage represents a powerful strategy that can be used to take advantage of the national resources and diversify the offer of tourism products. The partnership of tourism and agriculture generally provides a focus on specialized niche markets and increases the possibility of capacity utilization in agriculture. This strategic option should be used by countries whose economic development is based on tourism. A lack of cooperation between business entities in tourism and agriculture within national boundaries reduces the possibility of competition in the international market. Therefore, it is extremely important to encourage partnerships between business entities within these industries. Linking tourism and agriculture through a partnership creates the national source of competitive advantage in the international market. The paper presents the possibility of creating a competitive advantage through the development of partnerships between business entities in tourism and agriculture, as a concept that leads to better strategic positioning. Differentiation of the offer in the tourist market is ensured by the partnership and focus on a specific group of customers through the fulfilment of their specific requirements.

Keywords: tourism, agriculture, partnership, competitive advantage

PARTNERSTVO TURIZMA I POLJOPRIVREDE OSNOVA KONKURENTSKE PREDNOSTI

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Abstrakt: Turizam je veoma značajna komponenta globalnog ekonomskog sistema i predstavlja okosnicu razvoja mediteranskih zemalja. U savremenim uslovima globalne kompeticije konkurentska prednost u turizmu se može graditi uz partnerstvo sa firmama

koje djeluju u oblasti poljoprivrede. Time se obezbeđuje održiva diferentna prednost i istovremeno podstiče razvoj ruralnog sektora. Uticaj turizma na razvoj poljoprivrede je višestruk, a istovremeno predstavlja uslov diversifikacije turističke ponude. Kreiranje konkurentske prednosti predstavlja moćnu strategiju kojom se mogu iskoristiti nacionalni resursi i diversifikovati ponuda turističkih proizvoda. Kroz partnerstvo turizma i poljoprivrede u cjelini se obezbeđuje fokus na specijalizovanim tržišnim nišama i povećava mogućnost korišćenja kapaciteta u poljoprivredi. Ovu strategijsku opciju treba da koriste zemlje koje svoj ekonomski razvoj zasnivaju na turizmu. Nedovoljna saradnja između poslovnih subjekata u turizmu i poljoprivredi unutar nacionalnih granica, smanjuje mogućnost konkurencije na inostranom tržištu. Zbog toga je izuzetno važno podsticanje partnerstava između poslovnih subjekata unutar ovih djelatnosti. Povezivanje turizma i poljoprivrede kroz partnerstvo stvara se nacionalni izvor konkurentske prednosti na međunarodnom tržištu. U radu je prikazan mogućnost stvaranja konkurentske prednosti kroz razvoj partnerstava između poslovnih subjekata u turizmu i poljoprivredi, kao koncept koji vodi boljem strateškom pozicioniranju. Diferencijacija ponude na turističkom tržištu se obezbjeđuje partnerstvom i fokusom na posebnu grupu kupaca kroz zadovoljavanje njihovih specifičnih zahtjeva.

Ključne riječi: turizam, poljoprivreda, partnerstvo, konkurentska prednost

1. UVOD

Turizam čini integralni dio ekonomskog razvoja velikog broja zemalja i doprinosi globalnom razvoju (Sharpley, 2002; Jones, 2005), tako da predstavlja najbrže rastući sektor globalne ekonomije. Istovremeno poljoprivreda i ruralni razvoj posljednjih decenija bilježe slabiju stopu rasta u odnosu na druge privredne djelatnosti (www.worldbank.report) Partnerstvom između ova dva sektora može se obezbijediti važan sinergijski efekat i kreirati konkurentska prednost kroz jedinstvenu ponudu na tržištu i odgovarajuću pozicioniranost na međunarodnom tržištu.

Turizam je djelatnost u kojoj se posljednjih decenija mijenja konkurentsko okruženje. Iako je okruženje neizvjesno i turbulentno, ono stvara mogućnosti za uspješan razvoj, uz posjedovanje adekvatnih strategija. Strategijska opcija, koja može uticati na konkurentsku prednost u turizmu neke države, jesu partnerski odnosi. Partnerstva omogućavaju firmama da prošire znanja, stručnosti, da dijele rizike, kao i potencijalne prihode i profite i adekvatno se pozicioniraju na globalnom tržištu. Kreiranje konkurentske prednosti u takvim okolnostima predstavlja moćnu strategiju kojom se mogu iskoristiti nacionalni resursi i diversifikovati ponuda turističkih proizvoda. Pojava novih firmi u turizmu generiše inovacije i ekonomske promjene što doprinosi razvoju poljoprivrede i osnažuje mala i srednja preduzeća u agrobiznisu.

Kao fragmentirana djelatnost turizam je sastavljen od velikog broja poslovnih subjekata koji nastoje da ostvare uspjeh u uslovima ekstremne konkurentnosti i promjena biznis okruženja. Diversifikacija i fleksibilnost stimulišu kreativnost u uvođenju novih proizvoda i usluga u turizmu i pratećim djelatnostima. Poseban doprinos ovom procesu daju partnerski odnosi između turističkih organizacija i agrobiznis firmi. Zemlje koje se pozicioniraju kao turističke destinacije razvijaju jedinstvene konkurentske prednosti, kroz razvoj partnerstva unutar nacionalnog lanca vrijednosti, radi obezbjeđenja kvalitetnije i potpunije turističke usluge, prilagođene zahtjevima savremenog turista. U radu je

prikazana konkurentna strategija kroz partnerstvo turizma i poljoprivrede, kao opcije za stvaranje diferentne prednosti u međunarodnim okvirima, na primjeru Crne Gore.

2. KONCEPT KONKURENTSKE PREDNOSTI U TURIZMU

Turizam je veoma bitan faktor razvoja posebno mediteranskih zemalja. Podaci Svjetske Turističke Organizacije (www.wto.org) ukazuju na značajnu stopu rasta broja turista i prihoda od turizma na globalnom nivou. Sa učešćem od 50,7%, odnosno 476,6 miliona turista Evropa, kao region je na prvom mjestu po broju turista, ispred zemalja azijsko-pacifičkog regiona (www.unwto.org). Prema definiciji WTO-a ključni faktori koji omogućavaju ulazak na nove destinacije odnose se na podršku razvoju turizma, institucionalni i pravni okvir, investicije, razvoj putne infrastrukture, integracije, promociju, kvalitet i javno privatno partnerstvo. Partnerstvo predstavlja važan faktor koji doprinosi konkurentskoj poziciji neke zemlje u međunarodnim okvirima, pod uslovom da resursi i kapaciteti predstavljaju distinktivne sposobnosti koje se teško mogu imitirati od strane konkurencije.

Mediteran je turistički najrazvijeniji region u svijetu, u kome se prema podacima WTOa ostvaruje jedna trećina ukupnog međunarodnog turističkog prometa. Zemlje koje raspolažu resursima za pružanje turističkih usluga, kao što su prirodne ljepote, more, vode, šume su važan, ali ne i presudni faktor u kreiranju konkurentne prednosti. Porter²⁵ navodi da su izvori resursa manje važni od brzine i efikasnosti putem kojih se ovi resursi razvijaju. Zato zemlje u kojima turizam predstavlja okosnicu ekonomskog razvoja moraju graditi svoju poziciju kroz diferencijaciju usluga drugih sektora i to na kvalitetan i efikasan način, kako bi resursi kojima raspolažu bili valorizovani. Povezane i prateće djelatnosti mogu dovesti do nacionalnog dijamanta, čiji atributi određuju prostor za tržišnu utakmicu u smislu kreiranja i isporuke jedinstvenog turističkog proizvoda. Obezbjedenje inovativnog i dobro koordinisanog turističkog proizvoda je osnova za razvoj održive konkurentne prednosti u turizmu.

Turizam je sektor u kome dominira fleksibilnost, segmentacija, promjene, dijagonalna integracija i promjene zahtjeva kupaca kroz proces globalizacije (Poon 2003). Promjene turističkog sektora imaju brojne direktne i indirektno efekte na nacionalne privrede. Poseban uticaj je na povećanja konkurenata izvan turističkog sektora, bližeg odnosa sa kupcima, jer firme rzmjenjuju svoje vještine na tržištu (Poon, 2003). Izmjene turističke ponude se podstiču efikasnijim upravljanjem povezanih i pratećih djelatnosti, među kojima je i poljoprivreda. Zemlje sa razvijenom poljoprivredom, sa usklađenim ruralnim razvojem i većim brojem firmi u agrobiznisu imaju šanse za boljim pozicioniranjem i razvojem konkurentne prednosti na turističkom tržištu. Poljoprivreda, kao jedna od povezane djelatnosti sa turizmom, kroz partnerske odnose sa turističkim organizacijama može da obezbijediti potencijalno kvalitetniju ponudu. Povezivanje ovih privrednih djelatnosti stvara se izvor konkurentne prednosti na međunarodnom tržištu. Adekvatnim strategijskim djelovanjem obezbijeduje se integrisanje učesnika u lancu stvaranja vrijednosti turističkog proizvoda.

Razvoj konkurentne prednosti je kompleksan fenomen zasnovan na mjerama ekonomske politike neke zemlje, kojima se povećavaju potencijali i preduzimaju aktivnosti za bolje korišćenje resursa. Partnerstvo omogućava efikasnije korišćenje resursa, ili obezbjedenje nedostajućih, pod povoljnijim uslovima. Veliki je broj razloga za partnerstvo. Partnerstva uključuju zajednički nastup na stranim tržištima, kompletiranje ponude i

²⁵ Porter, M. E. (1985) *Competitive advantage: Chapter 2*. New York: Free Press

pronalaženje iskusnog partnera. Rezultat partnerstva je uspješni tržišni nastup. Firme uključene u partnerstvo apsorbiraju informacije i znanje iz okruženja, od kupaca i lakše se adaptiraju na dinamično i kompleksno okruženje.

Konkurentnost zemlje predstavlja sintetički izraz uspješnosti privrede i pokazatelj efikasnosti i efektivnosti poslovanja poslovnih subjekata u stvaranju nove vrijednosti. Turizam karakteriše međuzavisnost svih subjekata koji učestvuju u pružanju turističke usluge, a za koje postoji jednostavnost ulaska i izlaska iz biznisa u određenim oblastima turističke ponude (Evans at all. 2003). Pored toga, turizam nudi mogućnost velike ponude povezanih i pratećih grana, kao što je poljoprivreda. Uključivanje poslovnih subjekata iz drugih sektora vodi povećanju rivaliteta između firmi koje djeluju na tržištu turističkih usluga. Nepostojanje tržišnih barijera omogućava firmama preduzetničkog duha pogodnosti za uključivanje u sektor turizma, posebno kada su u pitanju mala i srednja preduzeća, čija se fleksibilnost usmjerava prema zahtjevima kupaca. Zahtjevi koje savremeni turisti postavljaju, omogućavaju prilagođavanje i diversifikovanje ukupne ponude. Diversifikacija je prilika za mala i srednja preduzeća da primjenjuju strategijsko upravljanje u cilju smanjenja neizvjesnost i postizanja održive prednosti. Mnoga mala i srednja preduzeća, generalno ne primjenjuju strategijsko upravljanje, usled nedostatka vještina i sredstava za angažovanje konsultanata (Wheelen and Hunger, 2006). To značajno utiče na njihovu tržišnu poziciju i poslovni uspjeh. Slaba povezanost kroz partnerstava, posebno je izražena kod zajedničkog nastupa na međunarodnom tržištu. Unapređenje strategijskog djelovanja i orijentacija ka partnerskim aranžmanima može obezbijediti zadovoljavajuću poziciju na ovim tržištima.

3. POLJOPRIVREDA I AGROTURIZAM

Poljoprivreda i njeni sistemi koriste različite strategije kojima se usmjerava razvoj ove veoma važne djelatnosti. Kriza poljoprivrede posljednjih decenija prouzrokovala je pad broja poljoprivrednih proizvođača i dovela do promjena u vlasničkoj strukturi, tako da je veliki broj poljoprivrednika potražio dodatne izvore prihoda u drugim područjima. Odustajane i napuštanje poljoprivrednih gazdinstava je ograničilo ekonomske razvojne potencijale, posebno nerazvijenih, ili manje razvijenih zemalja. Poljoprivreda u 21. vijeku se susreće sa novim izazovima i mogućnostima u cilju povećanja efikasnosti, smanjenja troškova proizvodnje i stabilizovanja kanala distribucije. Jačanje poljoprivrede predstavlja osnov razvoja ekonomske politike većine evropskih zemalja. Ruralno područje danas dobija visoko mjesto na ljestvici prioriteta Evropske unije, kao multifunkcionalna djelatnost koja je snažno utemeljena na principima održivosti²⁶.

Agroturizam je najčešće sinonim za ruralni turizam, s tim što se u literaturi pravi razlika prema učešću lokalne zajednice (domaćinstava), ili učešću malih i srednjih preduzeća. Pearce (1989) i Bramwell (1994) definišu agroturizam kao šira područja s prirodnim i šumovitim okruženjem gdje postoji posebna prirodna, ekonomska i socijalno kulturna obilježja poput tradicije, lokalne saradnje, povjerenja i dobrih međusobnih odnosa, kao takvi stvaraju poseban turistički proizvod, zasnovan prije svega na ekonomiji malih razmjera i etničkim elementima u skladu sa prirodom. Agroturizam pripada specifičnoj grupi turističkih usluga koje objedinjuju proizvođači poljoprivrednih proizvoda i lokalno stanovništvo, a obuhvata boravak turista u seoskim domaćinstvima radi uživanja i relaksacije. Motivi koje potrošače privlače za ovim vidom turizma su odraz rastućeg

²⁶ South East Europe 2020 Strategy: Jobs and Prosperity in European Perspective, Regional Cooperation Council, Sarajevo, 2012.

interesa za ljepotama prirode, jednostavnim načinom života, kulturnom baštinom, kao i potrebom opuštanja savremenog turista.

Važnost agroturizma kao dijela turističke privrede zavisi od resursa svake pojedinačne države, infrastrukturi, dostupnosti tržišta i prisutnosti drugih vrsta turističkih proizvoda. Agroturizam je komplementaran sa ukupnim turističkim sadržajima i značajno doprinosi razvoju ruralnih područja pružajući razvojne mogućnosti malim preduzetnicima generisanjem njihovog sekundarnog prihoda, kao i lokalnom zapošljavanju. Turizam u ruralnim područjima se sve više usmjerava na uvažavanje lokalnih obilježja, tako da se govori o „etnoturizmu“. Ova vrsta turizma diverzifikuje poslovanje postojećih subjekata i doprinosi unapređenju lokalnih zajednica i njihove infrastrukture. Da bi bio komplementaran sa sadržajem turističke ponude na nivou zemlje, ruralna područja moraju razvijati adekvatan smještaj, ishranu i sadržaje prilagođene zahtjevima turista. Turisti koji preferiraju smještaj na selu, traže izvornu ruralnu atmosferu, lokalne proizvode, hranu, vina i netaknutu prirodu. Promjena načina života, kao i povećanje svijesti o zdravstvenim efektima je obilježje savremenog potrošača, što stvara pritisak na proizvođače organske hrane da diferenciraju postojeću ponudu poljoprivrednih proizvoda. To zahtijeva proizvodnju u skladu sa propisanim standardima kvaliteta o bezbjednoj hrani. Zadovoljavanje ovih potreba je istovremeno prilika za proizvođače organske hrane da izađu u susret novim zahtjevima, kroz prilagođavanje turističke ponude u svakoj turističkoj destinaciji. Pritisak predstavlja izazov koji često dovodi do poboljšanja postojeće proizvodnje i uvođenja novih tehnologija organske proizvodnje. Ovim se stvaraju uslovi za konkurentsku prednost u odnosu na ponudu drugih zemalja.

U cilju unapređenja turističke ponude mnoge zemlje se odlučuju da kroz razvoj agroturizma zaustave negativne trendove depopulacije i smanjivanja poljoprivrednih domaćinstava. Razvoj malih i srednjih preduzeća u agrobiznisu i podsticanje ruralnog turizma od strane lokalnih zajednica postaje značajna komponenta ekonomskog razvoja i to u područjima koja se ne smatraju turističkim destinacijama u tradicionalnom smislu. Evropska unija posebno naglašava razvoj turizma kao sredstvo za revitalizaciju ruralnih područja, koji podržava organsku poljoprivrednu proizvodnju, održivo korišćenje zemljišta zaštitu prirode i kulturnog nasleđa.

Pozitivna korelacija između turizma i ruralnog razvoja dovodi do ekonomskog rasta. Široki aspekt istorijskih, kulturnih, ekoloških, socioloških faktora određuje stvarne kapacitete za generisanje i prihvatanje inovacija sa ekonomskim efektima po svaku zajednicu ponaosob. Povećanje prihoda, zaposlenost i rast su izvori novih vrijednosti koje su direktno povezane sa turizmom i ruralnim razvojem. Taj razvoj podrazumijeva saradnju kroz partnerstva svih stejholdersa u kreiranju jedinstvene turističke ponude. Poljoprivredni proizvođači se udružuju i razvijaju sopstvene smještajne i ugostiteljske kapacitete, kao vid diversifikacije sopstvenog biznisa. Nažalost, usluge koje se nude na ovaj način su ograničene, jer u većini zemalja poljoprivrednici vide samo svoj interes u povećanju sopstvenih prihoda, dok partnerstva sa drugim sektorima nijesu dovoljno razvijena. Zemlje koje žele da ostvare održivu konkurentsku prednost u turizmu moraju stimulisati poljoprivredne proizvođače, kako na povećanje proizvodnje, tako i na razvoj partnerstava.

4. KREIRANJE KONKURENTSKE PREDNOSTI KROZ PARTNERSTVO

Rijetko koja oblast ekonomije pruža toliko podsticaja za uspostavljanje saradnje i partnerstva kao što je to slučaj sa turizmom i poljoprivredom. Karakteristike procesa pružanja turističkih usluga jesu saradnja organizacija i pojedinaca koji na direktan, ili

indirektan način mogu doprinijeti unapređenju konkurentske pozicije. Veliki broj organizacija nudi različite, ali po pravilu komplementarne usluge. Ukoliko se pojave nedostaci u jednoj komponenti ponude, to se nepovoljno odražava na stepen zadovoljstva potrošača, čak i u slučaju kada su ostale komponente usluge na očekivanom nivou. Lanac vrijednosti se može prekinuti samo zbog jedne slabe karike. Zbog toga svaki segment turističke ponude mora funkcionisati kao jedinstvena cjelina. Osnova za konkurentske građene pozicije predstavlja integracija aktivnosti što predstavlja osnovu za razvoj partnerstva.

Mogućnost tehnoloških inovacija i snažni odnosi sa kupcima i snabdijevачima kroz partnerstvo predstavlja ključnu determinantu postizanja konkurentske prednosti. Izgradnja konkurentske prednosti sama po sebi nije dovoljna, ukoliko ne postoji održiva konkurentska prednost. Održiva konkurentska prednost kreira set jedinstvenih vrijednosti koje se isporučuju kupcima, bolje nego što to rade konkurenti. Kompleksnost međunarodne konkurentnosti Porter (1990) objašnjava kroz pristup globalnom tržištu koji pretpostavlja razumijevanje osnovnih determinanti nacionalne konkurentske prednosti. Konkurentnost između turističkih preduzeća je veoma izražena. Novi igrači ulaze na tržište kroz partnerstvo sa postojećim organizacijama, ili sa organizacijama iz drugih djelatnosti. Interes i motiv za saradnju se najčešće pokreće kroz promotivne aktivnosti i kroz uzajamno preporučivanje partnera, da bi nakon toga oni formalizovali odnos koji vodi razvoju zajedničkih programa. Ovaj oblik saradnje je posebno interesantan za preduzeća kojima je turizam osnovna djelatnost, kao i poljoprivrednim proizvođačima, odnosno organizacijama koje posluju u agrobiznisu. On se može razvijati tako što poljoprivredni proizvođači u saradnji sa preduzećima iz turizma razvijaju specifičnu ponudu koja može obuhvatiti prezentaciju ukupnog procesa proizvodnje, konzumiranje gotovih proizvoda i specifičnih autohtonih proizvoda za pojedina područja. Takvim posjetama se turisti informišu, otvaraju se novi kanali komunikacije u koje potrošači imaju maksimalno povjerenje i obezbjeđuju ostvarenje dodatnog prihoda (Mitchel, Orwig, 2002). Ponuda ovakve vrste usluga doprinosi kvalitetu ukupnog turističkog proizvoda, kroz formiranje pozitivnih stavova o lokalnim proizvodima.

5. TURIZAM U CRNOJ GORI

Turizam je jedna od najperspektivnijih djelatnosti, kako zbog svojih potencijala, tako i zbog doprinosa ekonomskom razvoju Crne Gore, porastu DBPa, zaposlenosti i povećanju ukupnih prihoda, čime se opravdava strateška usmjerenost na razvoj turizma. Osnovni principi strategije razvoja turizma predviđeni su Master planom razvoja turizma²⁷ u kome su kao posebno naglašeni principi održivosti razvoja u ekološkom pogledu i diferencijacije ponude radi sticanja konkurentske prednosti:

1. Izdvajanje od konkurentskih destinacija, kao način sticanja konkurentske prednosti diferenciranjem;
2. Diferenciranje regija Crne Gore u smislu podržavanja razlika u odnosu na konkurenciju;
3. Diferenciranje ponuda radi boljeg prilagođavanja potrebama i zahtjevima ciljnih tržišta
4. Standardizacija osnovnih komponenti turističke usluge (posebno onih elementa koji su vidljivi i opipljivi)

²⁷ Master plan - Strategija razvoja turizma u Crnoj Gori do 2020 (2001)

5. Oblikovanje predjela – turističkih kompleksa
6. Individualizacija ponude, kao način dodatnog izlaska u susret razlikama koje postoje između potrošača,
7. Podsticanje privatne inicijative, podjednako značajne za aktiviranje postojećih i razvoj novih kapaciteta

Navedeni principi su usklađeni sa dominantnim tendencijama na turističkom tržištu, kako u pogledu promjena u zahtjevima i ponašanju potrošača, tako i sa njihovim konkretnim ispoljavanjem u turističkoj potrošnji. Institucionalni okvir omogućava kreiranje održivog razvoja turizma kroz uključivanje brojnih stejkholdersa, ali retorika i praksa pokazuju stanje drugačijim. Polazeći od ciljeva razvoja turizma utvrđenih Master planom razvoja turizma²⁸ Crna Gora nastoji da razvije turističke destinacije i obezbijedi kvalitetnu turističku ponudu i usluge koje će zadovoljiti zahtjeve potrošača u pogledu sadržaja i cijena usluga. To pretpostavlja stvaranje visoko kvalitetne i diverzifikovane ponude i razvoj turizma, kroz održivi razvoj.

Turizam u Crnoj Gori ima izrazito sezonski karakter, posebno u primorskom dijelu Crne Gore gdje postoji samo ljetnja sezona. Upravo zbog toga pojedini hoteli se pokušavaju pozicionirati sa „welles“ i rekreativnim uslugama kako bi se oslobodili sezonske zavisnosti. Dominacija koncepta „sun, sea, sand“ dovela je do situacije da je Crna Gora decenijama razvijala isključivo primorsku regiju. Napuštanje koncepta masovnog turizma i porast interesa za selektivnim oblicima turizma treba da dovede do repositioniranja turističke ponude i ukupnog „image“ Crne Gore kao turističke destinacije. Nedovoljna prilagođenost promjenljivim zahtjevima potrošača, samim tim i nizak nivo inventivnosti ponude navodi na razmišljanje o stratejskim partnerstvima koja bu uvećala nivo dodatne vrijednosti koja se nudi kupcima i izgradila konkurentan proizvod u međunarodnim okvirima. Prognoze WTO ukazuju da u će i pored veoma izražene globalne konkurencije, Crna Gora u narednoj deceniji imati najveću stopu rasta prihoda od turizma. Takvu poziciju Crna Gora mora očuvati ponudom kvalitetnog turističkog proizvoda i adekvatnim održivim korišćenjem svojih resursa.

Iako je Crna Gora ekološka država po Ustavu, pitanje održivog razvoja turizma se može ozbiljno postaviti, jer su pojedini djelovi obale narušeni pretjeranom gradnjom i neadekvatnom infrastrukturom. Ukoliko se želi obezbijediti konkurentna prednost u odnosu na zemlje regiona, neophodno je postići balans između težnje za povećanjem prihoda od turističkog prometa i potrebe da se sačuvaju prirodne ljepote. U slučaju Crne Gore u primorskoj regiji preovladava negativan ekološki uticaj, dok u sjevernoj regiji izostaje odgovarajući razvoj pratećih djelatnosti, posebno razvoj poljoprivrede, kojim bi se povećale ukupne ekonomske i društvene koristi od turizma na nivou države.

6. PARTNERSTVO SA KOMPLEMENTARNIM DJELATNOSTIMA

Crna Gora sa svim svojim ljepotama i resursima na tako malom prostoru i pozicijom mediteranske zemlje može kreirati konkurentsku prednost kroz partnerstvo organizacija u turizmu i poljoprivredi. Međutim, uprkos brojnim organizacijama u turizmu, još uvijek se ne shvata značaj partnerstva i potreba kreiranja jedinstvene ponude u odnosu na međunarodne konkurente. U Crnoj Gori nema međusobno konkurentnih pratećih grana, odnosno povezanih industrija. Turizam predstavlja izuzetak u smislu postojanja relativno razvijene ponude u komplementarnim (pratećima) granama koji unapređuje kvalitet

²⁸ www.ministarstvoturizma.gov.me Master plan razvoja turizma

turističke ponude. Nedovoljno razvijena poljoprivredna industrija se donekle rješava oslanjanjem na dobavljače iz okruženja, tako da Crna Gora bilježi negativan platni bilans po ovom osnovu. Uprkos brojnim strateškim dokumentima, kojima se nastoji podstaći razvoj poljoprivrede i jačanje malog i srednjeg biznisa, poljoprivreda učestvuje u stvaranju DBP sa 0,8%.²⁹

Jedan od najznačajnijih indirektnih uticaja turizma je ruralni razvoj, posebno sjeverne regije radi postizanja regionalne uravnoteženosti. Promocijom novih autohtonih turističkih proizvoda moguće je privući nove investitore za razvoj poljoprivrednog sektora i dopuniti turističku ponudu. Uspostavljanje veza između proizvođača lokalnih poljoprivrednih proizvoda na tradicionalan način može značiti zajedničku ponudu sa turističkim organizacijama koje raspolažu znanjima o potrebama i zahtjevima turista. Saradnja bi mogla dovesti do diversifikacije biznisa poljoprivrednih proizvođača i njihovim usmjerenjem na tržišne niše. Sljedeća faza bi vodila povećanjem kapaciteta poljoprivrednih proizvođača koji su usmjereni većinom na sopstvene potrebe i eventualne isporuke viškova otkupljivcima. U Crnoj Gori još uvijek nije razvijen ova vrsta ponude, iako postoje resursi koji mogu da obezbijede adekvatnu pozicioniranost i konkurentsku prednost u regiji. Mali i srednji biznis kojima je osnovna djelatnost u oblasti poljoprivrede, proizvodnja hrane i pića imaju povoljan nacionalni dijament u pogledu uslova tražnje u Crnoj Gori. Naime, ukupni potencijal tržišta prevazilazi volumen koji bi bio isključivo zasnovan na tražnji lokalnog stanovništva. Značajan broj turista otvara mogućnosti konzumiranja proizvoda lokalnih proizvođača, što im povećava potencijale prodaje. Pored navedenog, veza koja postoji između turističkog prometa, potrošnje turista i realizacije prehrambenih proizvoda doprinosi uticaju faktora tražnje na razvoj konkurentnosti. Uslovi tražnje su značajni za razvoj proizvodnje hrane i za razvoj primarnih poljoprivrednih proizvoda.

Prostor za međusobnu saradnju proizvođača hrane i pića nalazi se kod proizvoda koji se proizvode na tradicionalan način, što im obezbjeđuje jedinstvenost kao osnova za diferencijaciju u odnosu na konkurenciju. Zbog fragmentiranosti proizvodnje i nedovoljna primjena standarda u proizvodnji, poljoprivredni proizvodi još uvijek ne mogu postati robna marka. Problem predstavlja činjenica da su nedovoljno kontrolisane karakteristike sirovina koje se koriste u proizvodnji. Ovo ima negativne posledice po percepciju koju imaju potrošači, posebno turisti iz razvijenih zemalja sa sofisticiranim ukusima. Navedeni problemi se mogu prevazići kroz saradnju razvijenog turističkog sektora i malih i srednjih preduzeća u agrobiznisu, što bi omogućilo Crnoj Gori bolju pozicioniranost na globalnom turističkom tržištu.

7. ZAKLJUČAK

Tehnološki napredak intenzivira konkurenciju na globalnom tržištu i čini biznis okruženje kompleksnim. Iako mnoge tržišne turbulencije kreiraju izazove za organizacije u turizmu one se sve više okreću partnerstvu kao mogućoj strategijskoj opciji koja treba da izdiferencira ponudu i pruži kvalitetniju uslugu.

Kroz partnerstvo turizma i poljoprivrede u cjelini se obezbjeđuje fokus na specijalizovanim tržišnim nišama i povećava mogućnost korišćenja kapaciteta u poljoprivredi. Nedostatak saradnje između poslovnih subjekata u turizmu i poljoprivredi unutar nacionalnih granica smanjuje mogućnost konkurencije na inostranom tržištu.

Partnerstva mogu obezbijediti ne samo bolje korišćenje postojećih resursa, već i bolje prilagođavanje na brze tržišne promjene. Biti odgovoran prema zahtjevima potrošača,

²⁹ The World Fact Book www.cia.gov/library/publications/the-world-factbook/geos/mj.html

smanjivati troškove, povećavati kvalitet usluga i biti više fleksibilan kroz razne vidove partnerskih aranžmana moguće je obezbijediti konkurentsku prednost.

Partnerstvom između turističkih i poljoprivrednih firmi u Crnoj Gori može se obezbijediti jedinstvena ponuda i potpuno zadovoljenje potreba savremenog gosta, a time podstaći razvoj malih i srednjih preduzeća u agrobiznisu. Partnerstvom turističkih poslovnih subjekata i malih i srednjih preduzeća, koja posluju u oblasti poljoprivrede prevazilazi se limitiranost tržišta u Crnoj Gori i obezbijeduje niz drugih multiplikativnih efekata, čime se poboljšava konkurentska prednost Crne Gore.

REFERENCE

1. Afford, P. (1998) Positioning the Destination product- can regional tourist board learn from private sector practice, *Journal of Travel and Tourism Marketing*, pp. 53-68
2. Bramwell, B., (1994) Rural Tourism and sustainable rural tourism, *Journal of Sustainable Tourism* 2(1-2), pp.1-6
3. Evans, N., Campebell, D., Stonehouse G (2003) *Strategic Management for Travel and Tourism*, Butterworth Heinemann pp.32
4. Jones, E.E. C. Haven-Tang (2005) *Service Quality and Destination Competitiveness*, CABI Publishing Cambridge, MA USA pp.337-336
5. Kotler, P., Bowen, J., Makens, J., (1998) *Marketing to Hospitality and Tourism*, Prentice Hall
6. Mitchel M., Orwig, R., (2002) Consumer Experience Tourism and brand Bonding *Journal of Product and Brand management*, Vol.11 No1 pp 35-36
7. Master plan - Strategija razvoja turizma u Crnoj Gori do 2020 (2001)
8. Ponn, A. (2003) Competitive Strategies for a New Tourism, in C. Cooper(ed) *Aspects of Tourism*, 8 Clasi Reviews in Tourism pp.130-142
9. Pearce, D., (1989) *Tourism Development second ed.* Longman Scientific And Technical wit John Wiley an Sons, New York
10. Porter, M. E. (1991) Towards a Dynamic Theory of Strategy. *Strategic Management Journal*, 12, Special Winter Issue, 95 -117.
11. Porter, M. E. (1985) *Competitive advantage: chapter 2.* New York: Free Press
12. Porter, E. M. (1990) *The Competitive Advantage of Nations*, The Macmillan Ltd. London, pp. 617-625.
13. Sharpley, R., (2002) The Challenges of Economic Diversification through Tourism: The Case of Abu Dhabi. *International Journal of Tourism Research*, 4(3) 221-235
14. *South East Europe 2020 Strategy: Jobs and Prosperity in European Perspective*, Regional Cooperation Council, 2012.
15. Wheelen, T.L. and J.D.Hunger, 2006 *Strategic Management and Business Policy*, 10th ed. Prentice Hall, Upper Saddle River, USA
16. www.cia.gov/library/publications/the-world-factbook/geos/mj.html
17. www.wto.org
18. www.worldbank.report
19. www.ministarstvoturizma.gov.me

ANALYSIS OF ENVIRONMENTAL AWARENESS IN URBAN AREAS

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Abstract: The development of environmental awareness has enabled the creation of an integrated environmental protection system which ensures the realization of the human right to live and develop in a healthy environment and a balance between economic growth and environmental protection at the global level. Environmental awareness influences the creation of a lifestyle that is the nature of taking only as much as needed to provide basic human needs without compromising the balance of the environment. Raising environmental awareness has resulted in the acceptance and taking environmental and social responsibility. It is known that in Bor, especially interesting urban environment, the city which is one of the most important centers of mining and metallurgical production in Southeast Europe, the environment and its surroundings quite vulnerable. It is inevitable that most, and for many decades a problem, just air pollution, however, no less important is not observed problem of low environmental awareness Bor. Therefore, the aim of this paper is to outline the aspects of environmental awareness of citizens involved in essential adoption and application of the concept of environmental protection in our society. The basic premise of this paper is that without the adoption of environmental values and changing individual behavior, environmental protection as a global concept remains meaningless.

Keywords: environmental awareness, environmental protection, urban areas, industrial pollution, Bor

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ANALIZA EKOLOŠKE SVESTI U URBANIM SREDINAMA

Milovan Vuković, Snežana Urošević, Nada Štrbac

Apstrakt: Razvoj ekološke svesti je omogućio stvaranje integralnog sistema zaštite životne sredine čime se obezbeđuje ostvarivanje prava čoveka na život i razvoj u zdravoj životnoj sredini i uravnotežen odnos ekonomskog napretka i životne sredine na globalnom nivou. Ekološka svest utiče na kreiranje određenog načina života kojim se od prirode uzima samo onoliko koliko je potrebno da se obezbede osnovne ljudske potrebe ne narušavajući ravnotežu u životnoj sredini. Podizanje ekološke svesti ima za posledicu prihvatanje i preuzimanje ekološke i društvene odgovornosti. Poznato je da je u Boru, posebno interesantnoj urbanoj sredini, gradu koji predstavlja jedan od najvažnijih centara rudarsko-metalurške proizvodnje na prostoru Jugoistočne Evrope, životna sredina i njegova okolina prilično ugrožena. Neminovno je da je najveći, i više decenija prisutan

problem, upravo zagađenje vazduha, međutim, ništa manje važan nije primećen problem niske ekološke svesti građana Bora. Zbog toga je i cilj ovog rada da se naznače aspekti ekološke svesti građana koji su uključeni za suštinsko usvajanje i primenu koncepta zaštite životne sredine u našem društvu. Osnovna pretpostavka ovog rada je da bez usvajanja ekoloških vrednosti i izmene ponašanja pojedinaca, zaštita životne sredine kao globalni koncept ostaje obesmišljena.

Ključne reči: ekološka svest, zaštita životne sredine, urbana sredina, industrijsko zagađenje, Bor

1. UVOD

Poslednjih godina velika pažnja se posvećuje očuvanju prirodne sredine u svim delovima sveta i na svim nivoima. U cilju zaštite životne sredine nastao je koncept „održivog razvoja” koji predstavlja razvoj koji će odgovarati potrebama današnjice, a koji će biti u funkciji potreba u budućnosti.

Etika zaštite životne sredine zasniva se na moralnoj odgovornosti čoveka da ne ugrožava sredinu u kojoj živi jer se samo tako mogu stvoriti uslovi za kvalitetniji način života. Neophodno je formiranje ekološke kulture i odgovornosti u prevladavanju potrošačkog odnosa čoveka prema prirodnim resursima. Da bi se to postiglo edukacija se mora sprovesti na svim poljima - od najranijeg doba (u okviru porodice), preko obrazovnih institucija, radnih organizacija, medija, pa do održavanja seminara i radionica za aktivno učestvovanje pojedinca. Obrazovanje i vaspitanje za zaštitu životne sredine ne podrazumeva samo upoznavanje prirodnih i društvenih nauka neophodnih za razumevanje i rešavanje ekoloških problema i zagađivanja životne sredine već pretpostavlja i dogradnju moralnih principa i formiranje novog sistema vrednosti čoveka u odnosu na prirodu i okruženje.

Gradski saobraćaj je najvažniji izvor zagađenja urbanih sredina. Pored saobraćaja po razmerama zagađenja idtiču se i zagađenja iz brojnih industrijskih postrojenja. Bor je, u tom smislu, posebno interesantna urbana sredina s obzirom na to da predstavlja jedan od najvažnijih centara rudarsko-metalurške proizvodnje na prostoru Jugoistočne Evrope. Osnova koja određuje ekološku svest građana Bora proističe iz karakteristika samog grada i privrede. Grad se u vrlo kratkom vremenskom periodu od jednog veka razvio iz malog seoskog naselja, preko rudarske kolonije, u razvijeni urbani centar istočne Srbije. Gradska privreda je izrazito monostrukturnog karakatera, odnosno preko 80% zavisna od rudarstva i metalurgije. Ove privredne grane prouzrokuju najviše degradirajućih uticaja koji su vidljivi svim građanima. Istovremeno, ove grane su omogućavale razvoj i opstanak samog grada i relativno visoki standard života stanovništva.

Zbog stogodišnjeg rudarenja životna sredina Bora i okoline se nalazi u jako lošem stanju. Prva asocijacija kada se pomene grad Bor je sivilo i dimna zavesa koja pada na grad. Pored zagađenog vazduha, grad i njegova okolina imaju problema sa otpadnim vodama koje zagađuju okolno zemljište, otpadom, jalovištima koja su u neposrednoj okolini grada. Međutim, poslednjih godina čine se veliki naponi da vazduh nad Borom bude čistiji i aktivno se radi na sanaciji višedecenijskog zagađenja životne sredine. Planovi postoje i njihova realizacija je u toku. Ako se nastavi započetim tempom ima nade da ovaj lepi grad ne bude više prepoznatljiv kao „crna ekološka tačka” već kao sredina koja se može pohvaliti mnogim istorijskim, kulturnim i turističkim sadržajima.

Ekološka svest građana Bora i okoline je izrazito protivurečna. S jedne strane, postoji visoko izražena svest o razmeri i uzrocima ekološke problematike Bora, a s druge strane nema dovoljno saznanja o posledicama zagađivanja životne sredine. Zatim, postoje saznanja o mnogobrojnim činjenicama ugroženosti životne sredine, ali nema dovoljno motivacije i akcija građana ka rešavanju ekoloških problema. Najzad, postoji uvrežena predstava o Boru kao lošoj sredini za život (crna tačka), uz nedovoljno razvijenu svest o okolini Bora kao centru biodiverziteta Balkana i Evrope. Ekološka svest je u velikoj meri ekonomizirana jer je usmerena najviše na ekonomske efekte korišćenja mineralnih resursa, a nedovoljno na održivo korišćenje ostalih prirodnih resursa koji bi bili osnova razvoja manje ekološki agresivnih privrednih grana (proizvodnja zdrave hrane, turizam i dr.). Prevazilaženje ovakvog stanja ekološke svesti građana Bora zahteva stvaranje uslova za poboljšanje ekološkog informisanja, ekološke edukacije i veće učešće građana u rešavanju ekoloških i ključnih razvojnih problema.

Usled ovakvog stanja ekološke svesti građani imaju pasivan odnos po pitanju uključivanja u donošenje odluka i učestvovanja u konkretnim akcijama i kampanjama za rešavanje ekoloških problema. S druge strane, sve češća je i radikalizacija svesti građana iz najugroženijih gradskih i seoskih naselja. Ona se ogleda u visoko izraženom nezadovoljstvu, samoorganizovanju, zahtevima do elemenata ekološkog bunta. Ovakvi događaji ne znače bitniji pomak u podizanju ekološke svesti.

Jačanje ekološke svesti građana Bora može se postići: (1) ekologizacijom čitavog sistema obrazovanja, (2) ačanjem nevladinog sektora i (3) razvojem sistema informisanja. Građani Bora svesni su svog okruženja koje je jako narušeno. Životna sredina je ugrožena do te mere da jedino brzim i aktivnim delovanjem može se poboljšati stanje. U cilju jačanja kapaciteta za ekološku edukaciju i podizanja ekološke svesti formirani su nedavno obrazovni programi na različitim nivoima koji su orijentisani prema zaštiti životne sredine.

Zavisno od informisanosti, zainteresovanosti, radnog mesta i stepena obrazovanja može se uočiti stepen ekološke svesti. Ljudi polažu veliku nadu u osavremenjavanju uslova rada u RTB BOR Group jer bi se time rešili nagomilani ekološki problemi. Samoinicijativno udruživanje građana tek je u začetku i potrebno je mnogo više seminara na temu ekologije i zaštite životne sredine.

2. POJAM EKOLOŠKE SVESTI

Nastanak ekološke svesti, odnosno aktivnosti na podizanju ekološke svesti, vezuje se za ideologiju ekoloških pokreta nastalih krajem 60-ih godina XX veka u visoko razvijenim zemljama Zapada. Novi socijalni pokreti, među njima i ekološki, redefinisali su tradicionalne odnose između ideologije, nauke i politike.

Ekološka svest je nastala kao rezultat izražene ekološke krize koja se ispoljila tokom 1970-ih. Iako su vremenom preduzete značajne mere na smanjenju ekološke neravnoteže, potreba za izgrađivanjem i podizanjem nivoa ekološke svesti dobija na aktuelnosti i danas. Inače, ekološku svest čine predstave, načini ponašanja, motivi delovanja, želje i očekivanja koja se odnose na životnu sredinu (Vuković 2011).

Proces čovekovog samoosvešćivanja izrastao je u ekološku svest o vlastitoj ugroženosti i opasnosti od samouništenja zbog negativnih efekata svog praktičnog odnosa prema prirodi, a sve to kao posledica njegovog besomučnog izrabljivanja i zagađivanja sopstvene prirodne okoline. Odgovornost prema okruženju, uključujući osim ljudske civilizacije i biljni i životinjski svet, predstavlja novu životnu filozofiju i pogled na svet društvenih pokreta za zaštitu životne sredine.

Ekološka svest predstavlja „svest o okolini koja obuhvata shvatanja, načine ponašanja, motive delovanja, želje i očekivanja koja se odnose na čovekovu prirodnu okolinu” (Bulatović 2011, 593). Promeni odnosa čoveka prema prirodi i njegovog ponašanja, ponajviše doprinosi ekološko obrazovanje i vaspitanje. Ekološka svest predstavlja deo šire filozofije društvenog pokreta usmerenog na očuvanje i unapređenje prirodnog okruženja, kako u interesu pojedinca, tako i u interesu civilizacije i njenog opstanka u celini.

U širem smislu ekološka svest se može shvatiti kao posledica nivoa razvijenosti specifične *ekološke kulture* pojedinca. *Ekološka kultura* podrazumeva poseban kvalitet odnosa prema okruženju i ljudima, odnosno, „zahteva razumevanje vrednosnih sistema i orijentacija“. U tom smislu, može se konstatovati da razvijenost ekološke kulture, zavisi od stanja na području opšte kulture (Koković 2008, 227).

Ekološko vaspitanje i ekološka svest novih generacija postaje sve potrebija i aktuelnija. Međuljudski odnosi i međudelovanje ljudi predstavlja sve ono što proizilazi iz ljudske sredine i sve ono što tu sredinu menja. Čovekova svest o negativnim efektima svog praktičnog odnosa prema prirodi postepeno je izrasla u ekološku svest kroz proces njegovog samoosvešćivanja, odnosno jačanja svesti o vlastitoj ugroženosti i opasnosti od samouništenja, kao posledice njegovog besomučnog izrabljivanja i zagađivanja prirodne okoline (Rajšić 2002).

Ovakav pogled na svet orijentisan je prema harmoničnom suživotu između ljudskog društva i prirodnog okruženja uz svest o njihovoj međuzavisnosti. On podrazumeva izmenu tradicionalnog antropocentričnog pogleda na svet koji je, postavivši čoveka kao svrhu postojanja planete, doveo do nekontrolisanog ekonomskog rasta i potrošnje, a time i do katastrofalnih oblika narušavanja prirodne ravnoteže. Zato se javlja nova ekološka etika - ekocentrizam, etički suprotstavljena antropocentrizmu, koja u osnov svega stavlja ekosistem i s kojom se čovek izjednačuje s drugim oblicima prirode, a jedino čime se izdiže je povećana odgovornost za očuvanje života uopšte, pa i ljudske vrste, ali i nežive prirode.

Odgovornost je proizašla iz činjenice da je samo čovek obdaren visoko razvijenom svešću i mogućnošću da bude nosilac moralnih vrednosti (Đorđević 2002). Sve do sedamdesetih godina dvadesetog veka pitanje društveno-ekonomskog okvira života imalo je prevagu nad pitanjem stanja ekosistema. Od izbijanja na površinu ovog drugog pitanja počinju da se kristališu obrisi sasvim drugačije društvene svesti. Postaje jasno da ljudi moraju napustiti stav da je prirodno bogatstvo neiscrpno i da može neograničeno da se troši. Promena pogleda na svet postaje nužan korak u uspostavljanju optimalnog, uzajamnog dejstva čoveka i prirodne sredine (Vasović 2005).

Razvoj ekološke svesti je omogućio stvaranje integralnog sistema zaštite životne sredine čime se obezbeđuje ostvarivanje prava čoveka na život i razvoj u zdravoj životnoj sredini i uravnotežen odnos ekonomskog napretka i životne sredine na globalnom nivou. Ekološka svest utiče na kreiranje određenog načina života kojim se od prirode uzima samo onoliko koliko je potrebno da se obezbede osnovne ljudske potrebe ne narušavajući ravnotežu u životnoj sredini. Podizanje ekološke sveti ima za posledicu prihvatanje i preuzimanje ekološke i društvene odgovornosti. Ekološka svest, kao manifestacija globalnih shvatanja o odnosu čoveka i prirode, predstavlja nezaobilazan element svih širih društvenih i političkih aktivnosti u pravcu očuvanja životne sredine. Naime, bez postojanja znanja o ekološkim problemima, usvajanja ekoloških vrednosti i ekološko odgovornog ponašanja na nivou pojedinca, svaki globalni pokušaj u ovom pravcu ostao bi neuspešan.

3. ELEMENTI EKOLOŠKE SVESTI

Ekološko obrazovanje i vaspitanje najviše utiče na ponašanje i odnos čoveka prema prirodi. Ekološka svest pojedinca sastoji se iz: (1) ekoloških znanja, (2) ekoloških vrednosti i (3) ekološkog ponašanja. Sve tri komponente neophodne su za istinsko poznavanje, uvažavanje i praktikovanje ekološkog načina života.

Ekološka znanja predstavljaju osnovni elemenat ekološke svesti. Ta saznanja se odnose na poznavanje suštine odnosa u sistemu:

čovjek – tehnika – priroda.

Saznanja se odnose ne samo na globalne aspekte narušavanja ekološke ravnoteže već i na konkretne oblike narušavanja ekoloških faktora u pojedinim regionima (Vuković i Štrbac 2011).

Pod ekološkim znanjima podrazumeva se poznavanje globalnih, regionalnih i lokalnih ekoloških problema kao i određenih procesa koji do njih dovode. U tom smislu, može se reći da ekološka svest ne podrazumeva „samo svest o ograničenosti prirode i svake moći u njoj i nad njom, već se zasniva i na *saznanju* da postojeći izvori energije i sadašnji životni uslovi čoveka mogu za duže vreme ili zauvek da se promene ili nestanu“ (Čifrić 1989a, 198). Smisao je u tome da se preko ekoloških znanja razvije ekološka svest kako bi se očuvali resursi koji su preostali i da se izvrše korenite promene u stavu i razmišljanju prema prirodnom okruženju.

Znanja, kao i informacije, uverenja, mišljenja, veštine i navike, mogu se posmatrati kao *konstitutivni deo racionalne sfere* ekološke svesti (Kundačina 1998, 38). Razvijati uverenja i znanja o mogućnosti zaštite životne sredine znači i razumeti da se životna sredina može štititi, da je ima smisla štititi i da određeni napor u tom pravcu mogu imati efekta, biti izvodljivi sa uspešnim ishodom. Teorijski, može se govoriti i o problemu konstrukcije ekoloških znanja i to preko konstrukcije samog pojma prirode, ekologije i *environmentalizma*, posredovanih znanjima konstruisanim u okviru nauke, koncepta rizika i putem medija (Hannigan 1995).

Pitanje ekoloških znanja i načina njihovog formiranja, može se pokazati kao suštinsko u sociološkom razumevanju ekološke svesti, posebno u društveno-političkom kontekstu. Razvijeno, civilizovano društvo ne sme sebi dozvoliti dalje propadanje zbog neznanja ili nezainteresovanosti za sopstveni opstanak u eri tehnološkog napretka i dostupnosti informacija najrazličitije sadržine i tema.

Vrednovanje ekološke situacije je determinisano aktuelnim sistemom vrednosti društva ili društvene grupe u kojoj se formira i razvija ekološka svest. Imajući u vidu činjenicu da savremena demokratska društva kao izuzetno važno dostignuće ističu tolerantnost, odnosno pluralizam različitih vrednosnih orijentacija, to isto važi i za oblast ekološke problematike. Iz ovoga proističe različito vrednovanje životne sredine od strane, recimo, ekoloških aktivista ili biznismena (Vuković i Štrbac 2011). Vrednosne orijentacije unutar ekološkog diskursa se uglavnom sagledavaju u okviru: (1) biocentrizma, (2) ekocentrizma i (3) antropocentrizma.

Kao ekološki poželjno političko uređenje obično se smatra model participativne demokratije i to zato što on dovodi do oblika vlasti osetljivijih prema građanima i omogućava nastanak veće autonomije individua (Carter 2007). Ovo se može posebno odnositi na tzv. nerazvijene i zemlje u razvoju, u kojima se može očekivati da će problem nepovoljne ekonomske situacije i siromaštva dovesti do ekološki neodrživih obrazaca ponašanja, inicijativa i politika.

Uključivanje građana u kreiranje i sprovođenje ekoloških politika, značajno je i zbog poštovanja kulturnog konteksta i mobilizovanja specifičnih lokalnih znanja, što se pokazuje kao ključno za uspostavljanje svake željene društvene promene. Potreba za ovakvim pristupom prepoznata je u strategijama održivog razvoja koje demokratsko građanstvo vide kao jednog od glavnih nosilaca ekološki odgovornih politika. Povoljan politički okvir za uspostavljanje održivog društva i rešavanje ekoloških problema bila bi participativna demokratija u kojoj bi institucionalne politike i programi bili formirani uz pomoć aktera civilnog društva i građanstva uopšte. Razvoj ekološke političke paradigme u Srbiji kao proces zaživeo je tek na nivou nadležnih institucija i legislative. Prema nezvaničnim podacima u Srbiji postoji oko 200 nevladinih organizacija iz oblasti zaštite životne sredine.

Ekološko ponašanje je bitan konstitutivni elemenat ekološke svesti, kako pojedinca tako i društvene grupe. Naime, ekološka svest je individualna ili društvena akcija s ciljem da se identifikovani ekološki problemi razreše (Perić i Kostadinović 2003, 83). Na oblikovanje poželjnog ekološkog ponašanja utiče niz različitih činilaca objektivne i subjektivne prirode kao što su, an primer (Mišković 1997):

- stepen oštećenja ekosistema;
- stepen tehničko-tehnološke razvijenosti pojedinih sredina kao i stepen ekološkog vrednovanja;
- stepen razvijenosti društveno-ekološke infrastrukture (subjekti, pravna regulativa, kvalitet života, institucije);
- individualna svojstva ispitanika (pol, starost, mesto u podeli rada, profesionalna pripadnost, kvalitet života); te
- subjekti kao činiooci (nauka, ekološka politika sa instrumentima, državni organi, ekološki pokreti, političke partije).

Prostornom organizacijom i potrošačkom kulturom oblikovan je životni stil današnjice. Ekološka ponašanja su deo životnog stila. Nameće se pitanje kako izmeniti nečije ponašanje u pravcu ekološke odgovornosti kada je ono žrtva propagande potrošačkih obrazaca ponašanja koji postaju sve agresivniji zarad ekonomske dobiti. Prilikom analize ekološkog ponašanja trebalo bi uzeti u obzir, osim činiooca prirodnog okruženja, i prostornu društvenu organizaciju i životne stilove posredovane globalnom potrošačkom kulturom.

4. ANALIZA REZULTATA ISTRAŽIVANJA

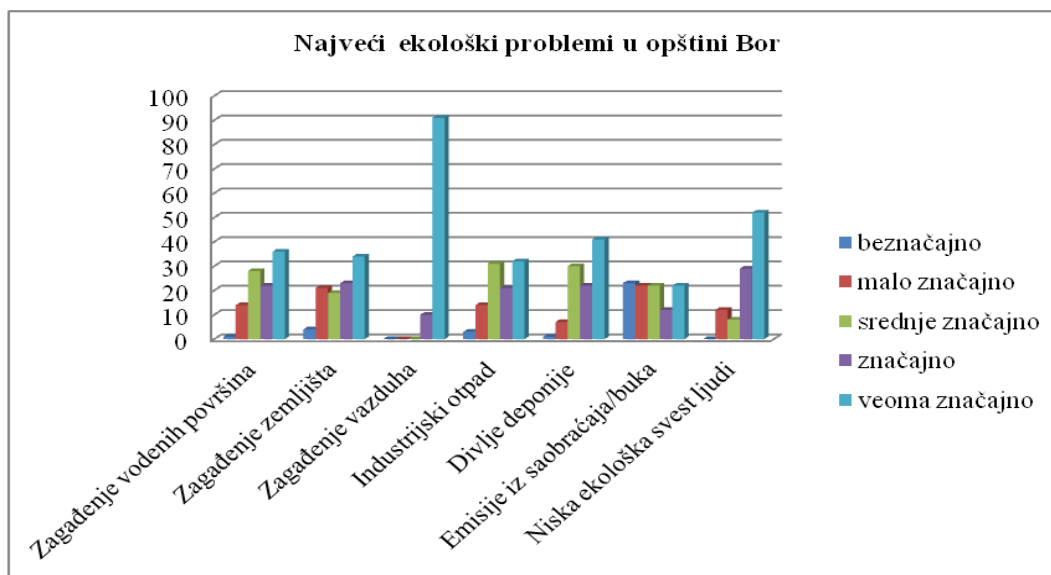
U cilju prikupljanja stavova građana o životnoj sredini sprovedeno je istraživanje na teritoriji opštine Bor da bi se došlo do: mišljenja, procene stanja, redosleda prioriteta, vizije kako treba da izgleda borska opština za desetak godina, kao i ocene spremnosti građana da se uključe u ekološke programe, projekte i akcije i slično. Istraživanje je sprovedeno tehnikom ispitivanja, a kao merni instrument korišćen je upitnik. Upitnik se sastojao od dve grupe pitanja:

- pitanja o sociodemografskim karakteristikama ispitanika i
- pitanja o različitim aspektima ekološke svesti.

Upitnikom su obuhvaćeni stavovi ukupno 300 ispitanika.

Što se tiče pola anketiranih ispitanika, nešto je veći procenat žena (53%), dok je muškaraca bilo 47%. U uzorku su bili zastupljeni: radnici (30%), studenti/učenici srednjih škola (29%), nezaposleni (21%), penzioneri (13%), preduzetnici (4%) i poljoprivrednici (3%). U uzorku su bili navise zastupljeni mlađi građani Bora starosti do 20 godina (24%), dok su najmanje bili zastupljeni građani starosne dobi od 31 do 40 godina (13%).

Jedan od osnovinih ciljeva ankete odnosio se na utvrđivanje mišljenja građana o tome koji su najznačajniji ekološki problemi (slika 1). U prvih pet najznačajnijih problema anketirani građani su uvrstili zagađenje vazduha. Dakle, na prvom mestu su istakli problem zagađenja vazduha kao veoma značajan problem. Na drugom mestu je niska ekološka svest građana, na trećem - divlje deponije, na četvrtom - zagađenje vodenih površina, na petom - zagađenje zemljišta, na šestom - industrijski otpad, a na sedmom - emisije iz saobraćaja/buka, koja se ujedno smatra beznačajnim ekološkim problemom u odnosu na sve prethodno nabrojane.



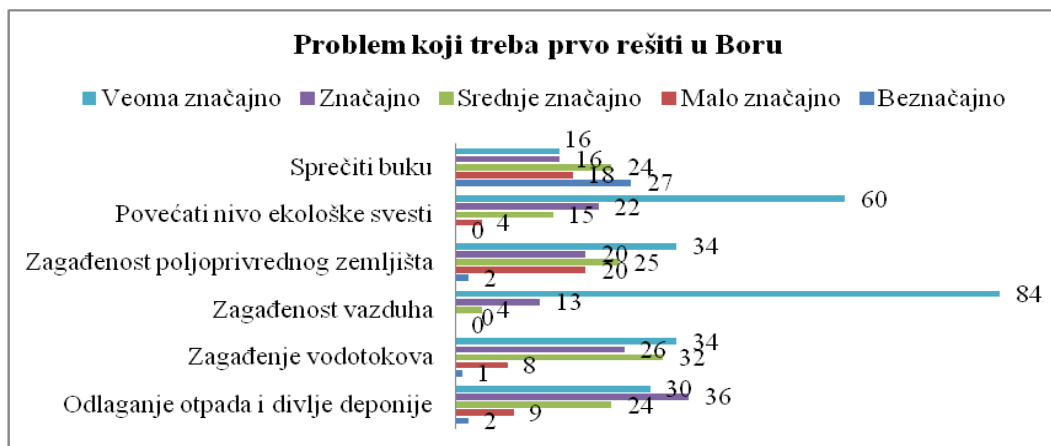
Slika 1. Percepcije ispitanika o ozbiljnosti ekoloških problema u Opštini Bor

Na pitanje *Postoji li uzročnik narušavanja životne sredine u Boru?* gotovo svi građani su, čak 98% njih, odgovorili sa „da”, 2% da ih nema, (19 % se izjasnilo da ne razmišljaju o tome).

Sledeće pitanje se odnosilo na ocenu trenutnog stanja životne sredine u Boru, a ispitanici su odgovorili na sledeći način: 68% ispitanika se izjasnilo da je životna sredina veoma zagađena, 29% da je zagađena, 3% smatra da je malo zagađena, dok onih koji smatraju da životna sredina Borske opštine nije zagađena, nema.

Na pitanje *Da li smatrate da postojeće stanje životne sredine utiče na Vaše zdravlje?* 68% ispitanika smatra da utiče negativno, 23% nisu sigurni da je zagađena sredina glavni uzročnik njihovog narušenog zdravlja, 8% smatra da ne utiče, dok 1% ispitanika smatra da utiče pozitivno.

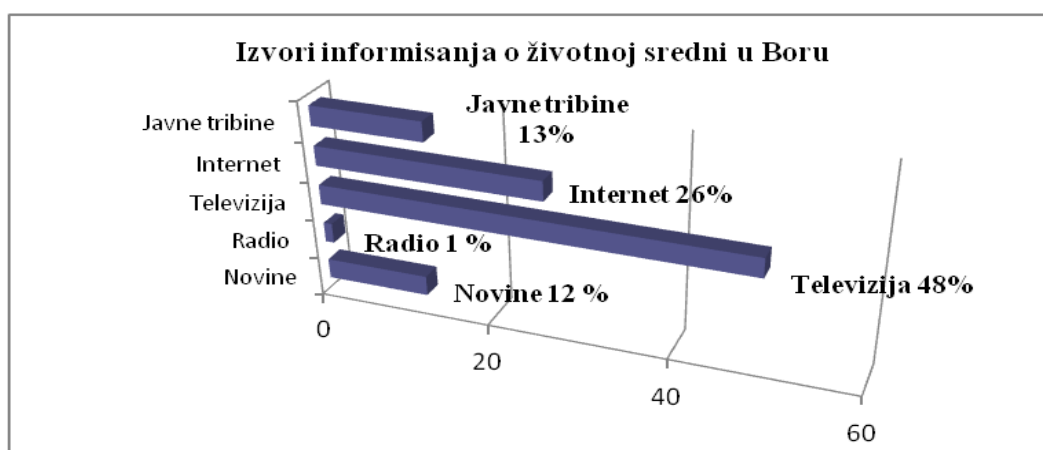
Ispitanici su na sledeće postavljeno pitanje *Koji ekološki problem po Vašem mišljenju treba prvo rešiti?* najveći značaj dali rešavanju zagađenosti vazduha u Boru i povećanju ekološke svesti samih građana Bora, dok kao manje značajne probleme vide zagađenost vode, zemljišta i problem otpada i divljih deponija; sprečavanje buke percipiraju kao zanemarljiv problem u odnosu na prethodno pomenute (slika 2).



Slika 2. Prioriteti u rešavanju problema zaštite životne sredine u Boru

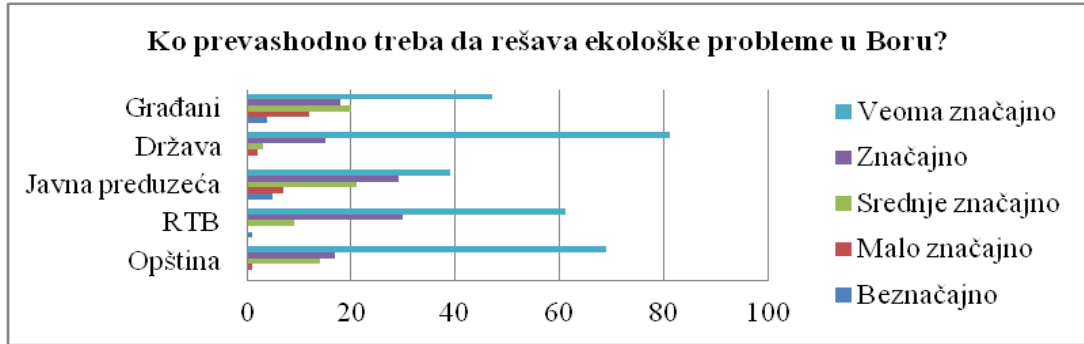
Istraživanje pokazuje takođe da postoji izrazito nezadovoljstvo građana informisanošću o zaštiti životne sredine u Boru. Naime, 69% ispitanika je nezadovoljno nivoom informisanosti, 30% je zadovoljno, dok je 1% ispitanih veoma zadovoljno. Veoma je veliki procenat neupućenih građana, pa se i ne može očekivati da ekološka svest istih bude na zavidnom nivou.

Na pitanje iz kojih izvora informisanja o životnoj sredini u Boru građani dobijaju najviše informacija i saznanja 48% ispitanika se izjasnilo da je to televizija, 26% njih se informiše putem interneta, 13% ispitanih saznanja o ekološkim dešavanjima dobija kroz javne tribine koje se organizuju na određenim mestima u gradu ili okolini, 12% koristi novine, a svega 1% ispitanih saznanja prikuplja putem radija (slika 3).



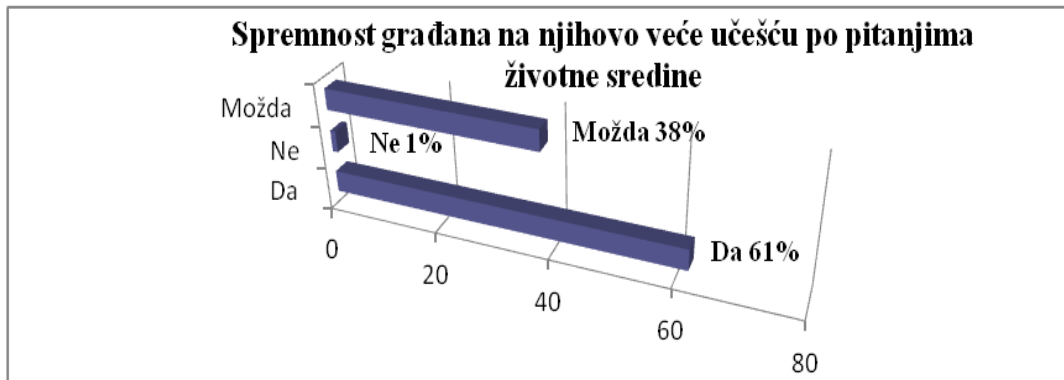
Slika 3. Informisanost stanovnika Bora o životnoj sredini

Ispitanicima je postavljeno i pitanje: *Ko prevashodno treba da rešava problem životne sredine u Boru?* Najveći procenat anketiranih građana najveću odgovornost daje državi, zatim opštini, a kompanija RTB Bor trebalo bi, kao jedan od najvećih zagađivača, da najviše doprinese uvođenju novih tehnologija i sistema koji će uticati na poboljšanje trenutne, višedecenijske loše situacije (slika 4). Takođe, ne tako manje značajnu ulogu trebalo bi da preuzmu pojedinci - zajedničkim snagama mogu dosta doprineti poboljšanju trenutne situacije. Javna preduzeća ispitanici smatraju kao najmanje odgovornim.



Slika 4. Odgovornost u rešavanju problema zaštite životne sredine u Boru

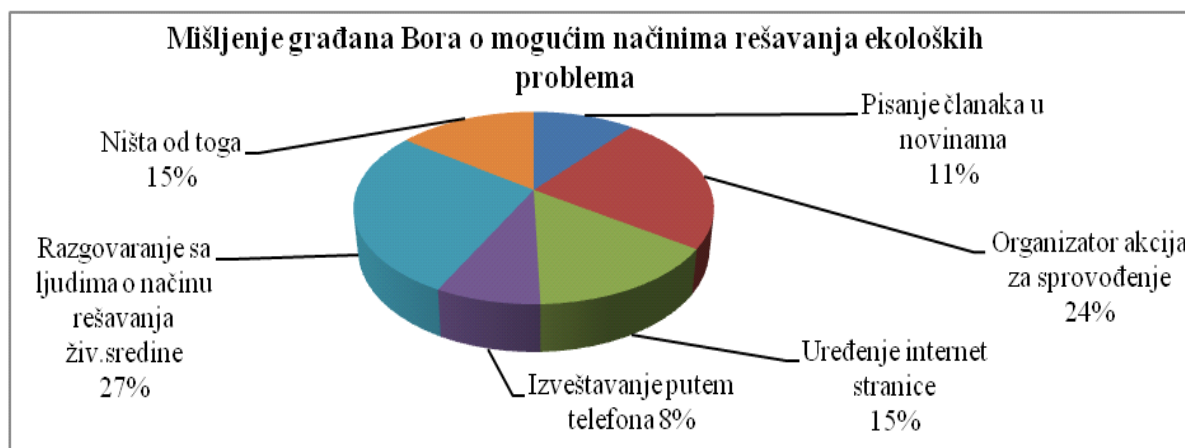
Na naredno pitanje *Da li je potrebno veće učešće građana po pitanjima životne sredine?* veliki procenat ispitanika (čak 61%) odgovorilo je potvrdno. Odgovor tipa „možda” izabralo je 38% ispitanika (slika 5).



Slika 5. Participacija građana Bora u rešavanju ekoloških problema

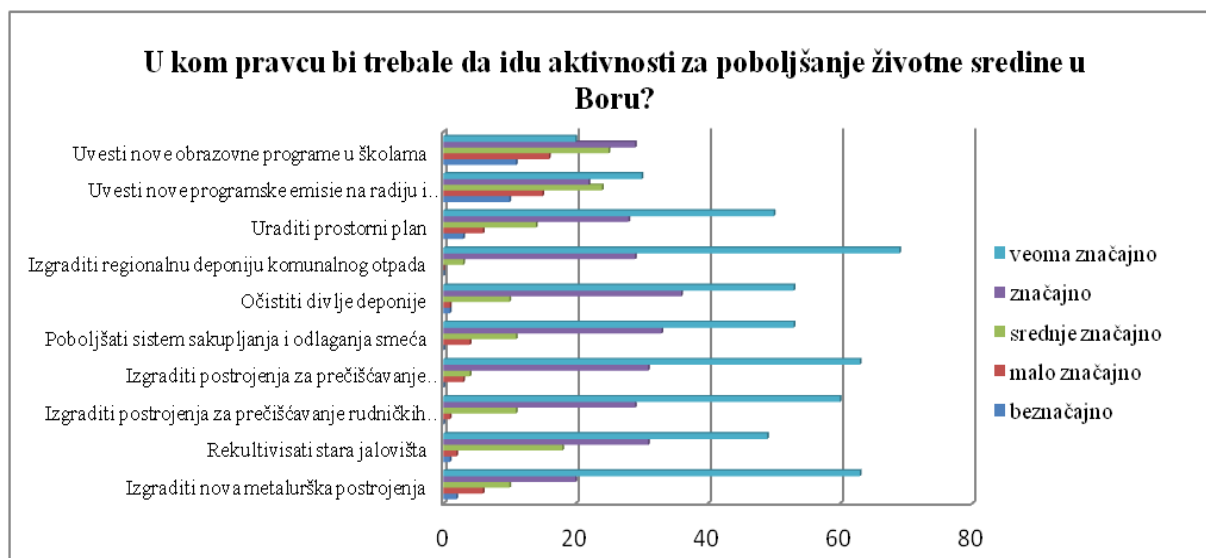
Na pitanje *Da li biste se Vi dobrovoljno uključili u rešavanje aktuelnih problema životne sredine u Boru?* 47% anketiranih je odgovorilo da je spremno da se uključi na neki način u rešavanje ekoloških problema. Negativno se izjasnilo 10% ispitanih, a onih koji nisu sigurni u to bilo 43%.

Mogući načini rešavanja aktuelnih ekoloških problema su brojni a od navedenih u upitniku najveći broj ispitanika, njih 27%, izjasnio se za razgovaranje sa ljudima o načinu rešavanja ekoloških problema i organizovanju akcija za sprovođenje (24% ispitanika), dok je 15% ispitanika ostalo pasivno po ovom pitanju. Ovo izaziva zabrinutost jer govori o nezainteresovanosti velikog broja ispitanih građana za aktuelnu ekološku situaciju u Boru (slika 6).



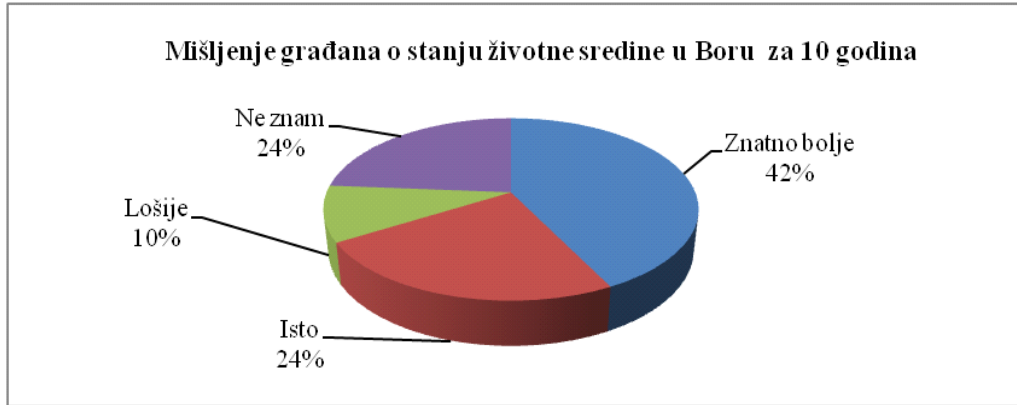
Slika 6. Načini rešavanja zaštite životne sredine

Jedno od pitanja, u kome se zahtevalo rangiranje značajnosti ponuđenih odgovora, glasilo je: *U kom pravcu bi trebale da idu aktivnosti za poboljšanje životne sredine u Boru?* Kao veoma značajan poduhvat u rešavanju ekoloških problema ispitanici navode izgradnju regionalne deponije, izgradnju novih metalurških postrojenja i postrojenja za prečišćavanje otpadnih voda, potom (nešto manje značajno), izgradnju postrojenja za prečišćavanje rudničkih i metalurških otpadnih voda, te uređenje sistema odlaganja i sakupljanja smeća i čišćenje divljih deponija (slika 7) Među manje važne probleme u Boru ispitanici navode uvođenje programskih emisija o ekologiji u Boru na radiju i televiziji kao i uvođenje novih obrazovnih programa u školama.



Slika 7. Aktivnosti na unapređenju kvaliteta životne sredine

Pretposlednje pitanje, kojim se utvrđuje upućenost građana u ekološka dešavanja u opštini Bor kao i organizacije koje se bave istima, glasilo je: *Da li znate neku NVO koja se bavi rešavanjem ekoloških problema?* Većina ispitanika (70%) nije čula za NVO koje se bave rešavanjem ekoloških problema (slika 8).



Slika 8. Viđenje budućeg stanja životne sredine u Boru

Poslednje pitanje ovog istraživanja je glasilo: *Kakvo stanje životne sredine očekujete u Boru za 10 godina?* Veliki broj ispitanika je izrazio vidan optimizam (42%), dok se isti broj ispitanika odlučio za modalitete odgovora „isto” (24%) i „ne znam”, a onih pesimističnih je ipak najmanje, svega 10% ispitanih stanovnika Bora.

5. ZAKLJUČAK

Rezultati merenja ekološke svesti građana Bora iako dobijena na skromnom uzorku u saglasnosti su sa drugim sličnim istraživanjima obavljenim u sličnim urbanim sredinama sa značajnim industrijskim postrojenjima (Pančevo). Uočava se značajan jaz između znanja o uzrocima i posledicama zagađenja životne sredine.

Ispitanici vide mogućnost za jačanje ekološke svesti kroz jačanje formalnog obrazovanja. Oni smatraju da je najprioritenije pitanje za rešavanje zagađenost vazduha (84%). Potom kao veoma značajno ekološko pitanje navode ekološku svest (60%). S druge strane, zabrinjava da samo 16% ispitanika smatra da je sprečavanje buke veoma značajno.

Većina ispitanika smatra da je država najodgovornija u rešavanju ekoloških problema Bora, a potom opštinu. Ispitanici su nezadovoljni inormisanošću o životnoj sredini; a nezadovoljstvo se može pripisati prevelikim oslanjanjem na jedan medij - televiziju (48%). Zabrinjava takođe i to da samo 12% ispitanika koristi štampane medije, odnosno da 70% ispitanika nije čulo za neku nevladinu organizaciju koja se bavi rešavanjem ekoloških problema.

REFERENCE

- Bulatović A., (2011), Uticaj predškolske ustanove i porodice na razvoj ekološke svesti kod dece predškolskog uzrasta, *Ecologica*, 18(63): 593-596.
- Carter N., (2007), *The Politics of the Environment: Ideas, Activism, Policy*. New York: Cambridge University Press
- Cifrić I., (1989), *Socijalna ekologija. Prilozi zasnivanju discipline*. Zagreb: Globus.

Dorđević J., (2002), Nova ekološka etika i zaštita životne sredine, *Teme*, vol. 26, br. 2, str. 235-244.

Hannigan J., (1995), *Environmental Sociology: A Social Constructionist Perspective*. London: Routledge.

Koković D., (2008), *Socijalna antropologija sa antropologijom obrazovanja*. Banja Luka: NUBL.

Kundačina M., (1998), *Činioci ekološkog vaspitanja i obrazovanja učenika*, Učiteljski fakultet, Užice.

Mišković M., (1999), *Ekološka kriza i ekološka svest omladine* (doktorska disertacija), Univerzitet u Beogradu – FPN, Beograd.

Perić M., Kostadinović A., (2003), *Socijalna ekologija*, Filološki fakultet, Beograd.

Rajšić Lj. (2002), Čovek, priroda i ekonomija, *Ekonomika*, vol. 48, br. 1-3, str. 56-63.

Vasović V., (2005), *Etičko-ekološka edukacija*, 32 Nacionalna konferencija o kvalitetu, Festival kvaliteta, 19-21. Maj, Kragujevac.

Vuković M., Rstić P., (2010), *Poslovna etika*, Niš.

Vuković M., Štrbac, N., (2011), *Zaštita životne sredine i održivi razvoj*, Monografija nacionalnog značaja, Bor.

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THE IMPLICATION OF BUSINESS STRATEGY IN HUMAN RESOURCE MANAGEMENT

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Abstract: Human resources with their knowledge, skills, experience and motivation are the most valuable assets and the real basis for the creation and maintenance of competitive advantage.

In today's economy, the company is able to generate a much higher value than that resulting from the power of the capitalization of tangible assets. This option is exercised in respect of intangible assets consisting of knowledge and information. Human resources as an integral part of the intangible assets are the bearer of capital and can be invested in order to increase their ability to create value.

Human resources affect the heterogeneity of resource combinations as factor of competitive advantage. Specialized knowledge and specific experience, customer relationships and reputation are typical examples of human capital as a unique and superior in value creation.

Increasing the value of the company assumed the formulation and implementation of policies and strategies which are caused by situational factors. Due to strategic importance of human resources in the process of formulating and implementing the strategy (which is part of the process of strategic management) the importance of strategic management of human resources is indicated.

The choice of certain strategies affects the demands on the required number and structure of employees. Business strategy puts a clear view of the request before a strategy of human resources in terms of attracting, hiring, promotion and rewarding the human resources in order to make employees be motivated to realize their part in the implementation of strategies and creating the value.

Keywords: human resources, business strategy, knowledge and competitive advantage.

IMPLIKACIJE POSLOVNE STRATEGIJE NA UPRAVLJANJE LJUDSKIM RESURSIMA

Ljiljana Savić, Jelena Božović

Apstrakt: Ljudski resursi sa svojim znanjem, veštinama, iskustvom i motivacijom su najvrednija aktiva i pravi osnov za stvaranje i održavanje konkurentske prednosti.

U savremenoj ekonomiji preduzeće je sposobno da generiše mnogo veću vrednost od one koja je posledica moći kapitalizacije materijalne aktive. Ova se mogućnost ostvaruje po osnovu nematerijalne aktive koju čine znanje i informacije. Ljudski resursi kao neodvojivi

deo nematerijalne aktive su nosioci kapitala u koje se može investirati radi povećanja njihove sposobnosti stvaranja vrednosti.

Ljudski resursi utiču na heterogenost resursne kombinacije kao faktor konkurentske prednosti. Specijalizovano znanje, specifično iskustvo, odnos sa klijentima i reputacija su karakteristični primeri ljudskog kapitala kao jedinstvenog i superiornog u stvaranju vrednosti.

Uvećanje vrednosti preduzeća pretpostavlja formulisanje i implementaciju novih strategija koje su uslovljene situacionim faktorima. Zbog startegijskog značaja ljudskih resursa u procesu formulisanja i implementacije strategije (što je deo procesa startegijskog menadžmenta) ukazuje se na značaj startegijskog menadžmenta ljudskih resursa.

Izbor određene strategije utiče na zahteve o potrebnom broju i strukturi zaposlenih. Poslovna strategija stavlja jasan pregled zahteva pred strategiju ljudskih resursa u pogledu privlačenja, angažovanja, unapređivanja i nagrađivanja ljudskih resursa kako bi zaposleni bili motivisani da ostvare svoj deo posla na primeni strategije i stvaranju vrednosti.

Ključne reči: ljudski resursi, poslovna strategija, znanje, konkurentska prednost.

1. UVOD

Brojni dokazi jasno ukazuju na činjenicu da vrednost preduzeća opredeljuje nematerijalna aktiva. Različiti pojavni oblici nematerijalne aktive mogu se klasifikovati na: ljudski, strukturni i relacioni kapital. Ljudski kapital predstavlja najznačajniju i najdinamičniju komponentu nematerijalne aktive. Ljudski resursi kao jedinstveni i superiorni utiču na heterogenost resursne kombinacije koje je osnova za ostvarenje konkurentske prednosti.

Odnos između ljudskih resursa i strategije je interaktivan. Ljudski resursi učestvuju u formulisanju i implementaciji strategije, odnosno u samom procesu startegijskog menadžmenta, tako da na značaju dobija i startegijsko upravljanje ljudskim resursima. Izbor određene strategije koji je u različitim organizacijama uslovljen različitim situacionim faktorima utiče na zahteve prema potrebnom broju zaposlenih kao i zahteve u pogledu njihovih znanja, veština i sposobnosti, što opredeljuje i ostale aktivnosti u okviru procesa menadžmenta ljudskih resursa (regrutacija, selekcija, obuka i razvoj).

Prema tome da li su uspeli da prepoznaju sve zahteve koje postavlja izabrana poslovna strategija u odnosu na strategiju ljudskih resursa i kom stepenu su ih usaglasili razlikuju se više ili manje kompetentni menadžeri koji se nalaze na pozicijama u menadžerskom vrhu.

2. LJUDSKI RESURSI KAO FAKTOR KONKURENTSKE PREDNOSTI

Savremene organizacije postaju svesne činjenice da su sopstveni kadrovi njihov najznačajniji resurs i mnoge od njih upravo zahvaljujući ljudskim resursima ostvaruju konkurentsku prednost.

Kvalitet jedne organizacije u velikoj meri je rezultat kvaliteta ljudi koje zapošljava i zadržava na poslu. Angažovanje i zadržavanje kompetentnog osoblja važno je za uspeh svake organizacije, bilo da organizacija upravo počinje svoje poslovanje ili da ga obavlja

već godinama. Menadžment ljudskim resursima je deo posla svakog menadžera u okviru organizacije rada. [1]

Za razliku od preduzeća koja su poslovala u industrijskoj eri i koja su bila usmerena na povećanje produktivnosti koja je uslovljena fizičkom sposobnošću zaposlenih, preduzeća informatičke ere su usmerena na nove poslove, unapređenje postojećih procesa i stvaranje novih kroz procese učenja. Učenje kroz dodavanje vrednosti ili njeno ponovno osmišljavanje predstavlja osnovu konkurentne prednosti.

Dostignuća naučno-tehnološke i informatičke revolucije uslovlila su sveobuhvatnu promenu društva i dovela ljudske resurse u središte važnosti za ostvarenje poslovnog uspeha i razvoja organizacije. Bazična promena se pomera sa ekonomske produktivnosti na ekonomiju zasnovanu na informacijama i znanju.

Preduzeća počinju da funkcionišu globalno i prinuđena su da stalno unapređuju svoj rad. Permanentno obrazovanje dobija na značaju ne samo zbog bezbolnog prelaska na nova radna mesta već i zbog razvoja karijere u slučaju opstanka u istom preduzeću. Umesto internih, akcenat je na eksternim standardima. [2]

U uslovima univerzalne umreženosti relativizira se značaj zaposlenja po principu stalnog zaposlenja u punom radnom vremenu. U preduzećima se povećava broj zaposlenih na određeno vreme ili u svojstvu spoljnih saradnika ili honorarno angažovanih.

U savremenoj ekonomiji vrednost ukupno proizvedenih i realizovanih roba i usluga stvorena je na bazi primenjenog znanja, što će reći da eksploatacija znanja igra dominantnu ulogu u stvaranju materijalnih dobara i društvenog bogatstva. [3]

U suočavanju sa konkurencijom smanjenje cena i troškova nije jedini mogući pristup. Alternativa može biti i konkurentnost po osnovu proizvodnje roba i usluga „veće vrednosti“, zbog svog visokog kvaliteta, inovativnosti. Konkurentna prednost se sve više zasniva na aktivima koja je stvorena u preduzeću i koju konkurenti ne mogu uspešno da imitiraju u kratkom vremenskom periodu, niti da je lako pribave na tržištu. *P. Draker (P. Drucker)* [4] smatra da je jedina konkurentna prednost razvijenih zemalja u globalnoj privredi u ponudi specijalista znanja.

Ljudski resursi imaju moć učenja kojima se stiču nova znanja koja će im omogućiti da održe korak sa promenama. Menadžeri razvoja znanja imaju dominantnu poziciju u savremenoj organizaciji.

3. KLASIFIKOVANJE NEMATERIJALNE AKTIVE I ZNAČAJ LJUDSKOG KAPITALA

Za razliku od resursa koji su vidljivi, opipljivi i koji imaju fizičku ili finansijsku supstancu (oprema, zgrade, zemljište, pogoni, sirovine, finansijska imovina i sl.), resursi kao što su raspoloživo znanje, informacije, veštine, obučenos, prisni odnosi sa kupcima, poslovna kultura, reputacija, informacioni sistemi, organizacione procedure nisu jasno vidljivi. Polazajući od ovog kriterijuma resursi preduzeća se najčešće dele na *opipljive resurse* (engl. *tangible resources*) i *neopipljive resurse* (engl. *intangible resources*). Supstancu nematerijalne aktive (engl. *intangible assets*) čine neopipljivi resursi. Zahvaljujući nematerijalnoj aktivnosti stvaraju se vrednosti koje su mnogo veće od one koja je posledica korišćenja materijalne aktive. [5]

U definisanju i kategorizaciji nematerijalne aktive, posebno se naglašavaju buduće koristi koje generiše potencijal nematerijalne aktive. Nematerijalna aktiva se po pravilu opisuje preko nematerijalnih resursa preduzeća u kontekstu vrednosnog pristupa preduzeću.

Kategorizaciju nematerijalne aktive dao je *R. Hall* [6]. Naime on je izvršio podelu nematerijalnih resursa preduzeća polazeći od toga da li su odvojivi od ljudskog resursa ili ne. Nematerijalni resurs koji nije odvojiv od ljudskog resursa je ljudski kapital. Ljudski kapital se bazira na različitim tipovima znanja, pre svega generičkom i specifičnom znanju. Nematerijalni resursi koje je moguće odvojiti od ljudskih resursa su organizacioni kapital (norme i pravila ponašanja, baze podataka, organizacione rutine, poslovna kultura, usklađenost u radu i sl.), tehnološki kapital (patenti, poslovne tajne, zaštitni znakovi, autorska prava i prava industrijske svojine) i relacioni kapital (reputacija, brend, lojalnost kupaca, uspostavljeni odnosi sa kupcima u dugom roku, komercijalno ime, kanali distribucije i sl.).

Postoje dve vrste ljudskog kapitala: *generički* i *specifični*. Generički kapital ima istu vrednost za različite aktivnosti i različite ljude. Naime, radi se o znanju i informacijama koje su dostupne širem auditorijumu i koje svako preduzeće može upotrebiti. Specifični ljudski kapital su znanje i veštine koje su karakteristične samo za jedno preduzeće ili za neke njegove aktivnosti. Specifični kapital nastaje kroz proces učenja, na bazi iskustava pojedinačnih članova preduzeća i interakcije njihovih pojedinačnih iskustava. [7]

Na sličnim konceptualnim osnovama je kategorizacija nematerijalne aktive na ljudski, relacioni i strukturni kapital (*MERITUM: 2002; Seetharaman A. et al, 2004; Bontis, N. 2001*). Ljudski kapital uključuje, znanje, veštine, iskustva i sposobnosti ljudi. Znanje može biti karakteristično za pojedince, a može biti generičkog karaktera. Relacioni kapital je, u stvari, kapital koji uključuje brojne eksterne odnose sa različitim stejkholderima (kupci, dobavljači, kreditori, investitori) i njihova percepcija preduzeća. Primeri relacionog kapitala su brend, reputacija, odnosi sa kupcima i dobavljačima, različiti dogovori, licence, kanali prodaje, pregovarački kapaciteti, različita eksterna umrežavanja. Strukturni kapital obuhvata komponente interne strukture (poslovna kultura, zaštitni znak, patenti, interne baze podataka, internet, menadžment proces i sl.) putem kojih se eksploatiše nematerijalna imovina. [5]

Jedan od glavnih predstavnika savremene teorije o ljudskom kapitalu, predstavnik čikaške škole, dobitnik Nobelove nagrade za ekonomiju *Teodor Sulc*, smatra da su ulaganja u ljude primarni faktor razvoja važniji od svih. [3] Prema ovom autoru prvi oblik asimetrije između ljudskog i fizičkog kapitala ogleda se u ljudskoj spremnosti za brzo učenje koje je neophodno za adaptaciju, bilo da se radi o individualnom učenju ili učenju u grupi, što ograničava tempo kojim će se efikasno koristiti novi uređaji u proizvodnji i primenjivati nove metode u njoj. Investicije u ljudski kapital povećavaju sposobnost zaposlenih u stvaranju vrednosti. [3]

Ljudski kapital (prema: *Fitz-Enz, J. 2000*) čine četiri komponente: (1) elemente koje svaki zaposleni unosi u radne procese (inteligencija, energija, entuzijazam, iskustvo, veštine, emotivna inteligencija i sl.), (2) sposobnost učenja, unapređenje, imaginacija i kreativnost, (3) sposobnost delovanja (konverzija podataka, informacije za akciju) i (4) motivacija (podela informacija i znanja i razvoj timskog duha i ciljne orijetacije). [2]

U savremenoj poslovnoj praksi preduzeće je sposobno da generiše mnogo veću vrednost od one koja je posledic kapitalizacije materijalne aktive. Uzrok tome su nematerijalni resursi kao najdinamičniji faktor stvaranja vrednosti i ljudski kapital kao komponenta nematerijalne aktive.

Vrednost različitih oblika nematerijalne aktive se povećava, a samim tim i kreira vrednost kada se efektivno koristi sa drugim elementima materijalne i nematerijalne aktive. Najveća vrednost se stvara kada su komponente nematerijalne aktive usklađene sa strategijom. Postoji interakcija u ovim odnosima. Implementacija nove strategije može

zahtevati od zaposlenih nova znanja, veštine i dodatnu obučenost zaposlenih za sprovođenje strategije.

4. STRATEGIJSKI MENADŽMENT LJUDSKIH RESURSA

Strategijski menadžment ljudskih resursa se može definisati kao način uspostavljanja čvrste veze između menadžmenta ljudskih resursa i strategije organizacije – sinhronizovanje i integrisanje organizacionih poslovnih potreba i planova sa svim aspektima upravljanja zaposlenima. [8]

Novi pristup menadžmentu ljudskih resursa ukazuje na kvalitativno drugačiji odnos savremenog poslovnog sistema prema ljudskim resursima i karakteriše ga sledeće:

Povezivanje ljudskih resursa sa strategijom preduzeća, čime se izražava značaj ljudskog resursa za uspešnost organizacije,

Upravljanje ljudskim resursima koje je transformisano sa funkcionalne oblasti (personalne) na nivo menadžmenta, gde je menadžment svih nivoa odgovoran za ljudske resurse,

Upravljanje ljudskim resursima postaje integralni deo strategije organizacije. To znači da se upravljanje ljudskim resursima integriše u upravljanje organizacijom i dobija primarno strategijski značaj. [3]

Strategijski menadžment ljudskih resursa je skup odluka i aktivnosti koje imaju za cilj osmišljeno razvijanje ljudskih resursa i njihovih potencijala radi obezbeđivanja konkurentске prednosti organizacije i strategijskih ciljeva poslovanja kao odgovora na izazove okruženja.

U pitanju je proces koji je usmeren na ostvarenje ciljeva i strategije organizacije putem različitih aktivnosti: planiranja ljudskih resursa, regrutovanja i selekcije, razvoja i ocene performansi, motivacije i nagrađivanja zaposlenih. Pomenute aktivnosti menadžmenta ljudskih resursa su u potpunosti integrisane sa strategijskim menadžmentom organizacije.

Veza između strategije organizacije i funkcije menadžmenta ljudskih resursa uspostavlja se u samom procesu strategijskog menadžmenta, odnosno procesu formulisanja i implementacije strategije.

Potrebno je da upravljanje ljudskim resursima funkcija bude od samog početka uključena u proces formulisanja strategije. Kada organizacija formuliše strategiju, onda je potrebno i da primeni tu strategiju, odnosno da izabere između različitih strukturalnih formi i organizacionih procesa koji će joj obezbediti ekonomsku prednost. [8]

Suštinski, uloga funkcije menadžmenta ljudskih resursa u procesu implementacije strategije je dvojaka. Potrebno je da, s jedne strane, obezbedi da organizacija raspolaže sa dovoljnim brojem zaposlenih koji imaju sva potrebna znanja, veštine i sposobnosti da primene strategijski plan i da, s druge strane, razvije „kontrolne sisteme“ koji treba da obezbede da se zaposleni ponašaju i rade na način koji promoviše ostvarenje ciljeva definisanih izabranom strategijom organizacije. [9]

Različiti strategijski izbori zahtevaju primenu određenih rešenja menadžmenta ljudskih resursa.

5. UTICAJ IZABRANE POSLOVNE STRATEGIJE NA STRATEGIJU LJUDSKIH RESURSA

Ljudski kapital kao i druge komponente nematerijalne aktive suštinski utiče na heterogenost resursne kombinacije kao faktor konkurentske prednosti, koja je uz strategijski fokus, jedan od osnovnih elemenata poslovne strategije. Specijalizovano znanje, specifično iskustvo, odnos sa klijentima i reputacija su karakteristični primeri ljudskog kapitala. [2]

Poslovnu strategiju čine generalna strategija preduzeća i generičke strategije za nivo biznisa. Generalna strategija ili strategija preduzeća određuje preovlađujući način ponašanja portfolia biznisa. Različite aktivnosti upravljanja ljudskim resursima treba da budu čvrsto povezane sa strategijom.

Različite organizacije imaju potrebu za različitim praksama menadžmenta ljudskih resursa, u zavisnosti od konkretne kombinacije situacionih faktora, pa je u slučaju svake pojedinačne organizacije neophodno učiniti izbor odgovarajuće politike menadžmenta ljudskih resursa, i praksi koje će podržati ostvarenje ciljeva organizacije. [8]

Uspešnost u implementaciji strategije može zahtevati bilo da se kreiraju novi poslovi, bilo da se postojeći poslovi obavljaju na drugačiji način. Izbor određene strategije utiče i na zahteve prema potrebnom broju i strukturi zaposlenih u pogledu njihovih sposobnosti, veština i znanja, što opredeljuje načine njihove regrutacije i selekcije, ali i obuku i razvoj u pravcu osposobljavanja za nove zahteve sadašnjih ali i budućih poslova.

Prema *Armstrong, M. 2006*, postoji opšta strategija ljudskih resursa i specifične strategije ljudskih resursa. Opšta strategija sadrži preovlađujuću ideju o broju i strukturi ljudskih resursa koja omogućava implementaciju poslovne strategije. Specifične strategije daju konkretne odgovore kako privući, angažovati, unapređivati i nagrađivati ljudske resurse na način da se reše tipični problemi kao što su pobjeda u „ratu za talente“, menadžment znanja, plan karijere, sistem kompenzacija i sl. [2]

Strategije ljudskih resursa treba da budu usklađene ne samo sa generalnom strategijom već i generičkim strategijama za nivo biznisa (*Tabela 1.*). U tabeli su prikazane dve generičke strategije sa različitim izvorima konkurentske prednosti.

Tabela 1. Strategija ljudskih resursa i generička strategija za nivo biznisa prema delimično modifikovanom izvoru: preuzeto iz izvora [10]

		Generičke strategije za nivo biznisa	
		Strategija niskih troškova	Strategija diferenciranja
Strategije ljudskih resursa	Privlačenje i zadržavanje	Stvarati strukturu zaposlenih jezgro/periferija; regrutovati samo zaposlene koji će „sigurno“ dodati vrednost; planirati otpuštanja u slučaju dezinvestiranja	Regrutovati i zadržati samo visokokvalitetne zaposlene sa kreativnim sposobnostima
	Učenje i razvoj	Obezbediti treninge za unapređenje produktivnosti; organizovati trening za primenu sistema menadžmenta kvaliteta	Obezbediti treninge za unapređenje kreativnosti i inovativnih veština; organizovati treninge za kreiranje potpunih rešenja za potrebe klijenata
	Nagrađivanje	Obezbediti finansijske nagrade i priznanja za uspešne inovacije na procesima koji vode sniženju ukupnih troškova	Obezbediti finansijske nagrade i priznanja za uspešne inovacije

Kada nova generalna strategija zahteva radikalne promene u odnosu na postojeću generalnu strategiju potrebni su menadžeri sa većim kompetencijama (znanja, iskustva, talenta, energije, motivacije i sl.). Ovi menadžeri se mogu obezbediti iz unutrašnjih izvora, unapređenjem postojećih menadžera sa sposobnošću učenja ili angažovanjem menadžera sa potrebnim kompetencijama iz eksternih izvora.

Na pozicijama u menadžerskom vrhu su u zavisnosti od izabrane strategije menadžeri sa različitim stilovima vođenja koji koriste svoju stručnost na način koji obezbeđuje visok nivo preformansi. Njihov zadatak je da doprinesu da zaposleni sa visokim entuzijazmom ostvaruju svoj deo posla na primeni izabrane strategije. Nagrade i unapređenja moraju biti vezani za performanse, što se ostvaruje usklađenošću između strategije i strukture sistema nagrađivanja.

6. ZAKLJUČAK

Savremena ekonomija afirmiše resurse nematerijalnog karaktera kao što su: znanje, informacije, kvalitet, standarde, vreme, menjajući tako način poslovanja i prirodu posla zahtevajući drugačije i kvalitetnije ljudske resurse. Nematerijalna aktiva (ukupno i po pojedinim komponentama) se posmatra i vrednuje sa stanovišta njenog doprinosa ostvarivanju strategije i uvećanju buduće vrednosti. Neodvojiv od ljudskog resursa je ljudski kapital. U kombinaciji sa drugim komponentama, nematerijalne aktive, ljudski kapital koji je zasnovan na znanju utiče na heterogenost resursne kombinacije kao jedan od faktora konkurentske prednosti. Strategijski menadžment ljudskih resursa obezbeđuje uspostavljanje veze između menadžmenta ljudskih resursa i strategije organizacije. U interaktivnom odnosu poslovna strategija od ljudskih resursa zahteva da poseduju odgovarajuća znanja, stručnost, iskustvo, veštine, motivisanost.

Kada nova generalna strategija zahteva nove radikalne promene u odnosu na postojeću, potrebni su menadžeri sa drugačijim kompetencijama koji se mogu obezbediti angažovanjem iz eksternih izvora ili unapređivanjem postojećih menadžera sa sposobnošću učenja.

REFERENCE

- [1] Stephen P. Robbins and Mary Coulter, *Menadžment*, Data status, Beograd 2005, p. 282.
- [2] Dragan N. Đuričin, Stevo V. Janošević, Đorđe M. Kaličanin, *Menadžment i strategija*, Ekonomski fakultet, Beograd 2013, p. 612, 617, 629, 630, 632.
- [3] Vladimir Radovanović, *Menadžment ljudskih resursa*, Tehnički fakultet, Čačak 2009, p. 16, 31, 49.
- [4] Drucker F. P. Looking Ahead: *Implication of the Present*, Harvard Business Review, September-October 1997, p. 22.
- [5] Stevo Janošević, *Nematerijalna aktiva i stvaranje vrednosti*, Originalni naučni rad, Ekonomski fakultet Univerziteta u Kragujevcu, 2009, p. 399, 402.

- [6] Hall, R. (1992), *The strategic analysis of intangible resources*, Strategic management Journal, Vol. 13. № 2, February, p. 135-144.
- [7] Vladimir Dženopoljac, *Uticaj nematerijalne aktive preduzeća na proces stvaranja vrednosti*, Doktorska disertacija, Ekonomski fakultet, Kragujevac 2013, p. 70.
- [8] Biljana Bogičević Milikić, *Menadžment ljudskih resursa*, Centar za izdavačku delatnost Ekonomskog fakulteta u Beogradu, 2010, p. 20, 24.
- [9] Snell, S. (1992), „*Control Theory in Strategic Human resource Managment: The Mediating Effect of Administrative Information*“, Academy of Management Journal 35, p. 292-327 (preuzeto iz izvora [8])
- [10] Armstrong, M. (2006): *Strategic Human Resource management: A guide to Action*, 3rd ed., Kogan page.

ANALYSIS OF THE SOURCES OF SO₂ AND ASPECT OF SOME OF THE ENVIRONMENTAL IMPACT

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Abstract: Sulfur dioxide and nitrogen oxides are an integral part of the natural geochemical cycle metabolism in the system earth water-air of the period as the planet exists. Intensive industrial activity, especially in the last decade, increased emissions of SO₂ and NO_x in the atmosphere. One of the forms of industrial pollution is the burning of coal in power plants that burn R. Serbia kolubara lignite. It may be asked whether the Kolubara lignite with its sulfur content of in the volume of polluting the environment or to the fact that it operates and emphasizes especially in the last few years of his operation? Are there natural sources of SO₂ and NO_x in what scale ranges such type of air pollution? Who all this emphasizes or what in all of this is more affected by the pollution, and what is all this true? This paper attempts to answer the previous questions, a comparative review of the comparison and analysis of selected natural and man-made emissions of SO₂ and NO_x in the atmosphere.

Keywords: Sulfur-dioxide, nitrogen oxides, environment, mining

ANALIZA IZVORA EMISIJE SO₂ I NEKI OD ASPEKTA UTICAJA NA ŽIVOTNU SREDINU

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Apstrakt: Sumpor dioksid i azotni oksidi su sastavni deo prirodnog geohemijskog ciklusa razmene materije u sistemu zemlja-voda-vazduh od perioda od kako planeta postoji. Intenzivnom industrijskom aktivnošću, naročito poslednjih decenija, povećana je emisija SO₂ i NO_x u atmosferu. Jedan od vidova industrijskog zagađenja je i sagorevanje uglja u termoelektranama R. Srbije koje sagorevaju Kolubarski lignit. Može se postaviti pitanje da li kolubarski lignit sa svojim sadržajima sumpora u tolikom obimu zagađuje životnu sredinu ili je to podatak sa kojim se operiše i posebno naglašava posebno u nekoliko poslednjih godina njegove eksploatacije? Da li postoje prirodni izvori emisije SO₂ i NO_x i u kojim razmerama se kreće takav vid aero zagađenja? Ko sve ovo posebno naglašava ili šta u svemu tome više utiče na zagađenje, odnosno šta je u svemu tome tačno? U radu se pokušava dati odgovor na predhodno postavljena pitanja, uporednim prikazom sa poređenjem i analizom odabranih prirodnih i veštačkih emitera SO₂ i NO_x u atmosferu.

Ključne reči: Sumpor dioksid, azotni oksidi, životna sredina, rudarstvo

1. UVOD

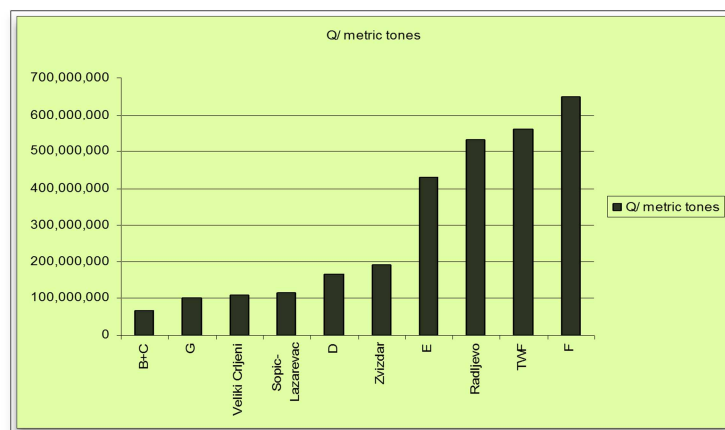
U poslednjih 50 (i više) godina u području RB Kolubara realizovana su obimna geološka istraživanja, pri čemu su istraživanja iz oblasti ILMS (istraživana ležišta mineralnih sirovina), ekonomske geologije i neka druga bila prioritarna. Navedena istraživanja realizovala je geološka služba RB Kolubara, a prema posebnim potrebama, učešće u geološkim istraživanjima uzimali su i drugi pravni subjekti (RGF u Beogradu, Geozavod, Geoinstitut i dr...). Konačno, zajedničkim radom došlo se do 3 milijarde tona lignita u većem broju istražno-eksploatacionih polja, sa dodatnim korisnim i iskoristivim nemetaličnim mineralnim sirovinama. U proteklom periodu dva ležišta su već otkopana, polje "A" ranih 60-tih i "Tamnava-Istočno polje" početkom 2000-tih. Ostala ležišta uglja su raspoređena širom kolubarskog sedimentacionog basena i poseduju različiti stepen geološke istraženosti, tako da raspolažemo sa ležištima koja su u ranoj fazi geoloških istraživanja, pa do onih detaljno istraženih na kojima se i odvija površinska eksploatacija uglja. Geološka istraživanja na detaljno istraženim rudarskim i eksploatacionim poljima (overene geološke rezerve uglja) u ovom trenutku praktično definišu ekonomiju preduzeća. Rezultati geoloških istraživanja mogu se predstaviti na mnoge načine, a najčešće je to u vidu naturalnih ili izvedenih sintetičkih pokazatelja, [1], [2] i [3]

2. ODABRANI POKAZATELJI IZVRŠENIH GEO ISTRAŽIVANJA

Naturalni pokazatelji geoloških istraživanja predstavljaju se brojem istražnih bušotina (urađeno je više od 2,850), ukupnim obimom istražnog bušenja (urađeno je više od 285,000 m), potrebnim brojnim laboratorijskim analizama, količinama rude, kategorijama rudnih rezervi, kvalitetom rude i dr.. Sve ovo se može predstaviti i prikazati u adekvatnom obliku, dijagrama i tabela. Kao prvo najznačajnije su količine rudnih rezervi i faza istraživanja u kojoj se trenutno nalaze, odnosno kategorizacija rudnih rezervi. Ovom prilikom kategorije rezervi po srpskim standardima date su uporedo sa anglo-američkom i EU nomenklaturom o rudnim rezervama u tabeli 1 i na dijagramu 1.

Tabela 1. Rudne rezerve izabраних лежишта и njihov status u okviru RB Kolubara

LEŽIŠTE (RUDNO POLJE)	EX-YU; SRPSKA NOMENKLATURA	ANGLO AMERIČKA/EU NOMENKLATURA	TRENUTNI STATUS LEŽIŠTA U RB "KOLUBARA"
	KATEGORIJE RUDNIH REZERVI		
B+C	A+B	Proven & probable	Površinski kop u radu, detaljna geološka istraživanja se izvode ispred fronta rudarskih radova
G	A+B	Proven & probable	U fazi detaljnih geoloških istraživanja i završne faze rudarskog projektovanja, investicije u fazi otvaranja površinskog kopa
Veliki Crljeni	A+C ₁	Proven & possible	Površinski kop u radu, detaljna geološka istraživanja se izvode ispred fronta rudarskih radova
Šopić- Lazarevac	C ₁	Possible	U početnoj fazi geoloških istraživanja
D	A	Proven	Površinski kop u radu
Zvizdar	B+C ₁	Possible & probable	Geološko i rudarsko projektovanje
E	B+C ₁	Possible & probable	U fazi detaljnih geoloških istraživanja i završne faze rudarskog projektovanja, investicije u fazi otvaranja površinskog kopa
Radljevo	B+C ₁ +C ₂	Possible, probable & indicated	U fazi detaljnih geoloških istraživanja i završne faze rudarskog projektovanja, investicije u fazi otvaranja površinskog kopa
Tamna- West Field	A+B+C ₁	Proven, possible & probable	Površinski kop u radu, detaljna geološka istraživanja se izvode ispred fronta rudarskih radova
F	B+C ₁	Possible & probable	Geološko projektovanje i istraživanje, prva faza rudarskog projektovanja

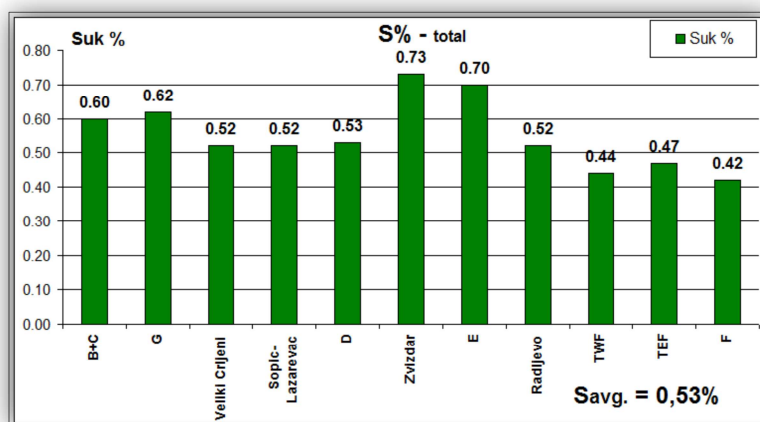


Dijagram 1. Rezerve uglja u ležištima RB Kolubara

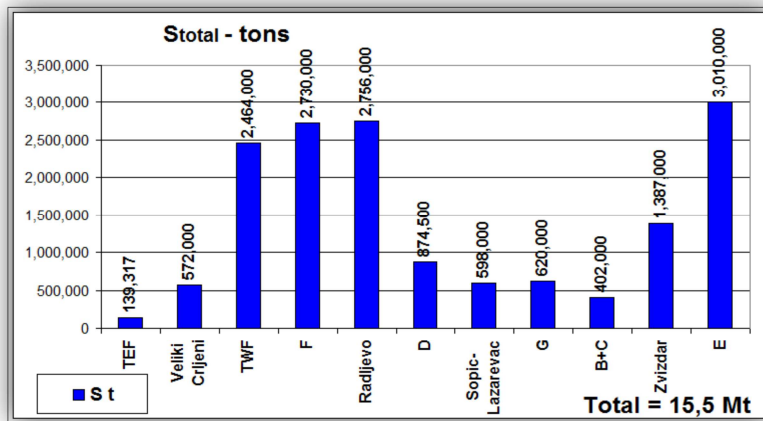
Za prethodno navedena ležišta postoji obimna projektna i tehnička dokumentacija predstavljena brojnim geološkim projektima istraživanja, elaboratima o rudnim rezervama, studijama itd. I pored toga, sa nekoliko aktuelnih projekata geoloških istraživanja definisano je dodatno bušenje od najmanje 75.000 metara koje je neophodno realizovati u nekoliko narednih godina, [1], [4], [5], [6] i [7].

3. KOLIČINA SUMPORA U LIGNITIMA RB KOLUBARA

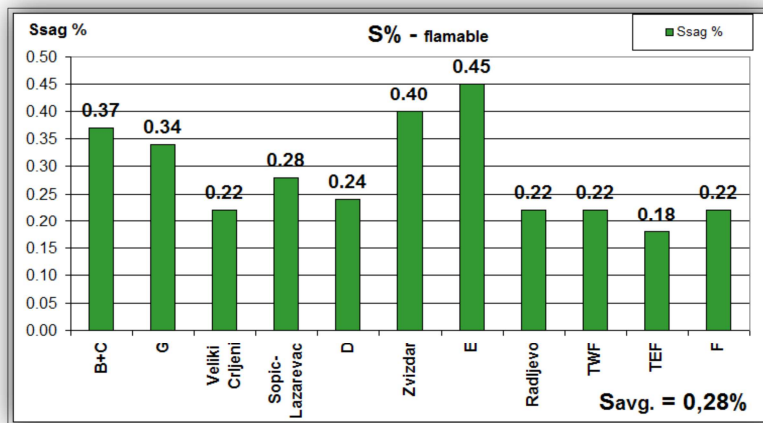
Na osnovu više od 2.300 kompletnih laboratorijskih analiza uglja i 1.500 analiza pepela može se doneti relevantan zaključak o sadržaju i karakteru distribucije ukupnog, sagorljivog i inertnog (vezanog u pepelu) sumpora na 11 istražno-eksploatacionih polja RB Kolubara. Sa ukupnim masama lignita od oko 3.000.000.000 t i srednjim sadržajima ukupnog (0,53%) i sagorljivog (0,28%) sumpora može se zaključiti da je u ležištima uglja RB Kolubara deponovano oko 15,5 miliona t ukupnog, odnosno oko 8,1 milion tona sagorljivog sumpora. Sadržaji ukupnog, sagorljivog i inertnog sumpora (u pepelu) prikazani su u dijagramima, [1], [8], [9], [10], [11], [12], [13], [14], [15], [16] i [17].



Dijagram 2. Sadržaji ukupnog S (%) u lignitu RB Kolubara

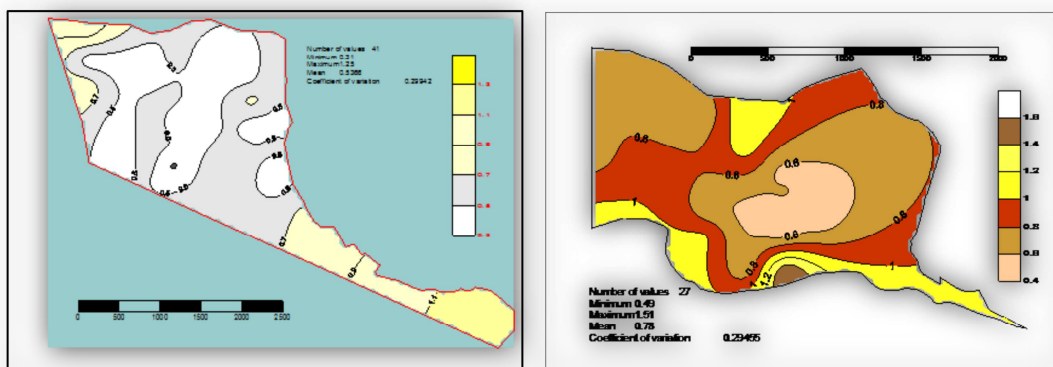


Dijagram 3. Količine ukupnog S (t) u lignitu RB Kolubara



Dijagram 4. Sadržaji sagorljivog S (%) u lignitu RB Kolubara

Analize (dijag. 2, 3 i 4) pokazuju nizak sadržaj ukupnog i sagorljivog sumpora u lignitima RB Kolubara, a niski sadržaji sumpora ne mogu predstavljati tehnološki ili ekološki problem kako u procesu sagorevanja uglja u TE tako i u procesu deponovanja pepela nakon sagorevanja, [1], [18,] [19], [20], [21], [22], [23], [24], [25] i [26].

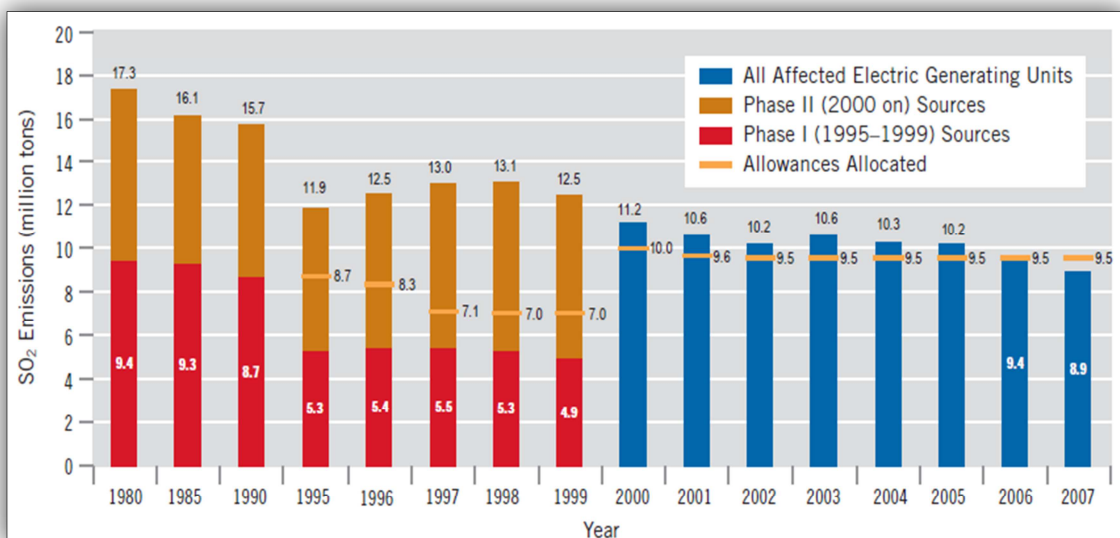


Slika 1. Sadržaj ukupnog S u lignitu ležišta "Polje D" i ukupnog S u lignitu ležišta "Polje B+C", (stanje radova 2010. Godine)

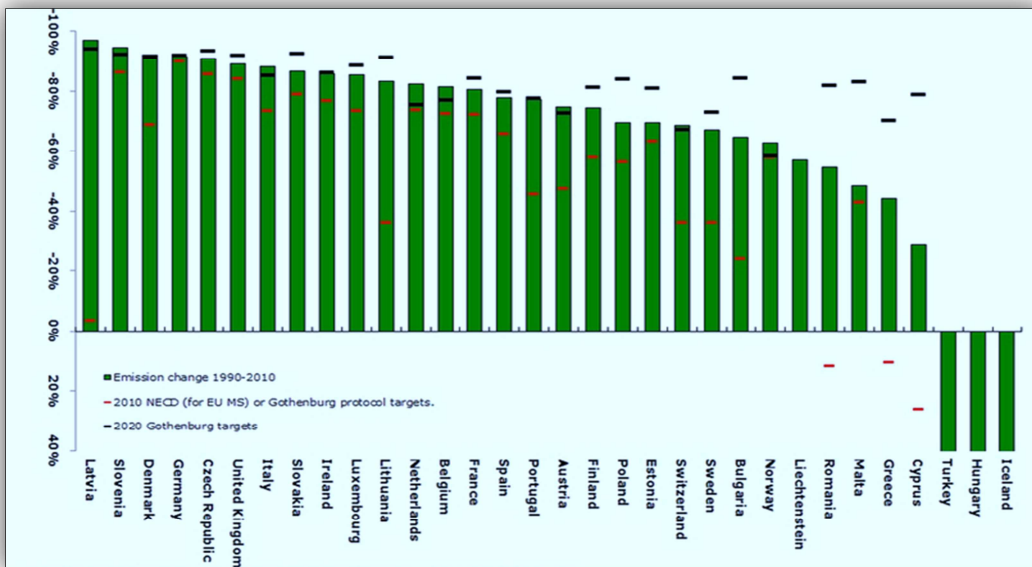
Posmatrajući karakter horizontalne distribucije sumpora na polju D (slika 1) registruje se nizak sadržaj ukupnog sumpora (prosečno 0,53%) u uglju preostalom za eksploataciju u narednih nekoliko godina. Sa količinama od ukupno 870K tona ukupnog sumpora u preostalom delu ležišta i sa projektovanim otkopnim kapacitetima od oko 10M t uglja godišnje, polje D može davati oko 50K tona ukupnog, odnosno oko 24K tona sagorljivog sumpora godišnje. Posmatrajući karakter horizontalne distribucije sumpora na polju B+C takođe registruje se nizak sadržaj ukupnog sumpora (prosečno 0,60%) u uglju preostalom za eksploataciju u narednih nekoliko godina. Sa količinama od ukupno 400K t ukupnog sumpora u preostalom delu ležišta i sa projektovanim otkopnim kapacitetima od oko 3M t uglja godišnje, polje B+C može davati oko 18K tona ukupnog, odnosno oko 10K tona sagorljivog sumpora godišnje. U oba slučaja, ovako nisko "sumporoviti" ugalj je ekološki i tehnološki prihvatljiv kao gorivo u termoenergetskim kapacitetima Srbije i regiona jugoistočne Evrope, [1], [27], [28], [29], [30], [31], [32] i [33].

4. NEKI OD VEŠTAČKIH IZVORA EMISIJE SO₂

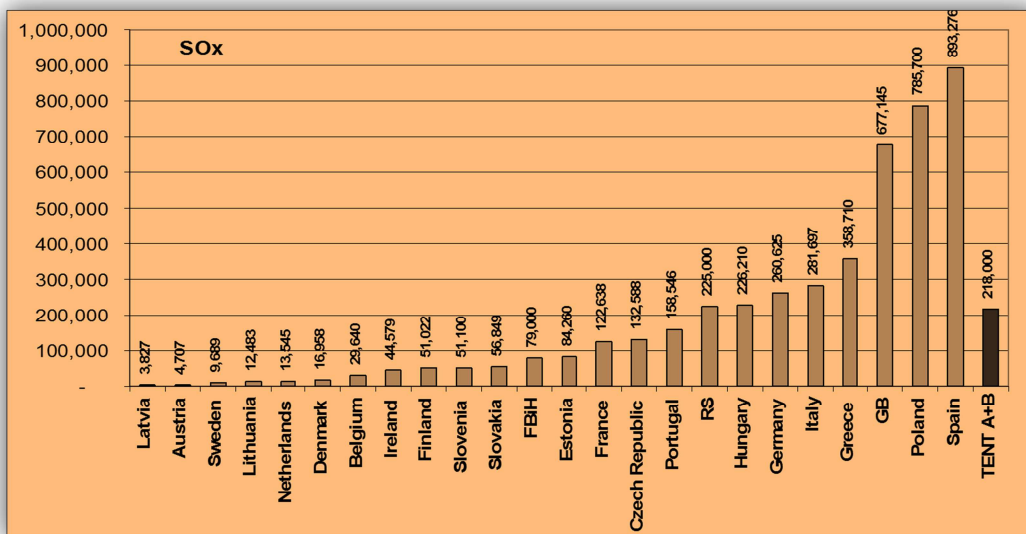
Obim industrijskih aktivnosti u velikom obimu utiče na nivo emisije SO₂ u atmosferu. Industrijske grane predstavljaju veće, a neke druge manje zagađivače sumporom. Povezano sa tim ali i sa primenjenim stepenom desulfurizacije, pojedine zemlje, veći industrijski proizvođači, emituju manje SO₂ nego što što bi se moglo očekivati, [1], [34] i [35].



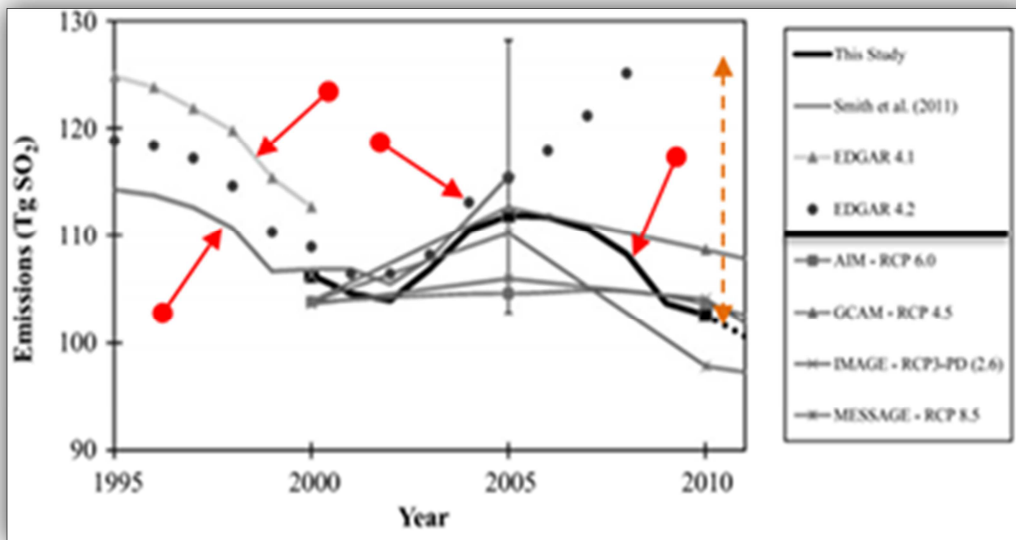
Slika 3. Ukupna emisija SO₂ u SAD (1980-2007 godine) , iz svih termoenergetskih blokova (1980-2007)



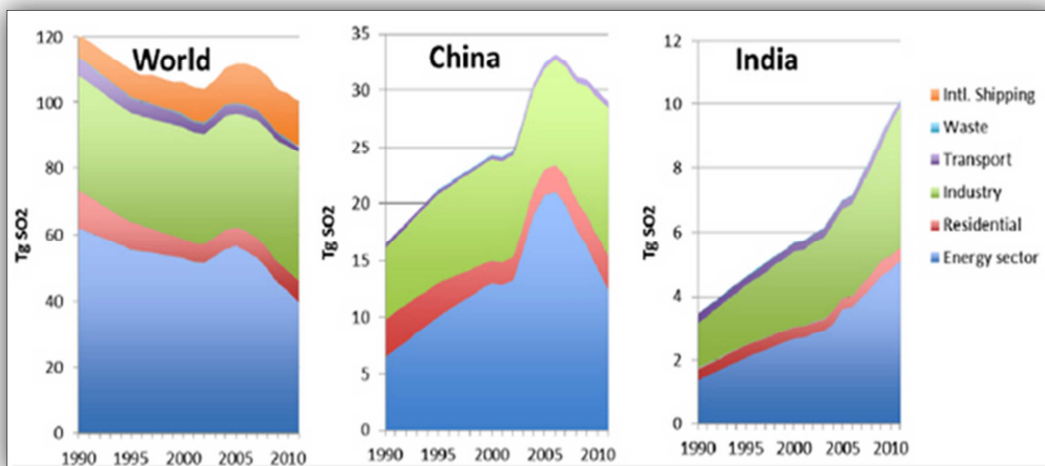
Slika 4. Emisija SO₂ u EU-25 2003 godine, sa TENT-om za 2012



Slika 5. Promena u emisijama SO_x u poređenju sa NECD i Geteborških protokolarnih ciljeva iz 2010 (zemlje članice EEA)

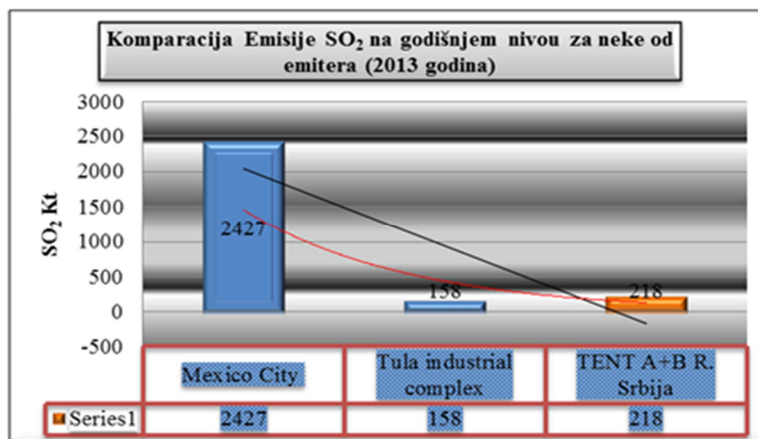


Slika 6. Globalne emisije SO₂ iz trenutne studije u poređenju sa nekoliko prethodnih, uključujući i Edgar 4.1, EDGAR 4.2, i sa ostalima (2011)



Slika 7. Trend emisija SO₂ u svetskim razmerama, Kini i Indiji nakon 1990 godine, u Tg SO₂, (Indija emituje oko 1/3 Kineskog odnosno Kina emituje oko 1/3 svetskog zagađenja, 2013.)

U svetu danas postoji ozbiljan problem antropogene emisije SO₂. Tako Mexico City dnevno antropogeno emituje 6,65Kt SO₂, odnosno oko 2,427Kt SO₂ godišnje, pri tome samo industrijski kompleks Tula 60 km severno od Mexico Citija dodatno emituje 158Kt SO₂ godišnje, (deFoy et al 2003), [36], [37] i [38].



Dijagram 4. Komparacija emisije SO₂ emitera sa emisijom iz termoelektrane TENT, R. Srbija

Procena svetskih eksperata da je prirodna emisija SO_x od procenjenih 243Tg (odnosno 243.000.000 t) veća od ukupne antropogene, koja iznosi oko 100Tg (100.000.000 t).

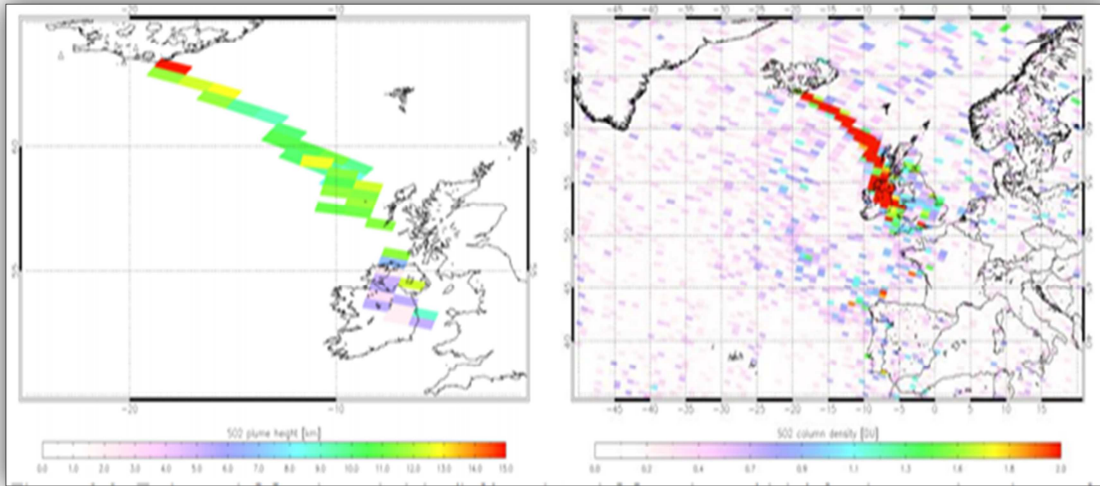
Tabela 2. Prirodni i veštački izvori emisije SO₂, procena godišnje na globalnom nivou

Izvor	Tg Sumpora/godina
Vulkani	2
Biogeni gasovi iz zemlje	35
Biogeni gasovi iz zemlje	35
Prskanje mora	171
Ukupna prirodna emisija	243
Ukupna antropogena emisija	100

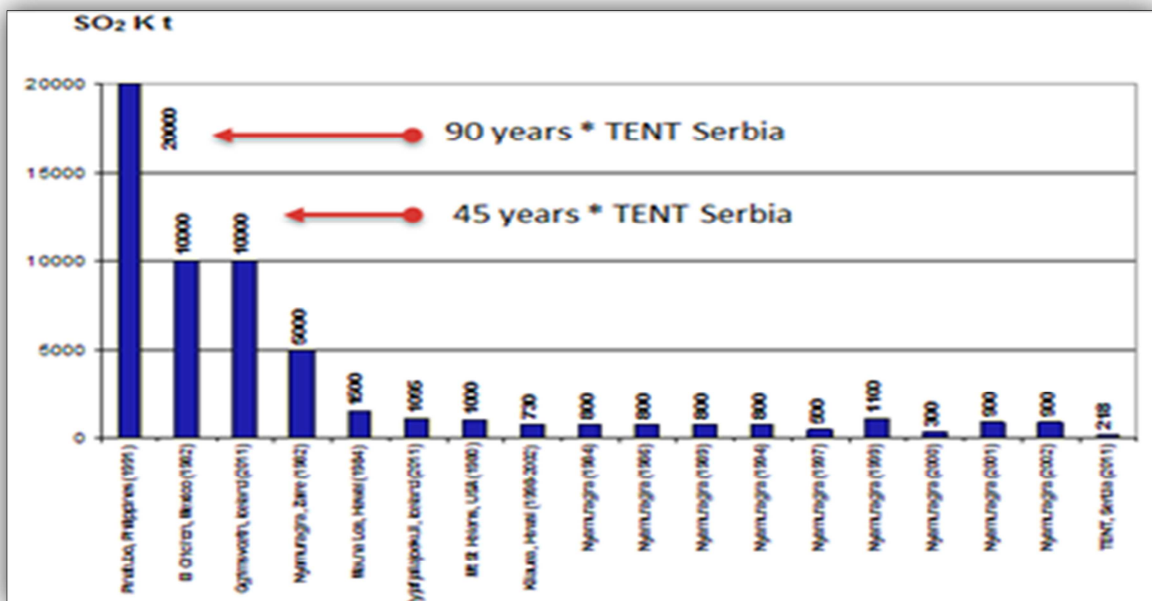
5. NEKI OD PRIRODNIH IZVORA EMISIJE SO₂

Osim veštačkih zagađivača, kao što su termoenergetska postrojenja, postoje brojni prirodni zagađivači kao primer i vulkanski izvori emisije SO₂. U radu je dat kratak pregled nekih od prirodnih izvora SO₂ koji predstavljaju izuzetnu opasnost po životnu sredinu. Primer je ponašanje vulkana Eyjafjallajökull, Island 2010 godine. On predstavlja primer eksplozivne erupcije koja emituje SO₂ u srednjim troposferskim visinama. Erupcija je trajala od 14. aprila do 23. maja 2010., a vulkan je izazvao do sada nezabeležen prekid evropskog vazdušnog saobraćaja. Za analiziranje visine Pulme 5 je izabran 5 maj, kao što su bili emisija SO₂ prilično niska tokom perioda eruptive u aprilu. Kao i ranije, samo merenja sa ukupno kolona > 5 DU su korišćena u preuzimanju podataka. Dobijene visine

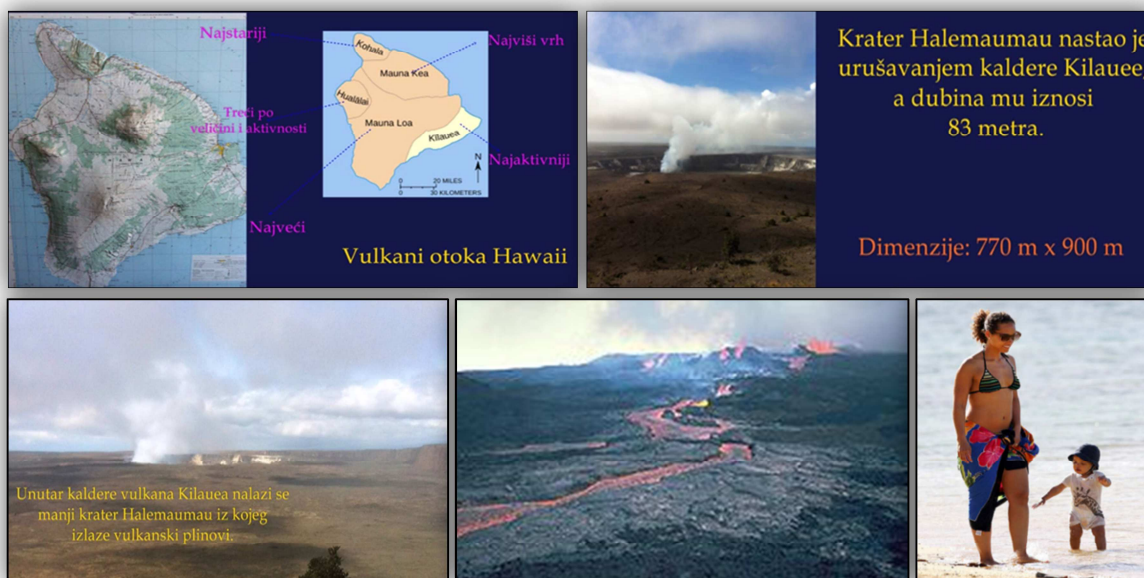
su uglavnom između 8 km-13 km, a niže visine između 3 km-8 km u istočnom delu oblaka.
 Putanja analiza za 5. maj pokazuje SO₂ Pulme visine između 6 km-13 km
 (C. Maerker) ukazuje, da direktna visina oblaka daje realne rezultate emisije, [39] i [40].



Slika 8. Procenjena visina SO₂ (levo) i ukupan SO₂ kolona (desno) za erupcije oblaka vulkana (Eyjafjallajökull, Island 14 april do 23 maj 2010 godina, analiza rađena 5 maja 2010 godine)

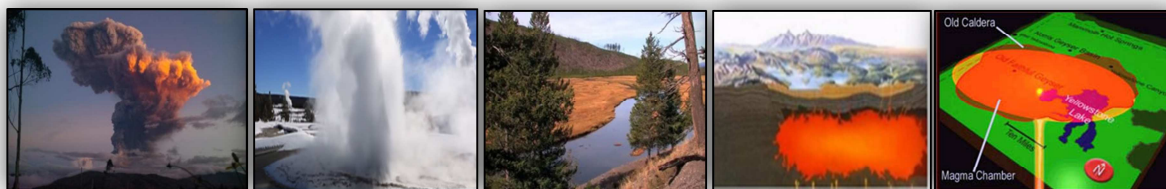


Dijagram 8. Komparacija emisije SO₂ iz prirodnih emitera (vulkani) sa emisijom iz TENT Obrenovac, R. Srbija (2011)



Slika 9. Aktivni vulkani na Havajskim ostrvima (Manua) sa velikom emisijom SO₂

Svake godine u Kini se u vazduh emituje čistih 22 miliona tona sumpor-dioksida, dok se iz preostale dve trećine od ukupne emisije, ili 40 miliona tona, uklanja sumpor. Postoji oko 40 poznatih super vulkana na Zemlji. Većina je ugašena. Od onih koji bi se mogli aktivirati najopasniji je u Jeloustonskom parku, što bi imalo zaista zastrašujuće posledice. Erupcija ovog vulkana oslobodila bi svake sekunde energiju 1.000 atomskih bombi bačenih na Hirošimu. Zvuk koji bi se tom prilikom čuo bio bi najglasniji koji je ljudska vrsta od kada živi na planeti, a to je oko 75.000 godina, ikada čula. Magma koja bi tom prilikom izletela, izbacila bi preko 2.000 miliona tona S i sumporne kiseline 50 kilometara visoko u stratosferu. Oko hiljadu kubnih kilometara lave bi se razlilo, što je dovoljno da prekrije čitavu teritoriju SAD. Naslage pepela bi bile oko 15 cm. Oko hiljadu kilometara unaokolo sav život bi bio uništen od užarene lave. Na južnoafričkoj veb stranici se pojavila informacija da je Amerika Afričkom nacionalnom kongresu ponudila deset milijardi dolara godišnje za privremeni smeštaj oko 300 miliona ljudi. Inače, kao druge lokacije za preseljenje spominju se Brazil, Australija i Argentina, [41].



Slika 10. Nacionalni Yellowstone- nasionalne park, deo grada Varmbronne u kome postoji potencijalna opasnost od vulkanske aktivnosti, (Die Yellowstone-kaldera onder die Yellowstone - nasionalne park. Die warmbronne in die gebied is te wyte aan die reuselwende vulkaan onder die oppervlak)

Nacionalni park Jeloustoun spolja deluje mirno i idilično, međutim, ono što je ispod njega šokiralo je naučnike. Supervulkan koji leži ispod Nacionalnog parka Jeloustoun u

SAD je mnogo veći nego što se do sada mislilo, saopštili su naučnici. Novo istraživanje pokazalo je da je komora za magmu oko 2,5 puta veća od dosadašnjih procena. Naučnici su utvrdili da je ova pećina duža od 90 kilometara i da sadrži od 200 do 600 kubnih kilometara istopljenih stena. Izmereno je da je komora debela od dva do 15 kilometara. Ova otkrića predstavljena su na sastanku Američke geofizičke unije u San Francisku. Navedeni super vulkan je poslednji put veliku erupciju imao pre 640.000 godina, a za posledicu je tada ostavio pustoš na američkom kontinentu. Sve je bilo prekriveno pepelom, a brojne životinjske i biljne vrste su nestale sa lica Zemlje, [42] i [43].

6. ZAKLJUČAK

Niske izmerene vrednosti ukupnog (od min. 0,42 do max 0,73%) i sagorljivog (od min. 0,18 do max 0,45%) sumpora u lignitima kolubarskog ugljonosnog basena ne bi smeli da predstavljaju tehnološki problem u procesu sagorevanja u kotlovima TE u Obrenovcu ili TEK Veliki Crljeni. Svakako, ovako niske vrednosti S ni sa "ekološkog" aspekta nisu zabrinjavajuće, te ovaj ugalj može naći svoju svrhu i primenu u daljem radu EPSA-a. Istovremeno postoje veliki destruktivni potencijali kod emisije S iz prirodnih (vulkani) izvora koji potencijalno mogu izuzetno svojim emisijama uticati na kvalitet životne sredine u svetskim relacijama.

REFERENCE

1. Internal documentation of the Kolubara Mining Basin doo, Lazarevac, Republic of Serbia (2014).
2. European Commission - Guide to Approximation of European Union Environmental Legislation, (2012).
3. Eptisa, PM Group – Strategija aproksimacije za sektor kvaliteta vazduha i klimatske promene, (2012).
4. WMO: Guide to Meteorological Instruments and Methods of Observation, (2008).
5. Ben-Daya, M.; Duffuaa, S.O.; Raouf, A.; Knežević, J. and Ait-Kadi, D. (editors): Handbook of maintenance management and engineering. London (United Kingdom): Springer-Verlag London Ltd., 2009. – 741 pp. ISBN 978-1-84882-471-3.
6. Burhanuddin, M.A.; Halawani, S.M. and Ahmad, A.R.: Chapter 11: An efficient failure-based maintenance decision support system for small and medium industries. In: Efficient Decision Support Systems – Practice and Challenges from Current to Future. Edited by Chiang Jao. Rijeka (Croatia): InTech Europe, 2011, pp. 195-210. ISBN 978-953-307-326-2.
7. Cibulka, J.; Ebbesen, M.K.; Hovland, G.; Robbersmyr, K.G. and Hansen, M.R.: A Review on approaches for condition based maintenance in applications with induction machines located offshore. Modeling, Identification and Control, Vol. 33, No. 2 (2012), pp. 69-86. ISSN 1890-1328.
8. Cibulka, J.; Ebbesen, M.K.; Hovland, G.; Robbersmyr, K.G. and Hansen, M.R.: A Review on approaches for condition based maintenance in applications with induction

- machines located offshore. *Modeling, Identification and Control*, Vol. 33, No. 2 (2012), pp. 69-86. ISSN 1890-1328.
9. ISO 31000:2009: Risk management - Principles and guidelines. Geneva (Switzerland): International Organization for Standardizations (ISO), 2009.
 10. Junca, M. and Sanchez-Silva, M.: Optimal maintenance policy for permanently monitored infrastructure subjected to extreme events. *Probabilistic Engineering Mechanics*, Vol. 33 (July 2013), pp. 1–8. ISSN 0266-8920.
 11. Kans, M.: The advancement of maintenance information technology: A literature review. *Journal of Quality in Maintenance Engineering*, Vol. 15, Issue 1 (2009), pp. 5-16. ISSN 1355-2511.
 12. Karadžić, R.; Vešović, V.; Radosavljević, S. and Derdemez, I.: Aircraft maintenance designing and operational availability. *Metalurgia International*, Vol. 18, No. 7 (2013), pp. 61-66. ISSN 1582-2214. Springer-Verlag London Ltd., 2009, pp. 499-544. ISBN 978-1-84882-471-3.
 13. Macchi, M. and Garetti, M.: Information requirements for e-maintenance strategic planning: A benchmark study in complex production systems. *Computers in Industry*, Vol. 57, Issue 6 (August 2006), pp. 581–594. ISSN 0166-3615.
 14. Main, W. B.; Cloutier, R.D.; Manuele, A.F. and Bloswick, S.D.: Risk assessment for maintenance work. Working Paper. Arbor (Michigan – USA): Design Safety Engineering Inc, 2005.
 15. Muller, A.; Marquez, A.C. and Iung, B.: On the concept of e-maintenance: Review and current research. *Reliability Engineering & System Safety*, Vol. 93, Issue 8 (August 2008), pp. 1165–1187. ISSN 0951-8320.
 16. Pintelon, L.M. and Parodi-Herz, A.: Chapter 2: Maintenance: An evolutionary perspective. In: *Complex System Maintenance Handbook: Springer Series in Reliability Engineering*. Edited by Khairy A.H. Kobbacy and D.N. Prabhakar Murthy. London (United Kingdom): Springer-Verlag London Ltd., 2008, pp. 21-48. ISBN 978-1-84800-010-0.
 17. Radosavljević, S.; Dašić, P. and Radosavljević, M.: Appendix specifics of risk management in mining. *Metalurgia International*, Vol. 18, Special Issue No. 8 (2013), pp. 59-68. ISSN 1582-2214.
 18. Radosavljević, S.; Dašić, P. and Radosavljević, M.: Individual maintenance engineering in energy and mining-based of risk. *Metalurgia International*, Vol. 18, No. 6 (2013), pp. 79-86. ISSN 1582-2214.
 19. Radosavljević, S.; Lilić, N.; Ćurčić, S. and Radosavljević, M.: Risk assessment and managing technical systems in case of mining industry. *Strojniški vestnik – Journal of Mechanical Engineering*, Vol. 55, No. 2 (2009), pp. 119-130. ISSN 0039–2480.
 20. Radosavljević, S. & Radosavljević, M.: Ekološka metrika eko rizika, eko kontroling u rudarstvu, /Ecological metrics eco risk, eco controlling in the mining/. *Tehnička dijagnostika*, Vol. 10, br. 2 (2011), str. 55-61. ISSN 1451-1975.
 21. Radosavljević, S. & Radosavljević, M.: FMECA metoda u rudarstvu i energetici, procesni pristup/FMECA method in mining and energy, process approach/. *Tehnička dijagnostika*, Vol. 9, br. 3 (2010), str. 17-28. ISSN 1451-1975.

22. Radosavljević, S. & Radosavljević, M. Kvalitet uglja u funkciji zelene energije ka energetske efikasnosti /Coal quality work for green energy to energy efficiency/. Tehnička dijagnostika, Vol. 10, br. 4 (2011), str. 41-48. ISSN 1452-4864.
23. Radosavljević, S. & Radosavljević, M.: Risk assessment in mining industry – Apply management. Serbian Journal of Management, Vol. 4, br. 1 (2009), str. 91-104. ISSN 1452-4864.
24. Radosavljević, S. & Radosavljević, M.: Savremeni modeli za analizu rizika u rudarstvu Srbije, /Modern models for risk analysis in Serbian mining industry/. Tehnička dijagnostika, Vol. 8, br. 1 (2009), str. 17-24. ISSN 1451-1975.
25. Saharkhiz, E.; Bagherpour, M.; Feylizadeh, M.R. and Afsari, A.: Software performance evaluation of a computerized maintenance management system: A statistical based comparison. Eksploatacja i Niezawodność – Maintenance and Reliability, Vol. 14, No. 1 (2012), pp. 77–83. ISSN 1507-2711.
26. Shafie, M. and Chukova, S.: Maintenance models in warranty: A literature review. European Journal of Operational Research, Vol. 229, Issue 3 (September 2013), pp. 561-572. ISSN 0377-2217.
27. Shilov, V.I.: Mathematical model of the process of recording natural gamma-radiation in monitoring the rock/coal-seam boundary. Soviet Mining, Vol. 24, Issue 5 (September–October 1988), pp. 484-489. ISSN 0038-5581.
28. Shimizu, S.; Sugawara, M.; Sakurai, S.; Mori, T. and Saikawa, K.: Decision-making support systems for reliability-centered maintenance. Journal of Nuclear Science and Technology, Vol. 30, Issue 6 (June 1993), pp. 505-515. ISSN 0022-3131.
29. Smith, A.M.: Reliability centered maintenance. New York (New York – USA): McGraw-Hill Inc., 1993. - 216 pp. ISBN 978-0-07-059046-5.
30. Smith, A.M. and Hinchcliffe, G.R.: RCM – Gateway to world class maintenance. Burlingontsang, A.H.C.: Condition-based maintenance: Tools and decision making. Journal of Quality in Maintenance Engineering, Vol. 1, Issue 3 (1995), pp. 3–17. ISSN 1355-2511.
31. Tsang, A.H.C.: Strategic dimensions of maintenance management. Journal of Quality in Maintenance Engineering, Vol. 8, Issue 1 (2002), pp. 7-39. ISSN 1355-2511.
32. Yu, R.; Lung, B. and Panetto, H.: A multi-agent based E-maintenance system with case-based reasoning decision support. Engineering Applications of Artificial Intelligence, Vol. 16, Issue 4 (June 2003), pp. 321– 333. ISSN 0952-1976.
33. Zhang, Y.-L. and He, Y.-Z.: Avionic maintenance information management system. Avionics Technology, Vol. 38, No. 2 (June 2007), pp. 41-45. ISSN 1006-141X.
34. Zhang, W.: Knowledge management for e-maintenance of industrial automation systems. In: Studies in Computational Intelligence, Vol. 42: Contributions to Ubiquitous Computing. Edited by Bernd J. Krämer and Wolfgang A. Halang. Berlin-Heidelberg (Germany): Springer-Verlag GmbH, 2007, pp. 139-155. ISBN 978-3-540-44909-6.
35. Web site for Národní Kalkulační Nástroj (NKN): <http://tzb.fsv.cvut.cz/projects/nkn/>.

36. Climont Z., Smith S J., Cofala J., (2013) : The Last Decade of Global Anthropogenic sulfur dioxide: 2000-2011 emissions, (open access), IOPCIENCE Environmental Research Letters, Volume 8, Number 1, January 2013.
37. Source: ExternE-Pol project, final report 2006, Historical emissions – European Environmental Agency – European Topic Centre on Air and Climate change, http://reports.eea.europa.eu/eea_report_2006_8/en/factsheets/EN_35_EU-25_external_costs.pdf.
38. USA SO₂ thermoenergetic production 1980-2007.
39. Hollin F., (May 2011): Alfalfa In Need of Nutrients, Sulfur and potassium deficiencies could lower alfalfa yields, Hay&Forage Grover, 2011.
40. WIKIPEDIA Free Encyclopedia.
41. www.epa.gov/ttn/chif/trends.
42. www.prag.za/Actief-Afrikaans.
43. www.popboxads.com.

QUALITATIVE APPROACH IN RISK ANALYSIS MINING AND ENERGY

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Abstract: Risk identification is a respectable category, every aspects that can be observed and analyzed. An additional problem, synergy risks eco mode, the diversity of interpretations and integrative system configuration tools and metrics, it becomes at this point a special priority for analysis. Generating qualitative performance of the overall qualitative performance of technical systems, should be a target path to solving complex issues and setting the highest quality preventive responses at any time to be declared the potential destruction. The fact is that the process of analysis and risk assessment provided by, logistics necessary for safety in the work of the technical systems and the overall steady growth and development. Using modern scientific methods, models and tools, by which analysts expert teams formed decisions and plans of specific preventive treatment with established relationships controlling system are made possible through the integrated approach to the principle of compatible modules unique analytical platform to understanding the essence of the importance of risk as a realistic complex variable. This paper presents a part of the real problems with thresholds of potential technical risks and their synergies with current contemporary approaches to the positioning of the technical metrics, technical systems and controlling risk matrix in mining and energy.

Keywords: Risk model, an integrative approach, mining

KVALITATIVNI PRISUPI U ANALIZI RIZIKA RUDARSTVA I ENERGETIKE

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Apstrakt: Identifikacija rizika predstavlja respektabilnu kategoriju, koja se može višenaspektno posmatrati i analizirati. Dodatni problem, sinergija rizika eko modova, različitost tumačenja i sistemska integrativna konfiguracija alata i metrike, postaje u ovom trenutku poseban prioritet za analizu. Generisanje kvalitativnih performansi u ukupnom kvalitativnom učinku tehničkih sistema, bi morao biti ciljni put ka rešavanju kompleksnih pitanja i postavljanju najkvalitenijih preventivnih odgovora u svakom trenutku na moguće potencijale iskazanih destrukcija. Činjenica je da proces analize i procene rizika obezbeđuje kompaniji, potrebnu logistiku za sigurnost u radu tehničkih sistema kao i sveukupno stabilan rast i razvoj. Korišćenje savremenih naučnih metoda, modela i alata, na osnovu kojih analitičari stručnih timova formiraju odluke i planove konkretnih

preventivnih postupanja sa uspostavljenim relacijama kontrolinga sistema su mogući kroz integrativni pristup na principu kompatibilnog modula jedinstvene analitičke platforme do poimanja same suštine značaja rizika kao realne kompleksne varijable. U radu se prikazuje deo realnih problema sa pragovima mogućih tehničkih rizika i njihove sinergije uz aktuelne savremene pristupe sa pozicioniranjem tehničke metrike, tehničkog kontrolinga sistema i matrice rizika u rudarstvu i energetici.

Ključne reči: Rizik, model, integrativni pristup, rudarstvo

1. UVOD

Sistemska pristup proučavanja stanja i pojava u realnom svetu, podrazumeva izdvajanje sistema ili grupe sistema iz okoline. Sledi određivanje granica sistema, što je u korelaciji sa ciljem i zadatkom istraživanja, koja se obavljaju. Usled toga pojam sistema i odnos podsistema unutar njega je sasvim relativan i uslovan. Svaki podsistem, ukoliko se izoluje i proučava samostalno, može predstavljati celinu i poprimiti najbitnije karakteristike sistema. Tehnološki sistemi za površinsku eksploataciju i preradu uglja reprezentuju karakterističan iskaz specifičnih tehnologija u kontekstu delovanja svakog procesa, dekomponovanog od jednostavnih do najsloženijih radnih aktivnosti. Tehnološki sistem nije jedna mašina ili neki drugi pojedinačni element sistema. On predstavlja integralnu sadržinu i povezanost svih elemenata: (predmet rada, sredstava za rad, energija, informacija, ljudski rad, proizvod i tehnološki proces u kome se obavlja transformacija ulaza u izlaz). Pri tom se ostvaruju i realizuju odgovarajući ciljevi koje je kompanija postavila kao prioritetne. Analiza navedenih tehnoloških sistema sastoji se u izučavanju njihovih svojstava i efikasnosti funkcionisanja uz primenu odgovarajućih modela i metoda. Evidentno je smanjenje sveukupne pouzdanosti i sigurnosti sistema za preradu uglja, s obzirom na veliki broj kritičnih mesta sa potencijalno visokim rizicima. Česta je pojava destrukcija, koje utiču na promenu uslova rada sistema, ali mikro i makro lokaliteta. Mogućnost nastanka kritičnih potencijala i ispoljavanje destrukcija u rudarstvu je realna od privremenog ili trajnog narušavanja kvaliteta materijalnih dobara, radne i životne sredine sredine. Navedeni uticaji uslovljavaju potrebu za pokretanje i usavršavanje određenih postupaka i aktivnosti, kako bi se preventivnim delovanjem rizik minimizirao. Ukoliko do ispoljavanja destruktivnih potencijala dođe, potrebno je imati adekvatane odgovore, kako bi se efikasno osposobio ugroženi sistem ili deo sistema. U tom kontekstu od izuzetne važnosti je kvalitetna analiza i procena rizika. Metodi za analizu i procenu rizika imaju za cilj da identifikuju i kvantifikuju područja u procesu gde potencijalno može doći do nastanka otkaza. Kvalitet u proceni rizika je preduslov za adekvatno planiranje prevencije, pripreme reagovanja na otkaz i sanacije eventualnih posledica. Analiza i procena rizika u današnjim uslovima može pružiti dovoljno relevantnih podataka za kvalitetno modeliranje procesa upravljanja rizikom u rudarstvu. Nedostatak preciznog definisanja postupaka i procedura u praksi, kao i kriterijuma pri oceni rizika za rudarsku delatnost, nameće potrebu za metodologijom koja bi sadržala savremene postupke i metode određivanja pokazatelja i kriterijuma za ocenu rizika. Ovo je preduslov uspešnog upravljanja procesima u rudarstvu, [1], [2] i [3].

2. AKTUELNI SVETSKI TRENDOVI U ANALIZI EKO RIZIKA ŽIVOTNOG CIKLUSA TEHNIČKIH SISTEMA

Rizik u različitim industrijama i tehnološkim procesima je činilac koga je potrebno uvažavati. Saglasno specifičnostima posmatranih sistema i procesa on se različito prepoznaje, generiše i ispoljava. Rizik je realno prisutan svuda u manjoj ili većoj meri. Potreban je adekvatan analitički i metodološki pristup sa ciljem njegovog pozicioniranja, identifikacije, određivanja uticaja, moguće redukcije, minimiziranja ili zadržavanja na postojećem nivou. U proizvodnoj praksi rudarstva postoje različiti pristupi u tumačenju problema rizika. Teško se mogu identifikovati originalni primeri smanjenja i monitoringa rizika za bilo koje tehnološke procese u bilo kojim industrijama i delatnostima.

Nedostatak preciznog definisanja postupaka i procedura u praksi, kao i kriterijuma pri oceni rizika za rudarsku delatnost, nameće potrebu za metodologijom koja bi sadržala savremene postupke i metode određivanja pokazatelja i kriterijuma za ocenu rizika. Kod analize rizika postoje za svaki slučaj ponaosob određene specifičnosti. Vrhunski stručnjaci za ovu oblast su saglasni da ne postoji analiza rizika koja će dati iste rezultate za slučajno izabrani analitički uzorak, ukoliko se ista vrši čak i nekoliko puta. Ovo ukazuje na određene teškoće kao i sve probleme pred koje su stavljeni analitički timovi, koji treba da ustanove kako postojeće risk stanje sistema tako i definišu potencijalne rizike sa potrebnom preventivom ka njihovom minimiziranju, [4], [5] i [6]. Da bi se adekvatno objasnio fenomen rizika u rudarstvu potrebno je utvrditi njegovu suštinu, unutrašnje protivurečnosti, osnovne elemente i svojstva, kompozitnost objektivnog i subjektivnog u riziku, detektovati uzroke koji dovode do pojave i postojanja rizika kao i definisati polazne kriterije za procenu rizika. Ukupan rizik je potrebno definisati u odnosu na kvalitet a parcijalne u odnosu na pojedina svojstva kvaliteta. Ovim se stvara početni osnov za upravljanje pouzdanošću preostalim životnim vekom sistema u proizvodnji kao i funkcijom održavanja istih na temelju postojanja realnog rizika. Savremeni pristup analize rizika za sisteme u rudarstvu zasniva se na široko aspektnom i multidisciplinarnom konceptu u kome je pouzdanost ne samo svojstvo već i bitan faktor sveukupne efektivnosti.

Jedna od definicija rizika je de je isti mera verovatnoće i posledica svih opasnosti neke aktivnosti ili stanja tehnološkog sistema. Prihvatljiv rizik generiše kvalitet u kontekstu bezbednosti procesa ili sistema. Upravljački pristup u sagledavanju, tretmanu, analizi i smanjenju rizika s obzirom na kompleksnost tehničkih sistema u rudarstvu, polazi sa stanovišta minimiziranja istog, odnosno snižavanja do granice tolerantnog i prihvatljivog. U svetu se profilisu dva osnovna pravca sagledavanja ovog problema. Ista imaju svoja karakteristična i prepoznatljiva uporišta u teoretskim određenjima. Problem predstavljaju pragovi prihvatljivog ili tolerantnog rizika. Mnoge organizacije, grupe i pojedinci smatraju da je prihvatljiv samo nulti rizik. Sa tog stanovišta pouzdani ili sigurni su samo sistemi koji ne sadrže nikakav rizik. Postoje saglasnosti da su ovakva mišljenja i određenja nerealna. Nulti rizik nije moguće postići ni u određenjima teoretskih relacija s obzirom da se uvek javlja ne-nulti deo rizika/ostatak rizika. Ne-nulti deo rizika u toj opciji se smatra zadovoljavajuće malim, te da je izuzetno blizu i dostiže vrednost nultog rizika. Na drugoj strani je mišljenje o realnom postojanju rizika, ali i mogućnostima njegovog smanjenja bez šansi za potpuno eliminisanje. Uslov za prihvatanje rizika kao realne kategorije je postojanje opšteg i individualnog interesa u makro i mikro okruženju lokaliteta procesa. Jedini način da se po iscrpljenju svih metoda za smanjenje, potpuno eliminiše preostali deo rizika, je apsolutan prestanak svih aktivnosti u i oko sistema-tehnički i ljudski faktor (potpuno zaustavljanje, pasivnost i ne angažovanje tehničkih kapaciteta, uključno sa ljudskim resursima). Za većinu učesnika u analizi i proceni rizika ovo je nerealna i

neprihvatljiva opcija. Profesionalno opredeljenje je ka funkcionisanju procesa u postojećim uslovima internog i eksternog okruženja, po cenu postojanja i prihvatanja određenih nivoa: kritičnosti, destrukcija, rizika i posledica. Teoretska pretpostavka da nulti rizik postoji je kritična za proces procene rizika pri određivanju prihvatljivog rizika. Diskutabilno je pitanje načina formiranja konačne odluke o pragovima prihvatljivog rizika. U nekim situacijama ostatak rizika može biti realno visok bez obzira na činjenicu da je od strane analitičara ocenjen kao prihvatljiv. Opšti cilj je da ostatak rizika posle smanjenja, izbegavanja i minimiziranja kroz konstantan monitoring bude prihvatljiv i usaglašen sa ocenom analitičara rizika i donosiocima konačne odluke, [7], [8] i [9]. Australiski standard analizu i upravljanje rizikom tretira kao interativan proces konstantnog poboljšanja. Isti prezentira i sadrži kvalitetno definisane korake koji se fazno realizuju. Standard predstavlja logistiku u kontekstu donošenja odluka i pruža bolji uvid u rizik i njegove posledice. Upravljanje rizikom se prepoznaje kao sastavni deo dobro upravljane prakse. Da bi se postigla što veća poslovna efikasnost kompanija, upravljanje rizikom mora postati deo organizacione kulture sistema. Upravljanje rizikom je kompleksan proces u kome se najčešće podrazumeva potreba učešća multidisciplinarnog tima. Odluke koje se tiču prihvatljivosti rizika i njegovog tretmana mogu biti zasnovane na: operacionim, tehničkim, finasijskim, zakonskim, socijalnim, humanitarnim i drugim kriterijima. AS/NSZ 4360: 1999. godine, razvija korak identifikacije rizika u specifičan pristup, kojim se za rudarsku vrstu delatnosti detektuje: šta se može desiti, kako i koji su uticajni faktori? Saglasno navedenom standardu promovise se analiza rizika kombinujući proces o posledicama i verovatnoćama tih posledica. Verovatnoća i posledice mogu biti determinisane korišćenjem statističkih analiza i proračuna alternativno, kada podatci iz prošlosti nisu ili su veoma teško dostupni. Ovde postoji mogućnost subjektivne procene nivoa rizika koja može dovesti u pitanje verovatnoću da će se kritičnost izabranog i analiziranog sklopa/podsklopa uopšte realizovati, [10], [11] i [12]. Standard AS/NSZ 4360: 1999. definiše pet koraka pri analizi rizika:

- Izbegavanje rizika;
- Smanjenje verovatnoće rizičnog događanja;
- Smanjenje posledica izazvanih rizikom;
- Transfer rizika-prebacivanje rizika na drugog - (osiguravajuća društva i drugi oblici);
- Zadržavanje rizika na postojećem nivou.

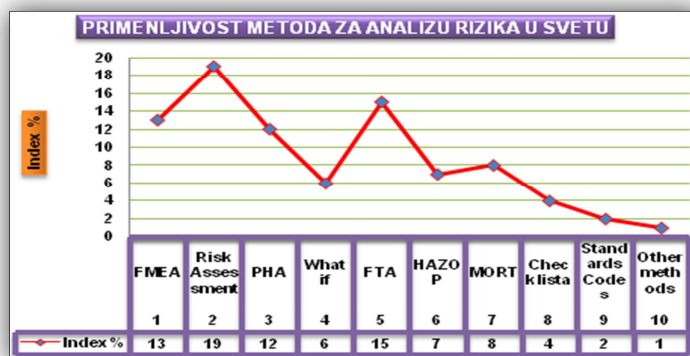
U 1999. godini EN 1050. protokol o bezbednosti i zaštiti u mašinstvu direktno je inkorporiran u evropski standard ISO 12100-1/EN 291-1. Ovde su data određenja i osnovi sigurnosti u mašinstvu-osnovni koncept i generalni principi dizajna, kao i osnovi metodološkog pristupa u tom kontekstu, [13]. Saglasno određenjima ovog standarda projektanti mašina su obavezni da:

- Sastave specifikaciju uticajnih ograničenja pri korišćenju mašina u procesu;
- Dokumentuju moguće nastanke opasnosti i opasnih situacija;
- Procene rizik svih identifikovanih faktora i kritičnih situacija;
- Donesu odluku o prihvatljivosti postojećeg stanja ili potrebi smanjenja rizika;
- Eliminiraju opasnosti smanjenjem rizika, preko adresiranja rizika i zaštitnim merama, (dodelom autoriteta i odgovornosti).

U 2003. godini izvršena je revizija navedenog standarda koji je u potpunosti kompatibilan sa EN 1050., pri čemu je uneto dosta određenja u kontekstu sigurnosti pri projektovanju mašina za tehnološke procese, [14]. Osnovna karakteristika evropskog standarda ISO 12100., je adresiranje odgovornosti za procenu i smanjenje rizika prema dobavljaču opreme za tehnološki proces odnosno dizajneru mašina. U tom smislu je potpuno isto određenje i u engleskom standardu, (United Kingdom) EN 1050. U Francuskoj je na snazi vodič za sigurnost nove opreme i ima određenje i temelj standarda. Isti prezentuje pristup u adresiranju rizika koji je u potpunosti saglasan sa zahtevima evropskog standarda, odnosno adresira odgovornost za procenu i smanjenje rizika prema dobavljaču i projektantu nove opreme za tehnološke procese, [15]. Upustvo za sigurnost nove opreme fokusira tri koraka u analizi rizika:

- Determinisanje ograničenja;
- Identifikaciju rizika i rizičnih situacija;
- Procenu rizika.

Direktivom evropske ekonomske zajednice - 89/391/EEC (COUNCIL DIRECTIVE of 12 June 1989), se predviđa da svaka država može da prilagodi preporuke i metodologiju ocene rizika nacionalnim zakonodavstvima. Tako su, na primer u Sloveniji postupci i sadržaj ocene rizika definisani: "Pravilnikom o načinu izrade izjave o oceni rizika". U Austriji se primenjuje metodologija austrijske grupe proizvođača celuloze i papira pod skraćenim nazivom AUVA, (Allgemeine Unfallversicherungsanstalt), i metodologija Austrijske državne komore WKO (Wirtschaftskammer Österreich). U Nemačkoj je u primeni metodologija nemačkih stručnih udruženja BG (Die gewerblichen Berufsgenossenschaften). U EU za mala i srednja preduzeća u preporuci je metodologija pod nazivom: SME (Safety and Health for Small and Medium sized). U Hrvatskoj, metodologija je definisana pravilnikom o izradi procene opasnosti. Metodi za ocenu rizika u zavisnosti od korišćenih podataka kao i različitih aspekata primene mogu biti: kvantitativni, kvalitativni i kombinovani. Pregled metoda za procenu rizika tehničkih sistema, nastao je kao rezultat pozitivne selekcije vrhunskih naučnih instituta i timova u kontekstu praktične primene i verifikacije, te se odnosi na grupu modela koja je dostigla nivo profesionalne prihvatljivosti. Isti se ne odnose na nove i koncepte u razvoju, koji su ispod ciljnih pragova, [16], [17] i [18].

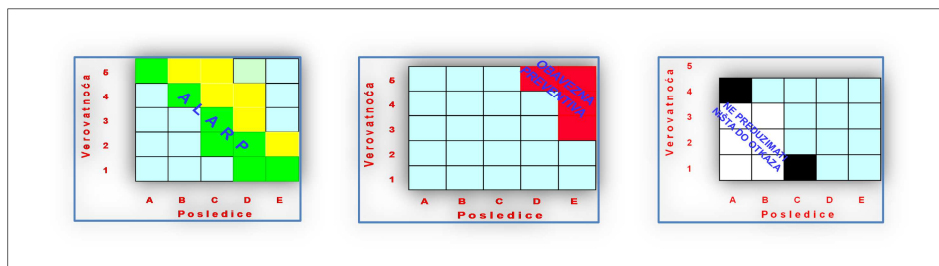


Sl.ika 1. Prikaz aktuelnih metoda za analizu rizika i njihove trenutne primenljivost u svetu

Metodi koji se koriste za analizu rizika i njihova trenutna praktična zastupljenost primene u svetu je: FMEA-Faliure Mode and Effects Analysis (13%), RA-Risk Assessment (19%), PHA-Preliminary Hazard Analysis (12%), WI-what if (6%), FTA-Fault tree Analysis (15%), HAZOP-Hazardous Operations (7%), MORT-Management Oversight Risk Tree (8%), CL-Checklists (4%), S/K-standards/Codes (2%), OM-Other methods (1%).

Faze radnog veka Rotornog bagera	Vreme (godina)	Nivo Rizika		Napomena	
		p	z		Rizik %
Konceptualni dizajn	1	v	s	p	85+10+5
Bazni inženjering	1	v	s	p	75+15+10
Detaljni inženjering	1	v	s	p	60+25+15
Izrada, instalacija, transport, funkcionalne probe i dokaz kapaciteta	2	v	s	p	80+10+10
Radni vek	30	v	v	s	73+21+6
Redizajn/Revitalizacija	1	v	s	p	85+10+5
Produženo vreme rada sistema	25	v	v	s	75+24+3
Prekid rada/Reciklaža	0.5	p	p		10+90
v-visok	s-srednji				p-prihvatljiv

Slika. 2. Faze životnog ciklusa rotornog bagera u površinskoj eksploataciji uglja



Slika 3. Matrica ALARP-principa za analizu rizika

Conseq. Type		A	B	C	D	E
Economic Loss (€)		< 10 k€	10 - 100 k€	€ 1 - 1 M€	1 - 10 M€	> 10 M€
Health & Safety		First aid	New Low Error Accident	Low Error Accident	Permanent disability	One or Several Fatalities/ 5 or more illnesses
Environment		Negligible impact	NPQ contained	Minor spill	Small Scale Damage	Large Scale Damage Long term effects
Probability	MTBF	Consequence				
Expected 10^{-6}	>10 years	Very High	High	Medium	Low	Very High
Probable 10^{-4}	1-10 years	High	Medium	Low	Very High	High
Possible 10^{-2}	1-10 years	Medium	Low	Very High	High	Medium
Unlikely 10^{-3}	10-20 years	Low	Very High	High	Medium	Low
Fatally unlikely 10^{-5}	>50 Years	Very High	High	Medium	Low	Very High

Slika 4. Matrica rizika RIMAP,

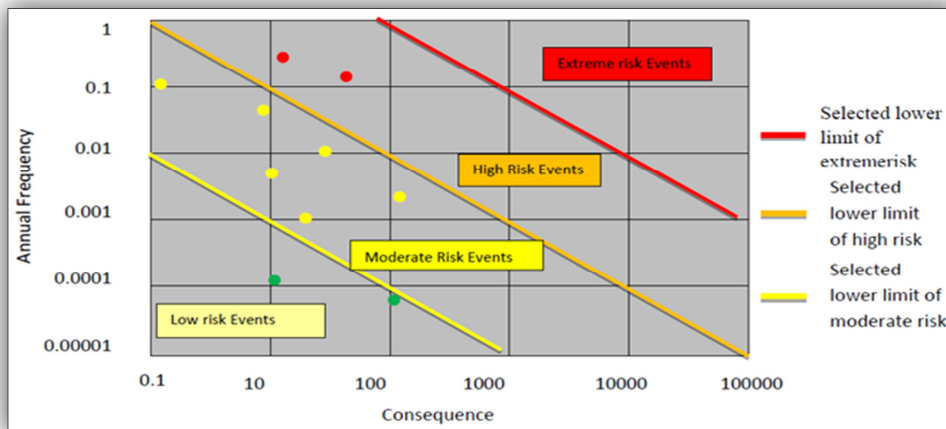
Kvalitativni pristupi pri proceni rizika su najčešće primenjujuje. Kvalitativne metode procene rizika su brze i relativno jednostavane za korišćenje, kao široke posledice i verovatnpća mogu da se identifikuju i mogu da pruže opšte razumevanje komparativne analize rizika između rizičnih događaja, a matrica rizika može da se koristi za odvojene događaje rizika u klase rizika (rejting). Logičan sistematski proces je obično praćen tokom

kvalitativne procene rizika da identifikuje ključne događaje i rizika da proceni posledice događaja i verovatnoće njihovog nastanka, [19].

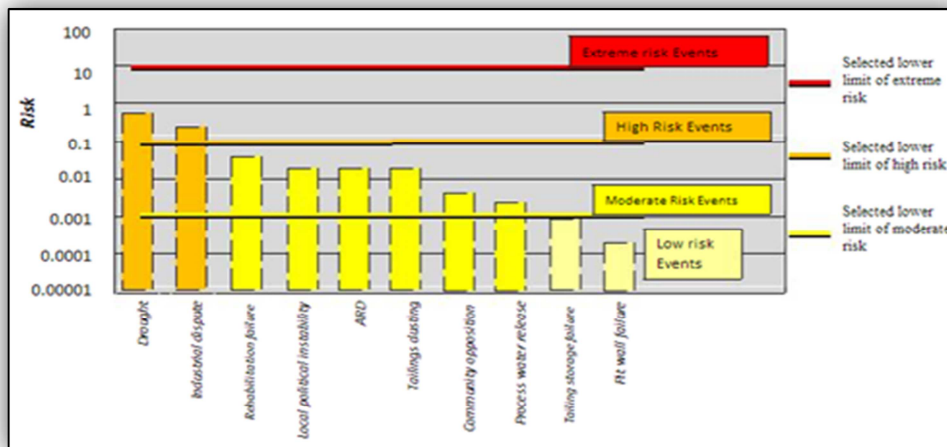
Risk Rank Likelihood x Consequence	L1 Almost certain	L2 Likely	L3 Possible	L4 Unlikely	L5 Rare	RISK RATING	
1 Catastrophic	1	2	4	7	11	High Risk	1 - 6
C2 Major	3	5	8	12	16	Medium Risk	7 - 15
C3 Moderate	6	9	13	17	20	Low Risk	16 - 25
C4 Minor	10	14	18	21	23		
C5 Insignificant	15	19	22	24	25		

Slika 5. Kvalitativni metod za klasifikaciju rizika,

Kvantitativna procena rizika se više primenjuju u rudarskoj industriji i pri eksploataciji mineralnih sirovina, zbog poslovnih zahteva da podrži finansiranje odluke, ravnomerno upoređivanje sa finansijskim, ekološkim i socijalnim rizicima, i da pokaže transparentnost, doslednost i logiku pristupa. Međutim kvantitativni pristupi rizika često nisu intuitivni i zahtevaju ulaganje i učenje donosioca odluka. Kvantitativna procena rizika se koristi u celom spektru aplikacija rizika od izvođenja preliminarne prvog prolaska kroz razdvajanje rizika događaja za mnogo više sveobuhvatnih procena. Uz sveobuhvatne procene mogu izvesti detaljne profile rizika za rangiranje prioriteta, procene troškova nastalih usled radova, mogućnosti rizičnih aplikacija, ulaza za finansijske modele i osnova za analizu troškova i koristi. Kvalitativna procena rizika je sledeći osnovni pristup za procenu rizika u svom punom obimu od pripisujući apsolutne vrednosti za verovatnoću i nastale posledice. Procene verovatnoće su napravljene u pogledu događaja učestalosti ili verovatnoće pojave rizika. Količnik rizika se koristi za razlikovanje na komparativnoj osnovi između rizika događaja koristeći dosledno meru rizika i da identifikuje one događaje čiji rad predstavlja najveći rizik. Mapa rizika je ekvivalentna svim kvantitativnim matricama rizika i predstavlja tipične izlaze iz procene kvalitativnih rizika. Mapa rizika pokazuje odnos između verovatnoće (vertikalna osa) i nivoa posledica (horizontalna osa) za svaki događaj, na taj način se iskazuje kakve će odluke biti donešene od niskog do ekstremnog rizika po želji. Konstrukcija mape rizika prepoznaje da li su veličine obe verovatnoće i posledica rizičnih događaja razlikuju od redova veličine. Zbog toga dijagonalne linije predstavljaju linije ekvivalentne riziku. Linija pokazuje "izabranu donju granicu ekstremnih rizika" emisijama da li je količnik rizika, (izračunata je kao verovatnoća posledica k) jednak 10 na svim tačkama preseka duž linije. Na primer, ukazuje (100, 0.1), (1000, 0.01), (10 000 0001), pokazuju jednak rizik. Pored toga, događaji sa rizikom količnika većim od 10 se mapiraju iznad izabrane donje granice i smatraju se kao izuzetan rizik, [20].



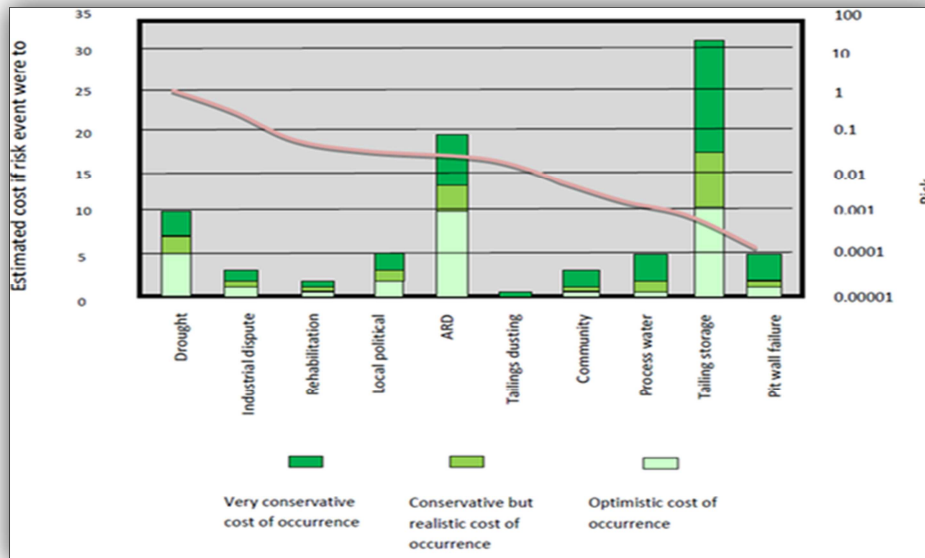
Slika 6. Prikaz mape rizika



Slika 7. Prikaz profila rizika

Profili rizika se najčešće koristi da izrazi osnovne izlaze kvantitativne analize rizika. Slika 7 prikazuje primer profila rizika generisan iz istih podataka kao karta rizika iznad, slika 6. Količnik rizika za svaki potencijalni događaj je prikazan na vertikalnoj osi i obračunava se od proizvoda iz verovatnoće nastanka i troškova, ako se događaj desio. Izabrane donje granice svakog rizika su cena koja ukazuje na profile. Dodatni profili mogu biti generisani da pomognu razvoj odgovarajućih strategija minimiziranja rizika. Profili izlaganja koji pokazuju procenjeni trošak rizika su pitanja koja jasno ukazuju na rizik od svakog događaja i potencijalnu finansijsku izloženost ako se desi događaj. Dodatni izlazi kvantitativne procene rizika koji se koriste za razvoj i podršku rizik strategije upravljanja, pokazuju profile verovatnoće događaja i troškova naknada odnosa, (progresivni troškovi za sprovođenje strategije za upravljanje rizikom u odnosu na smanjenje rizika ili smanjenje u procenjenim budućim troškovima rizika događaja). Potpuno kvantitativna procena rizika nije efikasna za studije tipa procene rizika uticaja na životnu sredinu, gde postoji mnogo različitih ekoloških i socijalnih pitanja koja treba da budu analizirana a prag njihovog njihov rizika eksplicitno saopšten. Dodatni izlazi kvantitativne procene rizika koji se koriste za razvoj i podršku rizik strategije upravljanja, pokazuju profile verovatnoće

dogadaja i troškova naknada odnosa, (progresivni troškovi za sprovođenje strategije za upravljanje rizikom u odnosu na smanjenje rizika ili smanjenje u procenjenim budućim troškovima rizika događaja). Potpuno kvantitativna procena rizika nije efikasna za studije tipa procene rizika uticaja na životnu sredinu, gde postoji mnogo različitih ekoloških i socijalnih pitanja koja treba da budu analizirana a prag njihovog njihov rizika eksplicitno saopšten, [21].



Slika 8. Primer izloženog profila rizika

3. ANALIZA RIZIKA KOMBINOVANJEM METODA I SOFTVERSKIH SISTEMA

Pri analizi rizika uobičajeno je da se izvrši izbor jednog metoda i sa njime detektuju kritična mesta u opusu analitičkog i metodološkog pristupa a tim saglasno mogućnostima analitičara ili tima za analizu, definišu odgovori odnosno risk preventiva. Kombinovanje više različitih metoda i alata nije uobičajeno i veoma retko se nailazi na implementirane slučajeve u proizvodnoj praksi rudarstva kao i drugim industrijama. Za konkretan slučaj metodološkog pristupa u analizi, isti je zasnovan na kombinovanju dva modela za analizu rizika za dva identifikovana aspekta (tehnički i eko aspekt). Redosled primene modela je **FTA (Fault Tree Analysis)** a zatim **DesignSafe 7.0**. Potrebno je napomenuti da se navedeni model i softverski sistem, mogu samostalno koristiti u analizi rizika. Međutim osnovni cilj je da se produženim analitičkim postupkom dođe do što eksplicitnijih određenja nivoa pragova prihvatljivog rizika za fokusirane aspekte. Ovakav pristup podrazumeva multidisciplinarno istraživanje kao i stručnost multidisciplinarnog tima do ekspertskog nivoa. S obzirom na raspoloživ budžet za realizaciju istraživanja, pojedine aktivnosti nisu u celini realizovane, već samo parcijalno po delovima sa utvrđivanjem metodološko analitičkog prioriteta i važnosti i bez njihovog bitnijeg narušavanja. Istovremeno se vodilo računa da predhodna određenja nikako ne utiču na relevantnost prikupljenih podataka i krajne rezultate u završnom analitičkom prikazu.



Slika 9. FTA metod: prikaz koraka pri analizi interakcije događaja i grešaka, (Adaptirano za tehničke sisteme u rudarstvu)

Pragovi nivoa ugroženosti sistema u preradi uglja u zavisnosti od uticaja različitih faktora		
Naziv praga nivoa ugroženosti	Indeks usvojenog praga	Napomena
Veoma visok nivo	5	Stajanje sistema više od 1 dana.
Visok nivo	4	Stajanje sistema do 24 časa, (1 dan).
Umeren nivo	3	Stajanje sistema do 8 časova, (1 smena).
Mali nivo	2	Stajanje sistema do 4 časa, (½ smene).
Veoma mali nivo	1	Stajanje sistema do 1 čas.

Slika 10. Prikaz pragova nivoa ugroženosti pri proceni faktora sa dekomponovanog stabla FTA, (adaptirano za proces prerade uglja)

Fred A. Manuele "Three factor risk model": strogost procene/učestalost izloženosti/verovatnoća događanja							
Strogost procene	Indeks	Izloženost	Indeks	Verovatnoća	Indeks	Prag rizika	Indeks
Katastrofalna	50	Česta	13	Frekventna	15	Visok	> 800
Kritičan	40	Povremena	10	Verovatan	9	Ozbiljan	500-800
Umeren	25	Retka	7	Povremen	4	Umeren	200-500
Mali	10	Minimalna	4	Mali	1	Nizak	0-200
				Neverovatan	0,5		

Slika 11. Prikaz originalnih vrednosti kvantitativnog modela za procenu rizika i matrice reda 4*4*5, Prof. dr Fred A. Manuele

4. ZAKLJUČAK

Analiza rizika za tehnički i aspekt ZŽS u analitičkom i metodološkom konceptu potvrđuje realno pozicioniranje visokih pragova rizika u gotovo svim delovima procesa rudarstva. Analiza tehničko tehnološkog procesa rudarstva ukazuje da se kritični potencijali mogu u potpunosti identifikovati. U radu je dat primer jedne od mogućih kombinacija dva metoda koji se uspešno mogu implementirati, koristiti a rezultat je eksplicitnije pozicioniranje detektovanih pragova rizika.

LITERTURA

1. European Commission - *Guide to Approximation of European Union Environmental Legislation*, (2012).
2. Eptisa, PM Group – *Strategija aproksimacije za sektor kvaliteta vazduha i klimatske promene*, (2012).
3. WMO: *Guide to Meteorological Instruments and Methods of Observation*, (2008).
4. Ben-Daya, M.; Duffuaa, S.O.; Raouf, A.; Knežević, J. and Ait-Kadi, D. (editors): *Handbook of maintenance management and engineering*. London (United Kingdom): Springer-Verlag London Ltd., 2009. – 741 pp. ISBN 978-1-84882-471-3.
5. Cibulka, J.; Ebbesen, M.K.; Hovland, G.; Robbersmyr, K.G. and Hansen, M.R.: *A Review on approaches for condition based maintenance in applications with induction machines located offshore. Modeling, Identification and Control*, Vol. 33, No. 2 (2012), pp. 69-86. ISSN 1890-1328.
6. **ISO 31000:2009: Risk management - Principles and guidelines**. Geneve (Switzerland): International
7. Organization for Standardizations (ISO), 2009.
8. *infrastructure subjected to extreme events*. Probabilistic Engineering Mechanics, Vol. 33 (July 2013), pp. 1–8. ISSN 0266-8920.
9. Karadžić, R.; Vešović, V.; Radosavljević, S. and Derdemez, I.: *Aircraft maintenance designing and operational availability*. Metalurgia International, Vol. 18, No. 7 (2013), pp. 61-66. ISSN 1582-2214. Springer-Verlag London Ltd., 2009, pp. 499-544. ISBN 978-1-84882-471-3.
10. Macchi, M. and Garetti, M.: *Information requirements for e-maintenance strategic planning: A benchmark study in complex production systems*. *Computers in Industry*, Vol. 57, Issue 6 (August 2006), pp. 581–594. ISSN 0166-3615.
11. Main, W. B.; Cloutier, R.D.; Manuele, A.F. and Bloswick, S.D.: *Risk assessment for maintenance work*. Working Paper. Arbor (Michigan – USA): Design Safety Engineering Inc, 2005.
12. Radosavljević, S.; Dašić, P. and Radosavljević, M.: *Appendix specifics of risk management in mining*. Metalurgia International, Vol. 18, Special Issue No. 8 (2013), pp. 59-68. ISSN 1582-2214.
13. Radosavljević, S.; Dašić, P. and Radosavljević, M.: *Individual maintenance engineering in energy and mining-based of risk*. Metalurgia International, Vol. 18, No. 6 (2013), pp. 79-86. ISSN 1582-2214.

15. Radosavljević, S.; Lilić, N.; Ćurčić, S. and Radosavljević, M.: *Risk assessment and managing technical systems in case of mining industry*. Strojniški vestnik – Journal of Mechanical Engineering, Vol. 55, No. 2 (2009), pp. 119-130. ISSN 0039–2480.
16. Radosavljević, S. & Radosavljević, M.: *Ekološka metrika eko rizika, eko kontroling u rudarstvu, /Ecological metrics eco risk, eco controlling in the mining/*. Tehnička dijagnostika, Vol. 10, br. 2 (2011), str. 55-61. ISSN 1451-1975.
17. Radosavljević, S. & Radosavljević, M.: *FMECA metoda u rudarstvu i energetici, procesni pristup/FMECA method in mining and energy, process approach/*. Tehnička dijagnostika, Vol. 9, br. 3 (2010), str. 17-28. ISSN 1451-1975.
18. Radosavljević, S. & Radosavljević, M.: *Kvalitet uglja u funkciji zelene energije ka energetske efikasnosti /Coal quality work for green energy to energy efficiency/*. Tehnička dijagnostika, Vol. 10, br. 4 (2011), str. 41-48. ISSN 1452-4864.
19. Radosavljević, S. & Radosavljević, M.: *Risk assessment in mining industry – Apply management*. Serbian Journal of Management, Vol. 4, br. 1 (2009), str. 91-104. ISSN 1452-4864.
20. Radosavljević, S. & Radosavljević, M.: *Savremeni modeli za analizu rizika u rudarstvu Srbije, /Modern models for risk analysis in Serbian mining industry/*. Tehnička dijagnostika, Vol. 8, br. 1 (2009), str. 17-24. ISSN 1451-1975.
21. Saharkhiz, E.; Bagherpour, M.; Feylizadeh, M.R. and Afsari, A.: *Software performance evaluation of a computerized maintenance management system: A statisticalbased comparison*. Eksploatacja i Niezawodność – Maintenance and Reliability, Vol. 14, No. 1 (2012), pp. 77–83. ISSN 1507-2711.
22. Shafie, M. and Chukova, S.: *Maintenance models in warranty: A literature review*. European Journal of Operational Research, Vol. 229, Issue 3 (September 2013), pp. 561-572. ISSN 0377-2217.
23. Shilov, V.I.: *Mathematical model of the process of recording natural gamma-radiation in monitoring the rock/coal-seam boundary*. Soviet Mining, Vol. 24, Issue 5 (September–October 1988), pp. 484-489. ISSN 0038-5581.
24. Shimizu, S.; Sugawara, M.; Sakurai, S.; Mori, T. and Saikawa, K.: *Decision-making support systems for reliability-centered maintenance*. Journal of Nuclear Science and Technology, Vol. 30, Issue 6 (June 1993), pp. 505-515. ISSN 0022-3131.
25. Smith, A.M.: *Reliability centered maintenance*. New York (New York – USA): McGraw-Hill Inc., 1993. - 216 pp. ISBN 978-0-07-059046-5.

FACTORS THAT CONTRIBUTE TO SME INNOVATIVENESS IN TRANSITION ECONOMY, SERBIA

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Abstarct: Small and medium enterprises are the engine of economic growth in all developed countries. Understanding the factors that contribute to their success is important in both developed, but even more in developing countries. Since innovation is one of the most important means for achieving economic growth, there are large number of studies dealing with this issue. In this paper, we investigate the factors that influence the innovative activities in small and medium enterprises in Serbia. The factors were divided into two major groups, external and internal, and then we examined the impact of each factor to one of five possible type of innovations in the organization.

Keywords: SME, innovativeness, transition economy

FAKTORI KOJI UTIČU NA INOVATIVNE AKTIVNOSTI MALIH I SREDNJIH PREDUZEĆA U TRANZICIONOJ EKONOMIJI

Milica Arsić, Aleksandra Fedajev, Marija Savić, Danijela Voza

Abstrakt: Mala i srednja preduzeća smatraju se pokretačima ekonomskog razvoja u svim razvijenim zemljama. Razumevanje faktora koji doprinose uspehu MSP sektora je važno u razvijenim zemljama, ali je još značajnije za zemlje u tranziciji s obzirom da je njihovo učešće još nedovoljno u ovim privredama. Pošto su inovacije jedne od najbitnijih sredstava kojima se postiže ekonomski boljitak, veliki broj studija se upravo bavi ovom temom. U ovom radu istražujemo faktore koji utiču na inovativne aktivnosti malih i srednjih preduzeća u Srbiji. Faktori su podeljeni u dve velike grupe, na spoljne i unutrašnje, a zatim je ispitan uticaj svakog od faktora na svaku od pet mogućih inovacija u organizaciji.

Ključne reči: mala i srednja preduzeća, inovativnost, tranziciona ekonomija

1. UVOD

Mala i srednja preduzeća se smatraju pokretačem ekonomskog razvoja svake zemlje. Jedan od primarnih načina da se ispuni ovaj zadatak je da se razvijaju i komercijalizuju inovacije [1]. Sposobnost da se inovira je bitna kod održavanja konkurentске prednosti. Inovacija je neophodna za opstanak modernih organizacija [2,3]. Većina autora se slaže da su inovacije bitnije čak SME sektoru, nego velikim organizacijama [4,5], upravo zbog

veće konkurencije. U ovom radu pod inovacijama smatramo nove ili značajno poboljšane proizvode ili usluge, kao i nove ili značajno poboljšane procese u okviru organizacije.

Zbog velikog značaja samog SME sektora, i razvijene zemlje i zemlje u razvoju su zainteresovane u pronalaženju načina da stimulišu SME sektor da što više inovira. Možda kada bi razumeli kako SME inovira i šta ih podstiče da inoviraju, bilo bi lakše dati odgovor na pitanje kako ih motivisati na inovacije. Tako da bi prvi korak ka preuzimanje inicijative za podršku inovativnim aktivnostima, bio istraživanje faktora koji utiču na inovativne aktivnosti i na koji način.

2. POSTAVLJANJE TEORIJSKOG MODELA

Većina istraživanja koje se bave pitanjima inovativnosti u SME sektoru dolaze iz razvijenih zemalja [6]. U ovom radu mi ispitujemo koji faktori značajno utiču na inovativne napore u Srbiji, privredi u razvoju. Da bi ispitivali koji su to faktori, oslonili smo se na postojeća istraživanja.

Obzirom da je ova oblast vrlo interesantna, veliki broj radova je objavljen na ovu temu, ali se podaci odnose, uglavnom, na razvijene zemlje. Prema Keizeru et al. [6] faktori koji utiču na inovativnost mogu biti podeljeni na unutrašnje i spoljašnje. Unutrašnji se odnose na karakteristike i procedure same organizacije, a spoljašnji na šanse koje SME može da iskoristi u okruženju.

Kao spoljašnji faktori uključene su opštinske i državne subvencije i saradnja organizacije sa drugim organizacijama ili institucijama. Zatim dominantno tržište za organizaciju (lokalno, nacionalno ili međunarodno). Očigledno je da faktori u spoljašnjem okruženju, kao što su kontekst u kome organizacija posluje i državni sistem za podsticanje inovacija, utiču na inovativnost, ali ni unutrašnji faktori ne smeju biti ignorisani [7]. Ispitivane su dve vrste unutrašnjih faktora. Jedna koja se odnosi na karakteristike same organizacije (delatnost, starost, broj zaposlenih, broj visoko obrazovanih radnika i broj radnika zaposlenih u istraživačkom odeljenju), nije razmatrano vlasništvo nad svojinom, jer su sve organizacije obuhvaćene istraživanjem privatne. Druga grupa faktora odnosi se na implementaciju značajnih promena u marketing konceptu, upravljačkom konceptu, organizacionoj strukturi i estetskom izgledu.

Ranija istraživanja pokazuju razliku između uslužnih i proizvodnih organizacija, u odnosu na inovativne aktivnosti [8]. Proizvodne organizacije su više sklone tome da menjaju strategiju i strukturu kada uvide neke inovacije. Sa druge strane, uslužne organizacije su sklonije tome da svaku novinu u svom poslovanju pretvore u profit.

U istraživanju koje su sprovedli Warren i Susman [9] u 34 proizvodna preduzeća došlo se do rezultata da sledeći faktori utiču na uspeh inovativnih aktivnosti: fokus na jezgro kompetentnosti i tržište, održavanje bliskih kontakata sa potrošačima, postavljanje jasne strategije i uspostavljanje korporativne kulture otvorene za inovacije. Starost organizacije, industrijski sektor i veličina organizacije nisu imali nikakav uticaj na uspešnost inovativnih aktivnosti u SME.

Veliki broj istraživača ispitivao je i kako inovativnost varira u odnosu na veličinu organizacije. Prema Bertschek i Entorf [10], veza između inovativnosti i veličine organizacije nije linearna zato što su male i velike organizacije mnogo inovativnije u odnosu na srednje. Sa druge strane, male organizacije su tipično okarakterisane kao resursno ograničene, tako da one imaju manji inovativni potencijal [11].

Kao indikator inovativnih aktivnosti koristili smo podatak da li je organizacija u periodu od 5 godina (2009-2014) iznela neku inovaciju vezanu za proizvode ili procese. Svaka od

pet vrsta inovacija uključena je u istraživanje (inovacija proizvoda, inovacija procesa, modifikacija postojećih proizvoda, kopiranje konkurenata i potpuno nov proizvod). Da bi što bolje razumeli inovativne aktivnosti u SME, uzeli smo u obzir i prepreke koje utiču na inovativne aktivnosti (slika 1). Pretpostavka je da SME imaju veće probleme prilikom inoviranja za razliku od velikih firmi, zbog nedostatka adekvatnih resursa i ekspertize. Visoki troškovi inovativnih aktivnosti kao prepreka povezani su najverovatnije sa nedostatkom ličnih finansija ili nedostatkom pomoći sa strane. Takođe, nedostatak kvalifikovanog personala može dovesti do problema kod izvođenja inovativnih aktivnosti i uspeha samih inovacija. Nedostatak informacija vezanih za tehnologiju, tržište i navike potrošača mogu da povećaju neizvesnost vezano za inovativnost [12]. Prepreke su takođe klasifikovane kao spoljašnje i unutrašnje. Spoljašnje prepreke vezane su za ponudu, tražnju i finansije, a unutrašnje su vezane za resurse unutar firme, uključujući i ljudske resurse. Merili smo ove faktore pomoću dva indeksa koja su formirana na osnovu četiri izjave koje je trebalo oceniti od 1 do 3, gde 1 znači nikakvu značajnost na inovativne aktivnosti i 3 velika značajnost.



Slika 1. Teorijski model

3. PRIKUPLJANJE PODATAKA

Podaci korišćeni u ovom istraživanju prikupljeni su tokom 2014., na teritoriji jugoistočne Srbije. Organizacije su izabrane na osnovu delatnosti i broja radnika. Osim malih i srednjih preduzeća, u istraživanje su uključene i mikrofirme, ukupno 56 firmi. Procenat odgovora bio je 100%, iz razloga jer su autori lično vršili ispitivanja i na taj način smanjili bilo kakve nejasnoće koje su mogle da se jave, vezano za sadržaj upitnika.

U ovom istraživanju korišćen je upitnik razvijen od strane hrvatskih autora, Radaš i Božić [1]. Upitnik se sastoji iz dva dela, prvi deo pokušava da otkrije koji faktori utiču na inovativnost malih i srednjih preduzeća, a drugi deo ispituje koje su to najčešće barijere inovativnim aktivnostima. Prateći dato istraživanje, najpre je ispitana bivarijantna korelacija između faktora i zavisnih varijabli i na dalje analizu zadržani su samo oni faktori koji su statistički povezani za zavisnim varijablama. Ti preostali faktori su zatim korišćeni za formiranje pet novih modela. Kod analize prepreka korišćena je deskriptivna statistika.

4. REZULTATI

Ispitivanje korelacije između nezavisnih i zavisnih varijabli pokazalo je da sledeći faktori nisu statistički značajni: starost organizacije, broj zaposlenih u istraživačkom odeljenju, promena organizacione strukture, marketing koncepta, korporativne strategije i estetskog izgleda. Od spoljašnjih faktora ne postoji statistička značajnost kod opštinskih i državnih subvencija, kao i marketing orijentacije. Iako su ranija istraživanja [6], sprovedena u razvijenim zemljama, pokazala da postoji veza između državnih i opštinskih subvencija, u ovom radu se pokazalo da ne postoji veza između ove dve varijable i inovativnih aktivnosti. Kao objašnjenje može da posluži činjenica da sistem subvencija u Srbiji nije razvijen, kao i da većina ispitanih organizacija nije primila bilo kakvu pomoć koja bi pospešila inovativne aktivnosti.

Preostali unutrašnji i spoljašnji faktori su korišćeni u daljoj analizi. Korišćena je binarna regresija, jer kod ovakve vrste upitnika ona predstavlja najpogodnije rešenje. Rezultati regresije prikazani su u tabeli 1.

Tabela 1. Rezultati binarne regresije

Faktor	Inovacija proizvoda	Inovacija procesa	Modifikacija postojećih proizvoda	Potpuno nov proizvod
Delatnost organizacije	2.002*	-3.00*	-0.037	-1.451*
Broj zaposlenih	0.015*	0.005	0.007	-0.002
Broj visoko-obrazovanih ljudi u organizaciji	1.922	5.827	0.141	1.491
Implementacija nove, upravljačke strategije	-1.259*	1.521	0.894	-0.134
Saradnja sa drugim kompanijama	-0.192	-0.246	-0.452	1.465*
Saradnja sa fakultetima ili institutima	0.918*	-1.682	-2.061*	-0.938
Lokalno tržište	-2.719*	-0.664	0.161	1.518
Nacionalno tržište	-2.790	-2.507*	0.424	0.944
Međunarodno tržište	-1.857	-1.258	2.002	-1.455

Koeficijenti obeleženi sa * imaju statističku značajnost 0,1.

Rezultati su pokazali da delatnost organizacije ima pozitivan uticaj na inovaciju proizvoda, a negativan uticaj na inovaciju procesa i potpuno nov proizvod. Veličina preduzeća ima slab pozitivan uticaj na inovaciju proizvoda. Broj visoko obrazovanih radnika ne pokazuje značajan uticaj ni na jednu vrstu inovacija. Implementacija nove upravljačke strategije ima negativan uticaj na inovaciju proizvoda. Saradnja sa drugim organizacijama ima pozitivan uticaj na potpuno nov proizvod, dok saradnja sa fakultetima i institutima ima slab pozitivan uticaj na inovaciju proizvoda i negativan uticaj na modifikaciju postojećih proizvoda. Uticaj lokalnog tržišta na inovaciju proizvoda je negativan, a nacionalnog tržišta na inovaciju procesa takođe negativan. Ono što je interesantno u ovom istraživanju, a što su rezultati pokazali, to je da nijedan od ovih faktora nema značajan uticaj na vrstu inovacije kopiranje konkurenata. Samo dve firme su prijavile takvu vrstu inovacije u poslednjih 5 godina, iz tog razloga i rezultati nisu prikazani u tabeli.

5. DISKUSIJA REZULTATA

Sumirajući rezultate ovog istraživanja možemo reći da većina faktora koji su se pokazali kao značajni u razvijenim zemljama, pokazuju značajnost i u ovom slučaju, pre svega saradnja sa drugim kompanijama i institutima. Za razliku od razvijenih zemalja ne postoji veza između opštinskih i državnih subvencija, jer postoji činjenica da je neznatan broj kompanija primio bilo kakve subvencije. Nije pokazana veza između broj zaposlenih u istraživačkom odeljenju i inovacija, jer u malim, a posebno mikro firmama zbog malog broja zaposlenosti ne postoje uopšte odeljenja za istraživanje i razvoj, tako da su ljudi koji rade na inovacijama raspoređeni na različitim mestima.

Pokazalo se da tržište ima uticaj u inovativnim aktivnostima, ali negativan kod inovacije proizvoda i procesa., što pokazuje da firme kojima je dominantno lokalno ili nacionalno tržište nemaju potrebu da inoviraju. Verovatno bi otvaranje ka širem tržištu uključilo i potrebu za inoviranjem, zbog veće konkurencije.

Što se tiče prepreka koje koče inovativne aktivnosti, pokazalo se da kao najznačajnije vlasnici smatraju finansije, pre svega nedovoljnu pomoć države oko finansiranja, što se poklapa sa istraživanjem u Hrvatskoj [1]. Smatraju da su najmanje bitne kao prepreke navike potrošača i motivisanost zaposlenih.

Implikacije koje bi ovo istraživanje imalo na kreatoru ekonomske politike je da se povećaju i urede sistemi subvencija. Istraživanje je takođe pokazalo da različiti faktori utiču različito na inkrementalne i radikalne inovacije, tako da bi mogle da se formiraju različite šeme zavisno od toga koji tip inovacija žele da podstaknu.

REFERENCE

- [1] S. Radas, Lj. Bozic., *Technovation* 29 (2009).
- [2] C.J. Chen, Y.F.Huang, *Journal of Business Research* 63 (2010)4.
- [3] M. Subramaniam, M.A. Youndt, *Academy of Management Journal* 50(2005)2.
- [4] W. Fritz, *Journal of Marketing* 23 (1989) 10.
- [5] G.P. Sweeney. *New Entrepreneurship and Smaller Firm*, Campus, Frankfurt, New York, 1983.
- [6] J. Keizer, L. Dijkstra, J.I.M. Halman, *Technovation* 22 (2002).
- [7] M.S. Nagano, J. P. Stefanovitz, *Journal of Engineering and Technology Management* 33(2014).
- [8] J.E. Ettl, S.R. Rosenthal, *Journal of product innovation management* 28 (2011).
- [9] A. Warren, G. Susman, *Review of innovation practices in small manufacturing companies*. Tech.rep., National Institute of Standards and Technology, United States Department of Commerce.
- [10] I. Bertschek, H. Entorf, *Empirical Economics* 21 (1996) 3.
- [11] J.A. Wolff, T.L. Pett, *Journal of Small Business Management* 44 (2006) 2.
- [12] F. Galia, D. Legros, *Research Policy* 33 (2004).

ANALYSIS OF PROGRESS IN TRANSITION PROCESS AND ITS IMPACT ON ECONOMIC DEVELOPMENT AND EXPORT ACTIVITY OF TRANSITION COUNTRIES

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Abstract: The transition process in the former centrally planned economies began 25 years ago and still has not been completed in most of these economies. There is no universal formula that guarantees the efficient implementation of the necessary reforms that would be applicable in all transition economies, because a number of factors, such as initial conditions, external influences and political factors dictate the pace and sequence of reform. Due to this, the transition economies are at different distances from the ultimate goal - the establishment of a market system. Bearing in mind that the pursued economic system is based on the principles that are diametrically different from centrally planned system principles, the transformation of economic system involves implementation of numerous reforms, such as economic liberalization, macroeconomic stabilization and privatization, but also the reform of political system, because the politics was one of the main causes of the economic system crisis in the period of real socialism. The experience of transition economies in the past has shown that the performances of economies that have successfully carried out the necessary reform processes were more similar to those in developed market economies. In this context, the aim of this paper is to indicate the random of countries from Central and Eastern Europe, the Baltics and the Western Balkan according to success in implementation of the reform process by using multi-criteria analysis and, based on this, to examine the correlation between progress in the transition process and achieved level of GDP per capita and exports in observed countries during the period 2006-2012.

Keywords: reforms, transition countries, multi-criteria analysis, economic development, export.

ANALIZA NAPRETKA U PROCESU TRANZICIJE I NJEGOVOG UTICAJA NA PRIVREDNI RAZVOJ I IZVOZNU AKTIVNOST ZEMALJA U TRANZICIJI

Aleksandra Fedajev, Radmilo Nikolić

Abstrakt: Proces tranzicije u bivšim centralno-planskim privredama započeo je pre 25 godina i još uvek nije okončan u većini ovih privreda. Ne postoji univerzalni obrazac koji garantuje efikasno sprovođenje neophodnih reformskih procesa koji bi bio primenljiv u svim tranzicionim privredama, jer brojni faktori, kao što su početni uslovi, spoljni uticaji i politički faktori, diktiraju tempo i redosled odvijanja reformi. S obzirom na to, tranzicione

privrede se nalaze na različitoj udaljenosti od konačnog cilja - uspostavljanje tržišnog sistema. Imajući u vidu da se privredni sistem kome se teži zasniva na postulatima koji su dijametralno različiti od onih na kojima se zasniva centralno-planski sistem, transformacija privrednog sistema podrazumeva sprovođenje niza reformskih procesa, kao što su ekonomska liberalizacija, makroekonomska stabilizacija, privatizacija, ali i reforma političkog sistema, jer je u politika periodu realsocijalizma bila jedan od glavnih uzroka krize privrednog sistema. Iskustvo tranzicionih privreda u proteklom periodu pokazalo je da su performanse privreda koje su uspešno sprovele neophodne reformske procese sve sličnije onima u razvijenim tržišnim privredama. U tom smislu, cilj ovog rada je da primenom multikriterijumske analize ukaže na redosled zemalja iz regiona Centralne i Istočne Evrope, Baltika i Zapadnog Balkana prema uspešnosti u sprovođenju reformskih procesa i, na bazi toga, ispitivanje korelacije između napredka u procesu tranzicije i ostvarenog BDP per capita i izvoza u posmatranim zemljama u periodu 2006-2012. godine.

Ključne reči: reforme, zemlje u tranziciji, multikriterijumska analiza, privredni razvoj, izvoz.

1. UVOD

Jedno od značajnih pitanja savremene ekonomske teorije i prakse je pitanje tranzicije odnosno prelaska nekadašnjih planskih, ekonomski neracionalnih i totalitarnih društava u tržišno, ekonomski racionalno i demokratsko društvo. Bivše realsocijalističke privrede su nakon duboke ekonomske i društvene krize 80-ih godina prošlog veka, bile prinuđene da promene privredni i politički sistem, kako bi uklonile nagomilane privredne neravnoteže i političke probleme. Izlaz iz novonastale situacije ove privrede su našle u prelasku na tržišni sistem, koji u svom izvornom obliku podrazumeva sledeće principe privređivanja[1]:

1. privreda funkcioniše po sistemu međusobnih tržišnih veza;
2. privatna svojina i lični interes igraju ključnu ulogu u poslovanju i donošenju odluka;
3. svaki privredni subjekat obezbeđuje reprodukciju angažovanih sredstava i pojavljuje se na tržištu na osnovu sopstvenih odluka;
4. svi trgovci i sve tržišne kategorije su u konkurentnom odnosu, koji predstavlja glavni faktor razvoja, saradnje i selekcije proizvođača;
5. cene se slobodno formiraju, kao rezultat odnosa ponude i tražnje, dok sa druge strane njihov nivo utiče na ponudu i tražnju;
6. isključena je mogućnost administrativne intervencije države i drugih uticajnih tela (kao što su monopoli, sindikati i sl.) na privredne tokove u zemlji.

Ipak, ovo je samo odgovarajući teorijski model, koji je nemoguće u potpunosti uspostaviti u praksi, već se njegove karakteristike razlikuju od zemlje do zemlje, gravitirajući oko tog idealnog stanja. Krećući se ka spostavljanju tržišnog sistema, bivše komandne privrede moraju, pored ekonomskih reformi (privatizacije i restrukturiranja, reformi tržišta dobara i finansijskog tržišta i makroekonomske stabilizacije), sprovesti i reformu političkog i zakonodavnog sistema, čime bi se povećao kvalitet javne vlasti i institucionalni kapaciteti, koji treba da podrže transformaciju privrednog sistema.

Kako bi obezbedile brz i efikasan prelaz na novi način privređivanja, vlade tranzicionih privreda treba da sprovedu sveobuhvatan set reformskih mera, koji su međusobno povezani i uslovljeni. U tom smislu, Havrylyshyn i Wolf [2] ističu da postoji jasna razlika između „začaranog i zatvorenog kruga reformi“, a odlučujući faktor koji utiče na to da li će se određena tranziciona privreda naći u jednom ili drugom krugu je politička volja da se uspostavi vladavina prava i zaštita prava svojine. Prema njihovom mišljenju, zemlja se vrlo lako može naći u začaranom krugu reformi u kome početni koraci ka uspostavljanju tržišnog načina privređivanja stvaraju uslove za tzv. rent-seeking i korupciju. Naime, pojavljuju se određene interesne grupe koje žele da izvuku određene koristi iz novonastale situacije i koje pružaju otpor daljim reformama, kao što su podsticanje slobodnog ulaska na tržište, jačanje konkurencije, sveobuhvatna liberalizacija i upostavljanje odgovarajuće vladavine prava. Izostanak ili nedosledno sprovođenje ovih reformi usled pritisaka pojedinih interesnih grupa stvara veliki broj ograničenja za osnivanje i razvoj novih preduzeća, pa preduzetnici neće biti zainteresovani za pokretanje poslovanja ili će posloovati u zoni „sive ekonomije“, a kao rezultat svega toga dolazi do usporavanja privrednog rasta. Nasuprot tome, zemlje koje kreiraju zatvoreni krug reformi ostvaruju stabilan napredak ka liberalizovanom tržištu. Iako su početni koraci „bolni“, što stvara veliki pritisak političke opozicije u zemlji, ove zemlje obezbeđuju brži privredni oporavak, putem kreiranja povoljnog poslovnog ambijenta zasnovanog na tržišnim principima, koji obezbeđuje pojavu novih preduzeća, novih radnih mesta, porast stope štednje, nove investicije i privredni rast, čime se formira pun krug reformi. Iz toga proizilazi, da samo doslednim i efikasnim sprovođenjem neophodnih reformskih procesa privreda može ostvariti prelaz na novi sistem privređivanja bez značajnih posledica po rast i zaposlenost.

U tom smislu, u ovom radu je analiziran napredak odabranih zemalja u kreiranju tog „punog kruga“ reformi, koji podrazumeva sprovođenje privatizacije i restrukturiranja preduzeća, reforme tržišta dobara, reforme finansijskog tržišta, makroekonomske stabilizacije i unapređenja kvaliteta javne vlasti.

2. METODOLOGIJA

Imajući u vidu navedene grupe reformskih procesa, može se zaključiti da komparativna analiza napretka u procesu tranzicije u velikom broju zemalja spada u domen multikriterijumske analize. Multikriterijumska analiza kao podrška odlučivanju (Multi-Criteria Decision Aid - MCDA) je jedna od najbrže rastućih oblasti operacionih istraživanja poslednjih dvadeset godina i nalazi primenu u gotovo svim oblastima ljudskog društva. [3] Jedna od najčešće primenjivanih metoda multikriterijumske analize je PROMETHEE GAIA metod, koji su razvili Brans, Marshal i Vincke tokom zadnje dve decenije XX veka. [4][5][6]

Ovaj metod se koristi rešavanje problema koji zahtevaju rangiranje konačnog seta mogućih alternativa na osnovu određenog broja kriterijuma, koji trebaju biti maksimizirani ili minimizirani, putem izračunavanja vrednosti neto toka preferencija koji sintetizuje vrednosti svih kriterijuma. Kako bi to bilo moguće, PROMETHEE metod zahteva definisanje sledećih parametara: [5][7][8][9]

1. smeru preferencije, odnosno da li kriterijum treba minimizirati ili maksimizirati;
2. težinskih koeficijenata, koji ukazuju na značaj određenog kriterijuma u izračunavanju neto toka preferencije;

3. prag preferencije (p) koji predstavlja najmanju razliku između dve posmatrane alternative po posmatranom kriterijumu, koju donosilac odluke smatra značajnom za donošenje odluke;
4. prag indiferencije (q), koji predstavlja najveću razliku između dve posmatrane alternative po posmatranom kriterijumu, koju donosilac odluke smatra nevažnom za donošenje odluke.
5. funkcije preferencije, koja prevodi razliku između dve alternative (npr. a i b) u nivo preferencije koji se kreće od 0 do 1, za svaki posmatrani kriterijum ponaosob. Što je nivo preferencije alternative a u odnosu na alternativu b bliži 0, to je alternativa b bolja u odnosu na alternativu a po datom kriterijumu, a što je bliži 1 to je alternativa a bolja od alternative b po posmatranom kriterijumu. Funkcije preferencije koje se primenjuju u okviru PROMETHEE metode su Linear, U-shape, V-shape, Gaussian, Level i Usual, u zavisnosti od karakteristika kriterijuma koji se razmatraju.

Na osnovu definisanih parametara sprovodi se PROMETHEE metodologija, koja se sastoji iz sledećih koraka: [5][6][7]

1. Najpre se računaju odstupanja na osnovu poređenja parova alternativa

$$d_j(a, b) = g_j(b) - g_j(a) \quad (1)$$

pri čemu $d_j(a, b)$ predstavlja razliku vrednosti alternativa a i b prema svakom od kriterijuma.

2. Zatim se primenjuje izabrana funkcija preferencije

$$P_j(a, b) = F_j[d_j(a, b)] \quad j=1, \dots, k \quad (2)$$

gde $P_j(a, b)$ predstavlja preferenciju alternative a u odnosu na alternativu b prema svakom od kriterijuma, kao funkciju od $d_j(a, b)$. Pri tom, važe sledeća ograničenja:

$$0 < P_j(a, b) < 1 \text{ i } P_j(a, b) \neq P_j(b, a).$$

3. Na osnovu toga se izračunava opšti indeks preferencija

$$\forall a, b \in A \quad \pi(a, b) = \sum_{j=1}^k P_j(a, b)w_j \quad (3)$$

pri čemu se funkcija $\pi(a, b)$ kreće od 0 do 1 i definiše kao ponderisana suma $P_j(a, b)$ za svaki kriterijum imajući u vidu da w_j predstavlja težinski koeficijent j -tog kriterijuma. Funkcija $\pi(a, b)$ izražava nivo preferencije alternative a u odnosu na alternativu b uzimajući u obzir sve kriterijume. Što je njena vrednost bliža nuli, to je alternativa b bolja u odnosu na a , a što je bliža 1 to je alternativa a bolja u odnosu na alternativu b .

4. Zatim se izračunavaju pozitivni i negativni tokovi preferencija

$$\varphi^+(a) = \frac{1}{n-1} \sum_{x \in A} \pi(a, x) \quad (4)$$

$$\varphi^-(a) = \frac{1}{n-1} \sum_{x \in A} \pi(x, a) \quad (5)$$

gde je φ^+ pozitivan tok preferencija i pokazuje koliko je alternativa a bolja u odnosu na sve ostale alternative, a φ^- negativni tok preferencija, koji ukazuje na to koliko je alternativa a lošija u odnosu na sve ostale alternative. Ovi tokovi se izračunavaju za svaku posmatranu alternativu.

5. Na osnovu izračunatih pozitivnih i negativnih tokova preferencija izračunava se neto tok preferencija na osnovu koga se vrši PROMETHEE konačno rangiranje alternativa

$$\varphi(a) = \varphi^+(a) - \varphi^-(a) \quad (6)$$

pri čemu je $\varphi(a)$ neto tok preferencija za svaku alternativu.

Na osnovu dobijene vrednost neto toka preferencije za svaku alternativu vrši se njihovo rangiranje od najbolje ka najlošijoj. Vrednost neto toka preferencije se kreće u rasponu od -1 do 1, pri čemu će najbolje rangirana alternativa imati najveći pozitivan neto tok preferencija, a najgore rangirana alternativa imati najveći negativan neto tok preferencija.

3. POSTAVKA MODELA MULTIKRITERIJSKE ANALIZE

U ovom radu alternative predstavljaju 15 tranzicionih privreda grupisanih u tri regiona - Zapadni balkan (Albanija, Bosna i Hercegovina, Hrvatska, Makedonija, Crna Gora i Srbija), Centralna i Istočna Evropa (Rumunija, Bugarska, Mađarska, Slovačka, Slovenija i Poljska) i Baltičke zemlje (Estonija, Letonija, Litvanija). Ove zemlje se rangiraju za svaku godinu ponaosob u periodu 2006-2012. godine (svaka godina predstavlja poseban scenario), na osnovu posmatranih 5 klastera reformskih procesa. Svakom od klastera determinanti je dodeljen isti težinski koeficijent ($100\%:5=20\%$) kako bi se izbeglo subjektivno određivanje težinskih koeficijenata i kako bi se ocenila sposobnost vlada tranzicionih privreda da sprovedu sveobuhvatan set reformskih mera. U zavisnosti od broja pokazatelja u okviru konkretne oblasti, svakom od njih je dodeljena je odgovarajuća težina (Tabela 1).

Tabela 1. Raspored težina klastera reformskih procesa i pokazatelja u okviru njih

Klasteri reformskih procesa	Težinski koefic. klastera	Težinski koefic. pokazatelja	Pokazatelji u okviru klastera	Smer preferencije
Privatizacija i restrukturir. preduzeća [9]	20%	6,6667%	Velika privatizacija	Max.
		6,6667%	Mala privatizacija	Max.
		6,6667%	Upravljanje i restrukturiranje preduzeća	Max.
Efikasnost tržišta dobara [9]	20%	6,6667%	Liberalizac. cena	Max.
		6,6667%	Trgovinski i devizni režim	Max.
		6,6667%	Politika konkurencije	Max.
Reforma finansijskog sektora [9]	20%	10%	Reforma bankarstva i liberalizacija kamatnih stopa	Max.
		10%	Tržište HoV i nebankarske finansijske institucije	Max.
Makroekonomska stabilnost [10]	20%	6,6667%	Inflacija	Min.
		6,6667%	Javni dug	Min.
		6,6667%	Saldo tekućeg bilansa	Max.
Kvalitet javne vlasti [11]	20%	4%	Vladavina prava	Max.
		4%	Politička stabilnost i suzbijanje nasilja/terorizma	Max.
		4%	Kvalitet regulative	Max.
		4%	Efikasnost vlade	Max.
		4%	Kontrola korupcije	Max.

Raspored težinskih koeficijenata za 2011. i 2012. godinu je nešto drugačiji od onih za period 2006-2010. godine, iz razloga što je Evropska banka za obnovu i razvoj promenila metodologiju u oblasti reforme finansijskog tržišta uvodeći nove pokazatelje. Umesto dotadašnjeg „tržište hartija od vrednosti i nebankarske finansijske institucije“, uvedeni su novi pokazatelji - „tržište kapitala“, „privatni fondovi“ i „osiguranje i ostale finansijske usluge“. Kako bi pomenuti klaster rezadržao isto učešće u izračunavanju neto toka preferencije i kako bi obuhvatio iste elemente kao u prethodnim posmatranim godinama, težina pokazatelja koji je ukazivao na razvoj tržišta hartija od vrednosti i nebankarskih finansijskih institucija za 2011. i 2012. godinu je podeljena na tri jedaka dela i svakom od pokazatelja dodeljena je ista težina ($10\% : 3 = 3,3333\%$). Na taj način se remeti uporedivost dobijenih rezultata za zadnje dve godine sa onima koji su dobijeni prema staroj metodologiji, jer dati klaster i dalje učestvuje sa 10% u obračunu neto toka preferencije. S obzirom da se radi o kvantitativnim podacima sa širokim rasponima vrednosti (zbog značajnih razlika među posmatranim zemljama), za sve pokazatelje izabrana je V-shape funkcija preferencije, a kao vrednost praga preferencije - p uzeta je vrednost standardne devijacije. To praktično znači da što je razlika u određenom pokazatelju između dve zemlje veća, veća je i funkcija preferencije bolje alternative, a ukoliko je ta razlika veća od prosečnog odstupanja, funkcija preferencije bolje alternative automatski dobija vrednost 1. Za rešavanje i analizu posmatranog problema primenjen je softverski paket Decision Lab, razvijen od strane Kanadske kompanije Visual Decision. Primenom ove metode multikriterijumske analize, uz pomoć softverskog paketa Decision Lab, stećiće se uvid u redosled posmatranih zemalja u zavisnosti od napredka u sprovođenju reformskih procesa, a dobijeni neto tok preferencija kao jedinstveni pokazatelj napretka u procesu tranzicije poslužiće kao osnova za korelacionu analizu.

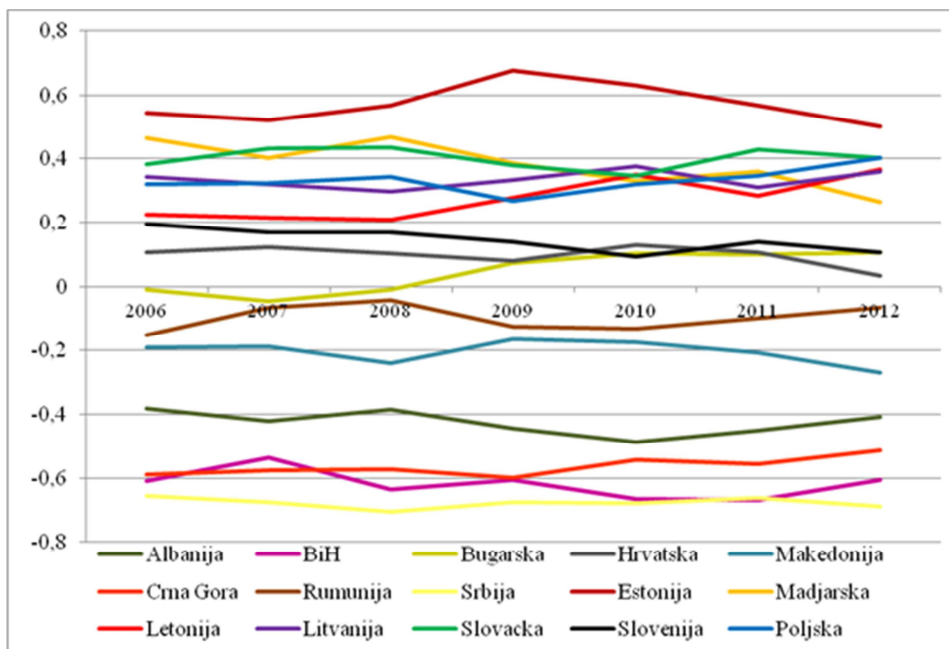
4. REZULTATI MULTIKRITERIJUMSKE ANALIZE

Primenom pomenute metodologije dobijene su sledeće vrednosti neto tokova preferencije (Tabela 2) kao sintetičkog pokazatelja napredka u procesu tranzicije, na osnovu koga je izvršeno rangiranje posmatranih zemalja.

Tabela 2. Neto tok preferencija i rang zemalja u tranziciji u periodu 2006-2012. godine

Zemlja	Godine													
	2006	R	2007	R	2008	R	2009	R	2010	R	2011	R	2012	R
ALB	-0.3817	12	-0.4203	12	-0.3852	12	-0.4437	12	-0.4879	12	-0.4523	12	-0.4082	12
BIH	-0.6076	14	-0.538	13	-0.6368	14	-0.6057	14	-0.6643	14	-0.6668	15	-0.6042	14
BGR	-0.0083	9	-0.0456	9	-0.0098	9	0.0748	9	0.1041	8	0.1001	9	0.1066	8
HRV	0.1048	8	0.1223	8	0.1034	8	0.0784	8	0.1304	7	0.1048	8	0.0344	9
MKD	-0.1898	11	-0.1876	11	-0.2407	11	-0.1631	11	-0.1754	11	-0.2063	11	-0.2681	11
MNE	-0.5904	13	-0.5756	14	-0.5729	13	-0.5989	13	-0.544	13	-0.5579	13	-0.5129	13
ROU	-0.1503	10	-0.0652	10	-0.0431	10	-0.1251	10	-0.1315	10	-0.0976	10	-0.0662	10
SRB	-0.655	15	-0.6758	15	-0.7061	15	-0.6752	15	-0.6777	15	-0.6628	14	-0.6898	15
EST	0.5459	1	0.5212	1	0.5678	1	0.676	1	0.6304	1	0.5671	1	0.5033	1
HUN	0.4653	2	0.4042	3	0.4679	2	0.3857	2	0.3295	5	0.3596	3	0.2649	6
LVA	0.226	6	0.2151	6	0.207	6	0.2768	5	0.3502	3	0.2848	6	0.3668	4
LTU	0.3441	4	0.3198	5	0.298	5	0.3325	4	0.3773	2	0.3109	5	0.3598	5
SVK	0.3832	3	0.4328	2	0.4368	3	0.3788	3	0.3459	4	0.4287	2	0.4033	3
SVN	0.1942	7	0.1689	7	0.1685	7	0.1403	7	0.0938	9	0.1406	7	0.1069	7
POL	0.3194	5	0.3239	4	0.3451	4	0.2684	6	0.3191	6	0.3471	4	0.4034	2

Kako bi se stekao bolji uvid u napredak u procesu na tranzicije u periodu 2006-2012. godine dobijeni neto tokovi preferencija grafički su prikazani na Slici 1. Sa ove slike može se uočiti da se među posmatranim zemljama izdvajaju tri grupe zemalja u zavisnosti od njihovog progressa u procesu tranzicije.



Slika 1. Napredak u procesu tranzicije u periodu 2006-2012. godine prikazan putem neto tokova preferencija

U prvoj grupi nalaze se Baltičke zemlje i Mađarska, Slovačka i Poljska koje su i prve otpočele sa procesom tranzicije i uz pomoć EU vrlo brzo napredovale ka uspostavljanju tržišne ekonomije. Svakako najuspešnija je Estonija koja je u toku čitavog posmatranog perioda zauzimala prvo mesto (Tabela 2), a i na Slici 1 se može uočiti da je daleko iznad svih ostalih zemalja. Što se tiče ostalih zemalja iz ove grupe, uočljivo je znatno smanjenje razlika među ovim zemljama tokom vremena. Treba primetiti da je Poljska ostvarila značajan napredak u posmatranom periodu (sa 5. na 2. mesto), dok je Mađarska pogoršala položaj (sa 2. na 6. mesto). U drugoj grupi nalaze se Slovenija, Hrvatska, Makedonija, Bugarska i Rumunija. Makedonija i Hrvatska su se izdvojile od ostalih zemalja Zapadnog Balkana, naročito Hrvatska koja se približila Sloveniji i Bugarskoj. I između ove tri grupe zemalja primetno je značajno smanjenje razlika tokom vremena, dok Rumunija, iako članica EU, znatno zaostaje za njima. Makedonija se polako približava zemlja članicama EU, iako se krajem perioda primećuje izvesno udaljavanje od tržišnog načina privređivanja.

U trećoj grupi nalaze se zemlje četiri zemlje Zapadnog Balkana Albanija, Crna gora, Bosna i Hercegovina i Srbija. Ove zemlje su daleko ispod ostalih posmatranih zemalja, što ukazuje na znatno zaostajanje ovih privreda u sprovođenju procesa tranzicije. U okviru ove grupe se primećuje suprotna tendencija nego u ostalim zemljama, dolazi do izvesnog razdvajanja između Crne Gore, Bosne i Hercegovine i Srbije između kojih razlike na početku perioda nisu bile značajne. Srbija je tokom čitavog perioda, sa izuzetkom 2011. godine, bila na poslednjem, 15. mestu u sprovođenju tržišno-orijentisanih mera.

5. ISPITIVANJE KORELACIJE IZMEĐU NAPREDKA U PROCESU TRANZICIJE I OSTVARENOG BDP PER CAPITA I IZVOZA

Kako bi se sagledao doprinos sprovedenih reformskih procesa za privredni razvoj zemalja u tranziciji analiziran je stepen korelacije između dobijenih neto tokova, kao sintetičkog pokazatelja napredka u procesu tranzicije i ostvarenog izvoza. U Tabeli 3 prikazani su podaci o kretanju BDP per capita po paritetu kupovne moći za posmatrane zemlje u toku posmatranog perioda.

Tabela 3. Kretanje BDP per capita po paritetu kupovne moći u posmatranim tranzicionim privredama u periodu 2006-2012. godine [10]

Zemlje	Godine						
	2006.	2007.	2008.	2009.	2010.	2011.	2012.
ALB	2.860,5	3.384,1	4.086,6	3.799,5	3.660,5	3.964,7	3.870,3
BIH	3.190,9	3.927,6	4.768,0	4.403,0	4.304,7	4.689,5	4.461,2
BGR	4.329,2	5.520,4	6.855,0	6.432,5	6.374,1	7.311,8	7.006,2
HRV	11.231,3	13.385,8	15.694,1	14.055,6	13.321,9	14.021,4	12.829,5
MKD	3.127,2	3.997,9	4.827,8	4.548,1	4.551,7	5.122,0	4.660,1
MNE	4.382,7	5.965,4	7.360,4	6.715,1	6.648,9	7.251,4	6.777,6
ROU	5.686,9	7.916,7	9.496,9	7.649,5	7.683,8	8.539,6	7.939,3
SRB	3.957,2	5.304,4	6.485,4	5.497,2	5.030,1	6.030,4	5.309,4
EST	12.510,6	16.404,5	17.801,0	14.522,9	14.237,8	16.836,1	16.720,2
HUN	11.166,9	13.519,9	15.352,9	12.625,8	12.777,7	13.916,3	12.652,0
LVA	8.911,8	12.971,1	15.262,7	11.953,7	11.364,9	13.728,0	13.899,9
LTU	8.909,6	11.647,9	14.139,7	11.094,7	11.127,4	14.148,4	14.009,0
SVK	10.375,4	13.937,6	17.552,8	16.168,0	16.120,6	17.831,9	17.007,8
SVN	19.458,9	23.585,2	27.266,6	24.273,8	23.001,9	24.534,0	22.100,1
POL	8.954,3	11.155,8	13.890,2	11.313,7	12.308,9	13.383,6	12.709,3

Nakon ispitivanja povezanosti između dobijenih neto tokova preferencija i podataka o BDP per capita po paritetu kupovne moći dobijen je sledeći koeficijent korelacije:

Tabela 4. Koeficijent korelacije između napredka u procesu tranzicije i BDP per capita po paritetu kupovne moći

Correlations			
		Tranzicija	BDP
Tranzicija	Pearson Correlation	1	,709**
	Sig. (2-tailed)		,000
	N	105	105
BDP	Pearson Correlation	,709**	1
	Sig. (2-tailed)	,000	
	N	105	105

** . Correlation is significant at the 0.01 level (2-tailed).

Kao što se može videti iz Tabele 4 postoji visok stepen linearne korelacije (0,709) između posmatranih varijabli, što potvrđuje stav većine autora u ovoj oblasti da postoji visok stepen pozitivne korelacije između napredka u sprovođenju reformskih procesa i privrednog razvoja zemalja u tranziciji.

Osim BDP per capita, jedan od značajnih aspekata svih privreda, pa tako i privreda u tranziciji, je njihova izvozna aktivnost. Kako bi posmatrani podaci po zemljama bili međusobno uporedivi podaci o izvozu dati su kao procenat BDP po paritetu kupovne moći i prikazani su u Tabeli 5.

Tabela 5. Kretanje izvoza datog u vidu procenta BDP po paritetu kupovne moći u posmatranim tranzicionim privredama u periodu 2006-2012. godine [10]

Zemlje	Godine						
	2006.	2007.	2008.	2009.	2010.	2011.	2012.
ALB	25,09	28,78	29,51	28,41	32,43	33,80	31,30
BIH	36,66	43,33	41,06	31,67	35,50	31,31	31,17
BGR	61,21	59,47	58,22	47,51	57,41	66,48	66,63
HRV	42,84	42,28	42,06	36,60	39,74	42,26	43,38
MKD	46,62	52,36	50,90	39,18	46,57	54,55	53,17
MNE	48,45	43,71	38,83	32,08	34,71	40,18	42,41
ROU	29,55	30,72	30,43	30,60	35,50	38,34	34,16
SRB	29,87	30,51	31,08	29,32	36,16	38,18	39,82
EST	72,70	67,07	71,05	63,86	79,24	90,51	90,56
HUN	77,74	81,30	81,66	77,59	87,31	94,00	94,82
LVA	44,88	42,35	42,82	43,89	53,81	58,84	61,17
LTU	59,08	54,09	59,88	54,63	68,58	77,51	83,81
SVK	84,49	86,86	83,47	70,88	81,25	89,16	95,65
SVN	66,54	69,56	67,14	58,39	65,42	71,27	76,08
POL	40,36	40,76	39,90	39,44	42,24	45,07	46,16

Na osnovu dobijenih neto tokova preferencija, kao sintetičkog pokazatelja napredka u procesu tranzicije, i podataka o izvozu dobijen je sledeći koeficijent korelacije:

Tabela 6. Koeficijent korelacije između napredka u procesu tranzicije i izvoza

Correlations		
	Tranzicija	Izvoz
Tranzicija	Pearson Correlation	1
	Sig. (2-tailed)	,718**
	N	105
Izvoz	Pearson Correlation	,718**
	Sig. (2-tailed)	,000
	N	105

** . Correlation is significant at the 0.01 level (2-tailed).

Podaci u Tabeli 6 ukazuju na postojanje visoke pozitivne linearne korelacije između posmatranih varijabli (0,718). Treba istaći da bi koeficijent korelacije bio još veći da u posmatranom periodu nije došlo do izbijanja svetske ekonomske krize, koja je naročito pogodila zemlje u tranziciji.

7. ZAKLJUČAK

Bivše socijalističke zemlje već više od dve decenije zaokupljene su brojnim tranzicionim procesima. Radi se o reformskim promenama kojima se bitno menja dotadašnji ekonomski i politički sistem. Dirigovani politički sistem i komandna ekonomija ustupaju mesto tržištu i tržišnom načinu privređivanja. Prelaz na novi system podrazumevao je promene svojinskih odnosa, tržište dobara i usluga, finansijskog sektora, makroekonomskog okruženja, kvaliteta javne vlasti itd.

U radu je primenom multikriterijumske analize izvršeno rangiranje zemalja Centralne i Istočne Evrope, Baltika i Zapadnog Balkana prema uspešnosti sprovedenih tranzicionih procesa. Na osnovu dobijenih vrednosti neto tokova preferencije, kao sintetičkog pokazatelja, proizilazi da su najbolje rangirane baltičke zemlje, zatim, slede zemlje Centralne i Istočne Evrope, pre svega, Poljska, Slovačka i Mađarska, a balkanske zemlje su najmanje uradile na polju tranzicije, pogotovu Srbija, Bosna i Hercegovina i Crna Gora.

Takođe, u radu je potvrđena hipoteza o visokom stepenu korelacionih odnosa između napredka u procesu tranzicije i privrednog razvoja izraženog preko BDP per capita izraženog po paritetu kupovne moći. Ovom prilikom koeficijent iznosi 0,709. Zemlje koje zaostaju u tranzicionim procesima imaju usporen privredni razvoj, nepovoljno stanje u ekonomiji, sa izraženim neravnotežama i malo SDI. Pri tome, teba imati u vidu da se privredni razvoj analiziranih zemalja u posmatranom periodu odvijao pod velikim uticajem svetske ekonomske krize. Isti je slučaj sa ostvarenim izvozom, gde koeficijent korelacije iznosi 0,718. Zemlje koje su se ranije transformisale, imaju izvozno-orijentisanu privredu i veliki deo BDP-a ostvaruju putem spoljno-trgovinske razmene.

Zahvalnost

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REFERENCE:

1. I. Popescu, D. L. Popescu, Annals of „Dimitrie Cantemir” Christian University – Economy, Commerce and Tourism Series, 2 (2010).
2. O.Havrylyshyn, T. Wolf, Finance & Development, 36 (1999) 2.
3. M. Behzadian, R. B. Kazemzadeh, A. Albadvi, M. Aghadasi, European Journal of Operational Research, 200 (2010) 1.
4. <http://homepages.ulb.ac.be/~bmaresc/PromWeb.htm>.
5. J. P. Brans, B. Mareschal, Ph. Vincke, PROMETHEE: A new family of outranking methods in multi-criteria analysis, in Brans, J.P. (Ed.), Operational Research '84, North-Holland, Amsterdam, (1984) pp. 447–490.
6. J. P., Brans, Ph.. Vincke, Management Science, 3 (1985) 6.
7. Brans, J.P. Mareschal, B., 2005. Promethee methods. Chapter 5 in: Multiple Criteria Decision Analysis: State of the Art Surveys, Springer Science and Business Media, Boston, p. 170.
8. <http://www.promethee-gaia.net/files/VPManual.pdf>
9. <http://www.ebrd.com/pages/research/publications/flagships/transition/archive.shtml>
10. <http://www.imf.org/external/pubs/ft/weo/2013/02/weodata/weose1gr.aspx>
11. <http://info.worldbank.org/governance/wgi/index.aspx#reports>

BENCHMARKING ANALYSIS IN FUNCTION TO IMPROVE HIGHER EDUCATION IN MONTENEGRO

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Abstract: Major changes are taking place in European higher education. Competition has risen significantly, urging higher education institutions to increase their attractiveness on the market and to profile themselves much more distinctively. Their Curricula need to be reformed in line with the Bologna Process and research need to become much more strategically oriented. Montenegrin higher education institutions are encouraged to become strong players in the European economy and the global knowledge society.

Quality is key to support these developments and in this context, enhancing university performance and modernizing university management must be on the agenda of all university leaders and decision-makers in Montenegro. A clear understanding and transparency of modes of operations and processes with a view to continuously improve upon them is needed. Higher education institutions are developing strategies to achieve these goals. Benchmarking can be a valuable method to improve collaborative relationships, obtain information on best practices and increase levels of performance.

To enhance public accountability and ensure that policy makers will ground their judgements on reliable information, performance indicators and benchmarks are indispensable. However, the distinction should be made that benchmarks are purely measurements used for comparison and that benchmarking is the process of finding best practices and of learning from others.

Benchmarking in higher education is still “a very young child” with little experience and with even less publicity. But with the increasing role of accountability and process enhancement in higher education institutions in Montenegro, it is likely that benchmarking will gain importance and become a commonly known and frequently used tool in higher education management.

Keywords: benchmarking, higher education, Montenegro...

BENČMARKING ANALIZA U FUNKCIJI UNAPREĐENJA VISOKOG OBRAZOVANJA U CRNOJ GORI

Boban Melović¹, Marija Cimbaljević²

Apstrakt: Velike promjene se dešavaju u oblasti visokog obrazovanja u Evropi. Kompetitivnost se značajno uvećava, što stvara okolnosti u kojima ustanove visokog obrazovanja moraju ubrzano da rade na privlačnosti tržištu rada i da se profilišu različito u

odnosu na druge ustanove visokog obrazovanja. Njihovi kurikulumi moraju biti reformisani u skladu sa Bolonjskim procesom i njihova istraživanja moraju postati strateški orijentisana. Institucije visokog obrazovanja u Crnoj Gori se moraju ohrabriti da postanu „jaki igrači” u evropskoj ekonomiji i globalnom društvu znanja.

Kvalitet je ključ podrške ovim promjenama i u ovom kontekstu uspješnost univerziteta i modernizovanje njegovog menadžmenta se mora naći na agendi svih donosilaca odluka u Crnoj Gori. Potrebna je jasna razumljivost i transparentnost načina u operacijama i procesima, kako bi se unaprijedilo poslovanje univerziteta. Ustanove visokog obrazovanja razvijaju strategije koje će dostići ove ciljeve. Benčmarking može biti vrijedan metod za unapređivanje saradnje između univerziteta, prikupljanje informacija o najboljim praksama i podizanje nivoa uspješnosti samih univerziteta [6].

Da bi se povećala javna odgovornost, neophodno je da donosioci odluka iste donose na osnovu provjerenih informacija, indikatora uspješnosti i benčmarking indikatora. Međutim, razlika mora biti napravljena, jer benčmarking predstavlja mjere koje se koriste za poređenje i proces pronalaska „najboljih praksi” i „učenja od drugih”.

Tehnika benčmarkinga u visokom obrazovanju je „dijete” sa malo iskustva i jako malo publiciteta. Međutim, sa sve većom ulogom odgovornosti i procesa unapređenje institucija visokog obrazovanja u Crnoj Gori, vjerovatnije je da će tehnika benčmarkinga postati važno i često upotrebljavano oruđe u upravljanju visokim obrazovanjem.

Ključne riječi: benčmarking, visoko obrazovanje, Crna Gora...

1. UVODNE POSTAVKE – GLAVNE KARAKTERISTIKE VISOKOG OBRAZOVANJA U CRNOJ GORI

Reformu visokog obrazovanja u Crnoj Gori karakteriše nekoliko bitnih momenata, koji su se desili u toku poslednjih desetak godina. *Prvo*, ova reforma je, za razliku od ostalih nivoa obrazovanja, realizovana bez prethodne strategije, akcionog plana ili drugog planskog dokumenata, a Crna Gora ova dokumenta nema ni danas. Inicijative za reformu uslijedile su od strane Univerziteta Crne Gore (tada jedinog univerziteta u Crnoj Gori), koje u svojim prvim koracima (2001, 2002) nijesu bile na nivou savremenih trendova, i kao takve, pretrpjele su kritiku stranih eksperata. *Drugo*, za ovu reformu nijesu izdvojena posebna budžetska sredstva, već je u najvećoj mjeri finansirana sredstvima Univerziteta Crne Gore i posredstvom stranih donacija kroz odgovarajuće projekte. *Treće*, kao najbitnije, s obzirom na prethodne okolnosti, promjene koje su se desile u ovom segmentu obrazovanja (stvaranje integrisanog univerziteta, usvajanje trostepene strukture visokog obrazovanja, evropskog sistema prenosa kredita i dopune diplome, principa akreditacije, evaluacije i licenciranja ustanova, omogućavanje postojanja privatnih i javnih ustanova), najradikalnije su i najdalekosežnije, ne samo gledajući interno u odnosu na druge segmente obrazovanja, nego i komparativno u odnosu na regionalno okruženje.

Poslije početnih „lutanja“, kao osnov i putokaz za reforme u visokom obrazovanju, prihvaćene su preporuke i principi Bolonjske deklaracije [2], što je kompenziran nedostatak nacionalnih strateških dokumenata o ovom pitanju i obezbijedilo kompatibilnost reformi sa tekućim trendovima u Evropi [3]. U ovoj situaciji nezainteresovanost državnih organa za ova pitanja i nedostatak odgovarajućih reformskih dokumenata pokazao se kao srećna okolnost, usljed čega su isključena brojna ograničenja u ovom procesu [9]. Najveće prepreke bile su na samom Univerzitetu Crne Gore, koji je,

ipak, imao snage i kapaciteta da prevaziđe unutrašnje otpore i vlastiti konzervativizam i tako omogući reforme i neophodne inovacije, koje su započele i rezultirale donošenjem *Zakona o visokom obrazovanju* 2003. godine.

2. VRSTE USTANOVA VISOKOG OBRAZOVANJA U CRNOJ GORI

Univerzitet Crne Gore je jedina javna ustanova visokog obrazovanja u Crnoj Gori. Prvi privatni univerzitet, Univerzitet „Mediteran“ je počeo da radi 2006. godine. Univerzitet „Mediteran“ obuhvata 6 univerzitetskih jedinica, sa 11 studijskih programa. Oko 2000 studenata trenutno studira na ovom univerzitetu. Pored ovog Univerziteta, u Crnoj Gori od aprila 2010. postoji još i Univerzitet „Donja Gorica“ koji obuhvata 7 organizacionih jedinica – fakulteta. Pored privatnih univerziteta, postoji, takođe, i sedam individualnih privatnih fakulteta u Crnoj Gori, na kojima studira oko 2400 studenata. Struktura sistema obrazovanja u Crnoj Gori data je u tabeli koja slijedi.

Tabela 1. Sistem obrazovanja u Crnoj Gori [10]

Nivo obrazovanja	Broj	
	Škola/institucija	Studenata
Osnovno obrazovanje	162	74,539
Srednje obrazovanje	49	31,758
Visoko obrazovanje	1 državni – Univerzitet Crne Gore	21,131
	2 privatna akreditovana univerziteta i 8 nezavisnih akreditovanih privatnih fakulteta	4,176

U *Tabeli 1* je prikazan sistem obrazovanja u Crnoj Gori, sa ukupnim brojem studenata i učenika.

Po važećem *Zakonu o visokom obrazovanju* moguće je kreirati nove studijske programe, ali da bi koristila naziv Univerzitet, ustanova mora imati najmanje pet studijskih programa iz tri različite naučne oblasti. U skladu sa novim *Zakonom o izmjenama i dopunama zakona o visokom obrazovanju*, ustanova može imati status univerziteta, tj. koristiti termin „univerzitet“ u svom nazivu, pod uslovom da obezbjeđuje najmanje pet različitih studijskih programa na dodiplomskom nivou. Od ovih pet različitih studijskih programa najmanje jedan mora imati dodiplomske, postdiplomske i doktorske studije.

3. BENČMARKING ANALIZA UNIVERZITETA U CRNOJ GORI – IMPLEMENTACIJA PRINCIPA BOLONJSKOG PROCESA

U dijelu rada koji slijedi predstavimo nalaze istraživanja iz vodećih oblasti koje su prepoznate kao ključni indikatori uspješnosti visokog obrazovanja ne samo u Crnoj Gori, već u bilo kojoj zemlji koja primijenjuje Bolonjski sistem studiranja.³⁰

³⁰ Kvantitativni i kvalitativni podaci dati u radu zasnivaju se na nalazima iz izvještaja o posljednjoj reakreditaciji sva tri univerziteta u Crnoj Gori, kao i iz intervjua koji su obavljani sa predstavnicima sva tri univerziteta (interni podaci univerziteta).

3.1. EVROPSKI SISTEM PRENOSA KREDITA (ECTS) – PRIMJENA U CRNOJ GORI

Početni segment benčmarking analize visokog obrazovanja u Crnoj Gori polazi od analize primjene ECTS-a na sva tri univerziteta u Crnoj Gori.³¹

Univerzitet Crne Gore – U skladu sa *Pravilnikom o studentskoj mobilnosti*, potpisivanjem ugovora o studiranju (učenju), Univerzitet Crne Gore odobrava studentu odlazak na mobilnost i odabrani studijski program, a institucija domaćin ga prihvata i odobrava studijski program. Univerzitet se, ovim aktom, obavezuje da će student priznati sve predmete, ocjene i kredite navedene u ugovoru o studiranju (učenju) i verifikovati postignute rezultate, na istovjetan način kao za studente koji nijesu koristili program mobilnosti [7]. Ako se mobilnost ostvarila bez prethodno zaključenog ugovora o studiranju (učenju), dekan organizacione jedinice formira komisiju (čiji je jedan član obavezno lice koje na jedinici potpisuje ugovore o učenju), koja na osnovu obrazložene molbe studenta, nakon upoređivanja i procjene usklađenosti programa ostvarenog na instituciji domaćinu i programa matične institucije, donosi odluku o priznavanju rezultata iz perioda mobilnosti (položenih predmeta, ECTS kredita, ocjena) [7].

Što se tiče upoređivanja i procjene usklađenosti studijskih programa, predmeti kod kojih je podudarnost u programu (uzimajući u obzir ishode učenja) oko 70% priznaju se studentu ukoliko je iz njih položio ispit. U tom slučaju priznaje se predmet, broj stečenih ECTS kredita i ocjena. U slučaju da je predmet odslušan, a nije položen, matična institucija može studentu po povratku dozvoliti da pristupi polaganju tog ispita bez ponovnog slušanja predmeta [7]. Ako je podudarnost u programu predmeta manja od 70%, studentu se stečeni ECTS krediti i ocjena mogu priznati kao izborni predmet. Izborni predmet, koji se priznaje na ovaj način, ne mora odgovarati ponudi izbornih predmeta na matičnoj instituciji.³² Pored toga, na Univerzitetu Crne Gore ne postoji univerzitetski, odnosno fakultetski koordinator. Međutim, njegove nadležnosti obavljaju *Kancelarija za međunarodnu saradnju* i prodekani za nastavu. Oni zajedno sa studentom popunjavaju Ugovor o učenju.

Univerzitet Mediteran – Univerzitet „Mediteran“ priznaje svojim studentima ECTS bodove po povratku na njihov Univerzitet, ukoliko prije toga student potpiše Ugovor o učenju, studentsku prijavu i donese prepis ocjena. Na tom Univerzitetu ne postoji univerzitetski koordinator za Evropski sistem prenosa kredita, kao ni fakultetski koordinatori. Njihov posao obavlja savjetnik Univerziteta za međunarodnu saradnju, odnosno prodekani za nastavu za fakultetski nivo.

Univerzitet „Donja Gorica“ – Kako bi promovisao sve prednosti mobilnosti, Univerzitet „Donja Gorica“ priznaje cijeli iznos kredita koji je student stekao boraveći na Univerzitetu van zemlje. Do sada nije bilo slučajeva da student nije položio sve ispite na drugom univerzitetu, tako da su se u praksi uvijek praznavali iznosi kredita. Na Univerzitetu „Donja Gorica“ ne postoje univerzitetski, odnosno fakultetski ECTS koordinatori, ali nadležnosti koje bi trebalo oni da obavljaju rade studentska služba i prodekani za nastavu.

Preporuke: S obzirom na to da sva tri univerziteta posjeduju cjelokupnu ECTS dokumentaciju, u cilju bolje informisanosti studenata o uslovima prenosa kredita, predlažemo da svaki Univerzitet nominuje osobu koja će vršiti sve nadležnosti ECTS koordinatora. Takođe, veći problemi u priznavanju diplome se dešavaju na Univerzitetu Crne Gore, a budući na njegovu veličinu (broj fakulteta i broj studenata) predlažemo da se

³¹ Redosled univerziteta je usklađen sa godinom osnivanja univerziteta, te je tako najstariji Univerzitet Crne Gore naveden prvi u nalazima istraživanja, dok je najmlađi Univerzitet „Donja Gorica“ obrađen poslednji u istim nalazima.

³² Ovo je sporni član koji često može doprinijeti tome da studenti odustanu od programa mobilnosti.

na svakom pojedničnom fakultetu imenuje ECTS koordinator. Pored imenovanja univerzitetskog i fakultetskog koordinatora, potrebno je još jednom revidirati određene članove *Pravilnika o mobilnosti* Univerziteta Crne Gore, kako bi se smanjio broj onih koji odustaju od programa mobilnosti zbog nepriznavanja ispita odnosno skupljenih ECTS bodova.

3.2. OSIGURANJE KVALITETA U VISOKOM OBRAZOVANJU U CRNOJ GORI

Naredni segment benčmarking analize odnosi se na analizu usklađenosti evropskih principa osiguranja kvaliteta sa metodologijom koja se koristi na univerzitetima u Crnoj Gori.

Univerzitet Crne Gore – Na Univerzitetu Crne Gore se nalazi *Centar za studije i kontrolu kvaliteta*. Centar je nadležan za sprovođenje principa osiguranja kvaliteta na Univerzitetu. Formiranjem Centra, *Strategija za kontrolu kvaliteta* na Univerzitetu Crne Gore je počela sa implemetacijom. Centar, takođe, sprovodi redovnu evaluaciju akademskog osoblja.

Univerzitet „Mediteran“ – Univerzitet „Mediteran“ ima poseban tim koji se bavi kontrolom kvaliteta na njihovom Univerzitetu. Oni svake godine, odnosno svakog semestra sprovode samoevaluaciju, ali ne za potrebe reakreditacije, već za svoje interne potrebe: struktura upisanih studenata, struktura administracije, evaluacija rada profesora, prolaznost na ispitima, evaluacija metoda koji se koriste na ispitima i drugo.

Univerzitet „Donja Gorica“ - Na Univerzitetu „Donja Gorica“ postoji *Komisija za osiguranje kvaliteta* koja na svaka dva, odnosno tri mjeseca organizuje okrugle stolove. Na svakom okruglom stolu učestvuje do desetak profesora i studenata. Što se tiče evaluacije akademskog osoblja, studenti jednom godišnje popunjavaju anonimnu anketu, gdje ocjenjuju rad cijelog akademskog osoblja. Na nivou Univerziteta postoji i Rektorski kolegijum koji se, takođe, bavi pitanjima osiguranja kvaliteta.

Preporuke: Kada je u pitanju sistem osiguranja kvaliteta, preporučujemo da iako brojčano manji, Univerzitet „Donja Gorica“ i Univerzitet „Mediteran“ osnuju posebne kancelarije sa stalno zaposlenim koji će u nadležnosti imati sistem obezbjeđenja kvaliteta. Što se tiče Univerziteta Crne Gore, iako *Centar za studije i kontrolu kvaliteta* postoji, potrebno je dati mu veće nadležnosti, kako bi bio u mogućnosti da bude jedan od oslonaca kontrole kvaliteta na svim univerzitetskim jedinicama. Takođe, jedna od preporuka u ovoj oblasti jeste vezana za status Savjeta za visoko obrazovanje koji potvrđuje izvještaje o akreditaciji/reakreditaciji, gdje se preporučuje davanje veće nezavisnosti u radu Savjeta, kao i obezbjeđenje stalno zaposlenog kadra, koji bi bio administrativno i tehnička podrška eksternoj evaluaciji. Sve ove preporuke, dobijene tehnikom benčmarkinga će unaprijediti polazaj crnogorskog sistema visokog obrazovanja na međunarodnom planu.

3.3. SOCIJALNA DIMENZIJA VISOKOG OBRAZOVANJA U CRNOJ GORI

Naredni segment benčmarking analize visokog obrazovanja u Crnoj Gori podrazumijeva ocjenu usklađenosti principa socijalne dimenzije na svim univerzitetima u Crnoj Gori.

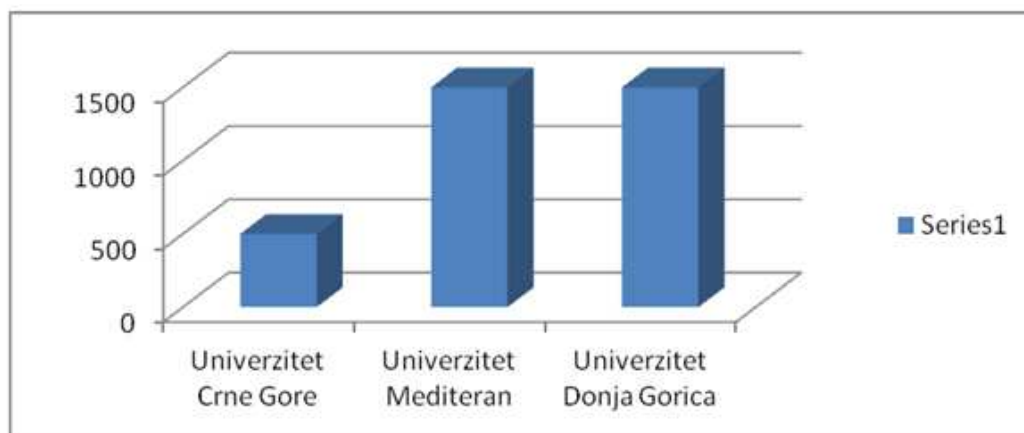
Univerzitet Crne Gore – Školarina na akademskim studijama iznosi €250 po semestru, na primijenjenim €500 po semestru, dok na magistarskim iznosi €750 - €1000 po semestru. Ove školarine su manje od školarina u zemljama regiona, npr. u Hrvatskoj i u Srbiji, ali i znatno manje od pojedinih evropskih zemalja. Trenutno je aktuelna inicijativa *Udruženja mladih sa hendikepom Crne Gore* koja treba da omogući da studenti sa većim procentom hendikepa imaju pravo na besplatno školovanje. Ova inicijativa još nije stupila na snagu.

Sa druge strane, što se tiče infrastrukturnog pristupa za osobe sa invaliditetom, samo u zgradi Tehničkih fakulteta i zgradi Rektorata postoje lift i stepenice, dok u zgradama drugih fakulteta ili ne postoji infrastruktura za osobe sa invaliditetom ili postoji samo rampa.

Univerzitet „Mediteran“ – Što se tiče školarina na Univerzitetu „Mediteran“, ona iznosi €1500 (za Fakultet za strane jezike, Pravni fakultet, Fakultet za turizam i Fakultet za poslovne studije), €2000 (za Fakultet za informacione tehnologije) i €2500 (za Fakultet vizuelnih umjetnosti). Na osnovnim i specijalističkim studijama, Univerzitet daje popust od 20% studentima koji uplate školarinu u jednoj rati. Univerzitet oslobodila školarine studente – osobe sa invaliditetom po prijedlogu *Udruženja mladih sa hendikepom Crne Gore*, kao i studente koji su u srednjoj školi dobitnici državnih nagrada. Što se tiče pristupa, odnosno infrastrukture za osobe sa invaliditetom, svi fakulteti su osposobljeni za studiranje osoba sa invaliditetom.

Univerzitet „Donja Gorica“ – Školarina na osnovnim studijama na Univerzitetu „Donja Gorica“ iznosi €1500 godišnje, dok na magistarstkim studijama iznosi €2000. Što se tiče dodjele stipendija, usljed dobre saradnje sa privredom, nekoliko kompanija se javilo u ulozi sponzora jednog broja studenata u zadnjih par godina. Univerzitet „Donja Gorica“ je u potpunosti prilagođen studiranju osoba sa invaliditetom. S obzirom na to da je Univerzitet trenutno uključen u TEMPUS projekat, dodijeljena su im sredstva za kupovinu knjiga sa Brajevim pismom.

U nastavku se nalazi tabelarni prikaz visine školarine na osnovnim studijama na sva tri univerziteta, kako bi se uvidjela razlika između državnog univerziteta i privatnih univerziteta.



Slika 1. Školarine na osnovnim studijama na Univerzitetima u Crnoj Gori [8]

Preporuke: Na *Slici 1* primjećujemo veliku razliku u školarini osnovnih studija između državnog i privatnih fakulteta³³, a s obzirom na aktuelnu finansijsku situaciju u Crnoj Gori, shvatljivo je zašto studenti prije biraju državni, a ne privatne univerzitete. Međutim, ono što je, takođe, jasno je da postoje mnogi fakulteti koji sada imaju konkurenciju u privatnim fakultetima. Primjetno je da većinom upravo ti fakulteti vode računa o svim oblicima socijalne dimenzije, kako bi sačuvali svoje mjesto u sistemu visokog obrazovanja kao i na tržištu rada.

³³ Ova velika razlika u školarini između državnog i privatnih univerziteta je kamen spoticanja saradnje ovih univerziteta. Privatni univerziteti, sada već i u javnom diskursu, traže izjednačavanje školarina na nivou visokog obrazovanja.

3.4. CJELOŽIVOTNO UČENJE U CRNOJ GORI

Poštovanje principa cjeloživotnog učenja je važna etapa benčmarking analize na svim crnogorskim univerzitetima.

Univerzitet Crne Gore – Univerzitet Crne Gore je pripremio *Strategiju o cjeloživotnom učenju* i već je počeo da je primjenjuje. Za sada na Univerzitetu postoje dva programa za cjeloživotno učenje: turizam i fizioterapija.

Univerzitet „Mediteran“ – Univerzitet „Mediteran“ nema module/studijske programe koji su u skladu sa cjeloživotnim učenjem. Ono što oni nude građanima Crne Gore, jesu kursevi jezika za radnike firmi, za penzionere, obuke za turističke vodiče, obuke za somelijere itd. Oni koji završe ove obuke, dobijaju sertifikat licenciran od strane resornog ministarstva, ali ne i broj bodova koji bi bili u skladu sa *Nacionalnim kvalifikacionim okvirom*.

Univerzitet „Donja Gorica“ – Na Univerzitetu ne postoje moduli cjeloživotnog učenja. Međutim, ono što Univerzitet nudi, jesu kursevi stranih jezika, informatike, osiguranja i komparativnog upravljanja za sve generacije.

Preporuke: Iako je Univerzitet Crne Gore usvojio *Strategiju o cjeloživotnom učenju*, potrebno je dalje i snažnije raditi na njenoj primjeni. Takođe, potrebno je obezbijediti programe cjeloživotnog učenja i na drugim univerzitetima u Crnoj Gori.

3.5. PROMOCIJA MOBILNOSTI STUDENATA I NASTAVNOG OSOBLJA U CRNOJ GORI

Promocija mobilnosti studenata je jedno od ključnih pitanja u reformi visokog obrazovanja [1]. Sva tri univerziteta u Crnoj Gori ovom pitanju poklanjaju posebnu pažnju. Mobilnost je, ipak, najviše zatupljena na Univerzitetu Crne Gore. Naime, očigledno je da je osnivanje *Kancelarije za međunarodnu saradnju* doprinijelo mobilnosti nastavnika i studenata. Univerzitet ima 72 međunarodna ugovora o saradnji potpisana sa univerzitetima iz 27 zemalja. Mobilnost nastavnika iskazana u podacima iznešenim u *Zahtjevu za reakreditaciju* UCG pokazuje ukupno 18 nastavničkih gostovanja na stranim univerzitetima, u periodu od 2009 do 2012. godine u organizaciji *Kancelarije za međunarodnu saradnju*, što predstavlja 4,5 ostvarene razmjene godišnje na nivou cijelog Univerziteta [5]. Kumulativni prikaz ne omogućava jasan uvid u trendove mobilnosti. Podaci o mobilnosti studenata, u okviru dva programa (BASILEUS I JOINEUSEE), govore o 97 studenata na razmjenama u istom periodu, što je broj od 24,25 studentske razmjene godišnje, kako je prikazano u *Tabeli 2*.

Tabela 2. Podaci o mobilnosti studenata Univerziteta Crne Gore u okviru programa mobilnosti BASILEUS i JOINEUSEE [4]

BASILEUS	Oni koji su došli	Oni koji su otišli
BASILEUS I 2008/2009 2009/2010	4	19 (2 mobilnost osoblja) 10 (2008/2009) 9 (2009/2010)
BASILEUS II 2010/2011	3	22 (4 mobilnost osoblja)
BASILEUS III 2011/2012	4	26 (1 mobilnost osoblja)
Ukupno	11	67
JOINEUSEE	Oni koji su došli	Oni koji su otišli
JOINEUSEE I 2010/2011	3	21 (3 mobilnost osoblja)
JOINEUSEE II 2011/2012	3	31 (2 mobilnost osoblja)
JOINEUSEE III 2012/2013	3	27 (2 mobilnost osoblja)
Ukupno	9	79

Preporuke: Univerzitet Crne Gore bi morao, uz podršku jedinica, da izradi strategiju mobilnosti za nastavno osoblje. Kako za povećanje mobilnosti nastavnog osoblja nema dovoljno finansijskih sredstava, *Komisija za reakreditaciju* u svom izvještaju savjetuje da se kriterijum mobilnosti unese u izborne kriterijume napredovanja u nastavnim zvanjima i time postigne bolja motivacija nastavnika za mobilnost [5]. Takođe bi se za ocjenu mobilnosti mogli upotrijebiti indikatori koji su dobijeni kao rezultat poređenja sopstvenih obima i obima tih djelatnosti na odabranim univerzitetima iz EU (benčmarking). Na državnom Univerzitetu postoje teškoće sa kojima se suočavaju studenti na nekim fakultetima, po povratku sa razmjena na matične ustanove, a koje se, prije svega, tiču priznavanja stečenih ECTS kredita na univerzitetima u inostranstvu, što svakako ne utiče povoljno na mobilnost. Takođe, na mnogim fakultetima studenti nijesu upoznati sa mogućnostima za mobilnost, uprkos interesovanju koji je evidentan. Iz ovog razloga preporučujemo osnivanje posebne kancelarije na svakom pojedinačnom fakultetu, koja će se baviti isključivo pitanjima mobilnosti studenata.

3.6. FINANSIRANJE VISOKOG OBRAZOVANJA U CRNOJ GORI

Zaokruživanje benčmarking analize u visokom obrazovanju nije moguće bez analize načina finansiranja visokog obrazovanja [8]. Upravo su u dijelu koji slijedi objašnjeni načini finansiranja sva tri univerziteta u Crnoj Gori.

Univerzitet Crne Gore – Univerzitet se finansira iz budžeta Crne Gore i sopstvenim sredstvima. Upravo što pojedini fakulteti zarađuju velike sume novca sopstvenim sredstvima (na primjer Pravni i Ekonomski fakultet, na osnovu školarina i projekata), dok drugi fakulteti to nijesu u mogućnosti (na primjer, Filozofski fakultet ili akademije umjetnosti), stvara se veliki jaz na samom Univerzitetu kada je ova tema u pitanju. Zbog

sve većih problema finansiranja na Univerzitetu, *Ministarstvo prosvjete* želi da izvrši reformu finansiranja cjelokupnog visokog obrazovanja.

Univerzitet „Mediteran“ - Univerzitet „Mediteran“ se finansira iz školarina i sredstava međunarodnih projekata. Iako trenutno nemaju većih finansijskih problema, usljed krize koja je nastupila, a posljedice su nemogućnost studenata da redovno plaćaju rate, Univerzitet je u mogućnosti da podigne kredit iz banke svog osnivača – „Atlas“ banke.

Univerzitet „Donja Gorica“ – Univerzitet se finansira iz sopstvenih sredstava, školarina i sredstava međunarodnih i evropskih projekata.

Preporuke: Usljed sve teže situacije u održivosti finansiranja univerziteta u Crnoj Gori, a s tim u vezi ponude kvaliteta na ustanovama visokog obrazovanja, potrebno je u što kraćem roku izvršiti reformu finansiranja visokog obrazovanja. Održivost pojedinih fakulteta na Univerzitetu Crne Gore je direktno vezana za prenos sredstava tim jedinicama od strane drugih „bogatijih“ univerzitetskih jedinica, što nije održivo na duži vremenski period. Takođe, finansiranje privatnih univerziteta i fakulteta je teško održivo ukoliko ne dođe do promjene u pristupu finansiranju privatnih ustanova.

4. ZAKLJUČAK

Kontinuirana upotreba benčmarking tehnike u visokom obrazovanju u Crnoj Gori je uslov i pokazatelj uspješnosti u obezbjeđenju i unapređenju kvaliteta visokog obrazovanja. Mišljenja smo da najbolje rezultate, upravo, daje upotreba eksternog (konkurentskog) benčmarkinga. Rezultati dobijeni upotrebom eksternog benčmarkinga pružaju smjernice za poboljšanje i unapređenje kvaliteta visokog obrazovanja, čime se ostvaruje primarna uloga obrazovnih institucija, a to je pružanje specifične vrste usluga na opštu društvenu korist. Stoga je redovno praćenje i upotreba bečmarking tehnike važan alat koji, pravilno upotrijebljen, obezbjeđuje korisne informacije za preduzimanje mjera kako bi se postavljeni ciljevi ostvarili.

S obzirom na to da je Crna Gora mali sistem, sa institucijama koje su većinom mlade i neopterećene tradicijom, to sistem visokog obrazovanja svoju prednost u odnosu na okruženje mora tražiti u fleksibilnosti i adaptibilnosti, što podrazumijeva značajan stepen deregulacije. Ostvarenje ovih ciljeva traži da se razvije sistem visokog obrazovanja sa adekvatnom kombinacijom centralizacije i decentralizacije. Na osnovu svega izloženog se dokazuje hipoteza *da će se upotrebom benčmarking tehnike doprinijeti podizanju nivoa kvaliteta visokog obrazovanja u Crnoj Gori.*

Iz svih gorenavedenih razloga, da bi se povećala javna odgovornost visokog obrazovanja, neophodno je da donosioci odluka iste donose na osnovu provjerenih informacija, indikatora uspješnosti i benčmarking indikatora.

REFERENCE

1. Baltazarević, B., *Mobilnost i kvalitet*, Univerzitet u Novom Sadu, Novi Sad, 2008, p. 12.
2. Bologna declaration, The European higher education area, Joint delaration of the European Ministers of Education convened in Bologna, June 19, 1999.

3. Internationalization of European Higher Education, European University Association, 2010, p. 2-8.
4. Interni podaci Kancelarije za međunarodnu saradnju Univerziteta Crne Gore, 2014.
5. Izveštaj o reakreditaciji Univeziteta Crne Gore, Savjet za visoko obrazovanje, Ministarstvo prosvjete Crne Gore, 2012., p. 46-52.
6. Melović, B., Međunarodni benchmarking, Ekonomski fakultet, Podgorica, 2007, p. 12.
7. Pravilnik o mobilnosti studenata, Univerzitet Crne Gore, 2011, član 16, 17, 19, stav 1.
8. Strategija razvoja i finansiranja visokog obrazovanja u Crnoj Gori 2011-2020, Ministarstvo prosvjete i sporta, 2011, p. 27-35.
9. Šofranac, R., Damjanović, R., Bolonjski proces i kvalitet visokog obrazovanja, Pobjeda, Podgorica, 2010, p. 17.
10. <http://www.monstat.org/cg/page.php?id=437&pageid=76>, preuzeto dana 05. aprila 2014. godine

DECISION MAKING IN PRODUCTION PROCESS MANAGEMENT IN ORDER TO OPTIMIZE PRDUCTION CAPACITIES

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Abstract: All human activities can be divided into these separate actions: planning as preparing of the decision, decision making, realization and controlling. During the preparation for the decision making, we tend to develop such plans which will simplify the decision making process. With many activities, especially economics related ones, we focus to make a decision which is optimal by a required criteria. Optimal decisions are the ones that allow us to achieve the desired goals with the minimal resource usage or having the maximum profit. More complex problems can be solved only by using scientific methods in the process of the plan development. Operations research is the scientific field which, in the process of preparing the optimal decision, uses mathematical methods. One of the main goals of linear programming is to support distribution of available resources among different, mostly conflict activities. There are several different methods in finding the optimal solution, but in this particular case the simplex method of problem solving process will be presented by defining the optimal production program for production of pullovers for men, women and children. Our goal is to achieve the maximum profit by minimal consumption of the available raw material and minimal usage of capacities of knitting, sewing and chemical machines, which represent limited resources in this case. Decision making of the optimal production process planning is an activity with strategic character, because its development has long term effects on the business management.

Keywords: decision, decision making, optimal decisions, linear programming, simplex method

ODLUČIVANJE U PROCESU UPRAVLJANJA PROIZVODNOM U CILJU OPTIMIRANJA PROIZVODNIH KAPACITETA

Laslo Koš, Slađana Plačkov, Jelena Vojnović

Apstrakt: Sve čovekove aktivnosti se u principu sastoje od sledećih radnji: planiranje, tj. priprema za odlučivanje, odlučivanje, realizacija i kontrola. Prilikom pripreme za odlučivanje izrađujemo takve planove koji će olakšati samo odlučivanje. Na različitim poljima života, ali posebno kod ekonomskih aktivnosti, trudimo se da donosimo takve odluke, koje su optimalne po nekom kriterijumu. Optimalnim nazivamo one odluke koje omogućavaju da željeni cilj ili željene ciljeve postignemo uz minimalno ulaganje resursa ili uz maksimalni profit. U slučaju komplikovanijih problema, optimalno odlučivanje se može realizovati isključivo ukoliko primenjujemo naučne metode u procesu izrade planova.

Operaciona istraživanja su nauka, koja, u procesu pripreme donošenja optimalnih odluka, koristi matematičke metode. Jedan od glavnih zadataka linearnog programiranja je da pruža podršku pri odlučivanju o optimalnom raspoređivanju raspoloživih resursa među različitim, u većini slučajeva konfliktnim aktivnostima. Poznajemo više načina za traženje optimalnog rešenja, a u ovom radu će biti prikazana primena simpleks metode rešavanja linearnog modela uz određivanje optimalnog proizvodnog programa za proizvodnju muških, ženskih i dečjih džempera. Cilj je da se postigne najveći profit uz maksimalno iskorišćenje raspoloživih sirovina, kapaciteta za pletenje, šivenje i hemijske obrade koji predstavljaju ograničene resurse. Odlučivanje o proizvodnom programu predstavlja aktivnost strategijskog karaktera, jer su implikacije njihovog razvoja na poslovanje kompanije dugoročne.

Ključne reči: odluka, odlučivanje, optimalne odluke, linearno programiranje, simpleks metod

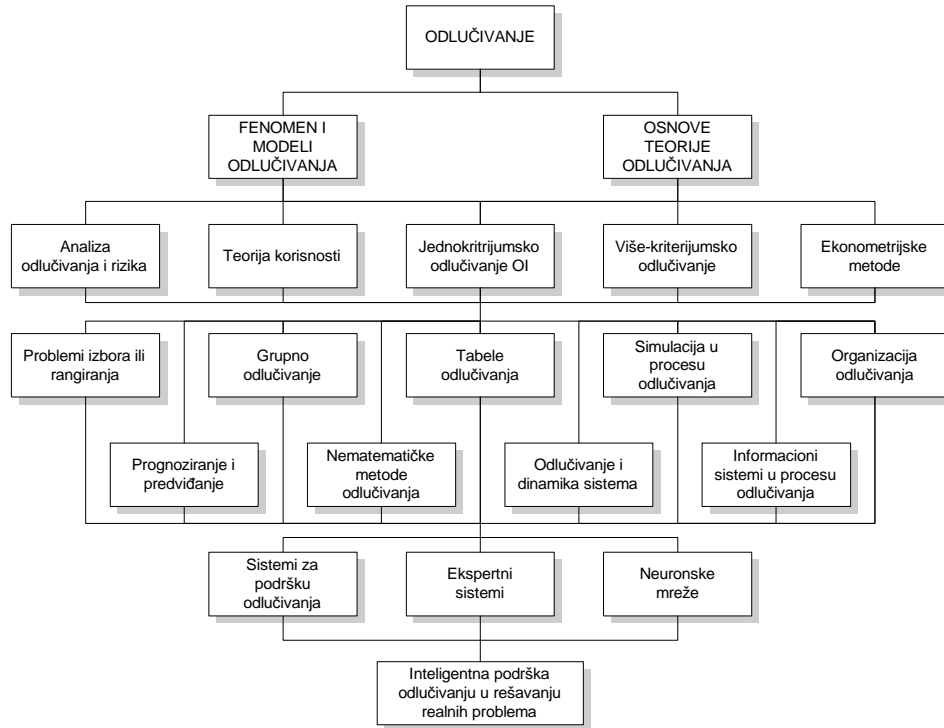
1. UVOD

Odlučivanje u najširem smislu predstavlja proces, i to vrlo složeni proces, koji u sebi uključuje: inicijativu, pripremu odluka, donošenje odluka, realizaciju odluka, nadzor nad realizacijom odluka. Za ovladavanje ovim, ponekad složenim elementima, treba poznavati niz tehnika i metoda za istraživanje, prikupljanje, obradu i prezentaciju informacija na kojima se temelje buduće odluke. Proces odlučivanja je složena ljudska aktivnost kojom se postavljaju ciljevi i zadaci i određuje tok i redosled akcija na realizaciji ciljeva. To je svesno, unapred pripremljeno delovanje kojim se žele postići određeni efekti. Odlučivanjem se reaguje na određene promene od kojih zavisi realizacija odluke. Od brzine reagovanja zavisi u značajnoj meri delotvornost odlučivanja.

Odlučivanje je staro koliko i čovečanstvo. Ljudi su oduvek donosili odluke (a da često i nisu bili svesni da to čine), jer odlučivanje u stvari predstavlja sastavni deo svakodnevnog života. Međutim, kako je život vremenom postajao sve kompleksniji i komplikovaniji, bilo je potrebno ovladati i sve većim fondom znanja u cilju donošenja ispravnih odluka.

2. PREDMET I PROBLEM TEORIJE ODLUČIVANJA

Pomoć u razvoju odlučivanja je pružala i pruža relativno nova oblast: **teorija odlučivanja**, a potom i neke druge srodne discipline i oblasti. Prikazana shema (slika 1.) može ukazati na svu kompleksnost problematike odlučivanja. Iz nje se može uočiti najrepresntativniji skup metoda, počev od onog koji mnogi smatraju „jedinim” u teoriji odlučivanja (analiza rizika i analiza odlučivanja). Na ostalim nivoima šeme se nalaze naučne discipline, koje nisu stvorene zbog odlučivanja, a koje su ipak našle svoje nezamenljivo mesto u rešavanju realnih problema odlučivanja.



Slika 1. Problem odlučivanja

Rešavanje problema odlučivanja često zahteva dug period pripreme, u kome se vrše razna ispitivanja, prikupljanja podataka, izgradnja modela, što je sve potrebno kao osnova analize odlučivanja. Sve te pripreme se moraju dobro organizovati, u okviru projekta analize odlučivanja, koji se razvio iz klasične pripreme odluke.

Veliki broj problema odlučivanja odnosi se na izučavanje situacija kod kojih su dva ili više protivnika u sukobu. Istorija, REFERENCE, a u poslednje vreme i matematika, koriste se za analizu ishoda borbe različitih interesa. Često se problemi ove vrste i njihovo rešavanje nazivaju upravljanje konfliktnim (antagonističkim) situacijama.

O konfliktnoj situaciji možemo govoriti kada bilo koja posledica moguće akcije donosioca odluka zavisi i od toga kako će njegov protivnik da reaguje. Konfliktno situacije javljaju se u tako raznovrsnim formama i toliko često da na prvi pogled izgledaju da su van mogućnosti formulisanja. Ipak, često je empirijski jasno da je jedan postupak racionalniji od drugog, da je jedno ulaganje isplativije od drugog, da postoje odluke u vojnim sukobima koje su odlučujuće. Samo takvo upoređivanje i vrednovanje nosi neke matematičke karakteristike i sugerira mogućnost matematičkog analiziranja.

3. FAZE U PROCESU ODLUČIVANJA

Autor podele procesa odlučivanja na osnovne faze je Hamfri:

(1) Uočavanje problema odlučivanja

Početak procesa odlučivanja je u otkrivanju problema odlučivanja. Problem odlučivanja postoji kada je postavljen cilj koji treba postići i kada je prisutna situacija koja sadrži dve ili više alternativnih akcija za postizanje toga cilja.

(2) Definisanje problema odlučivanja

Da bi se jasno odredio problem odlučivanja, neophodno je potpuno razumevanje postavljenih ciljeva koji se žele postići. Odluke se donose da bi se postigli postavljeni ciljevi, zato oni moraju biti jasno određeni. Osim toga, potrebno je ustanoviti koji faktori stvaraju teškoće u datoj situaciji i šta je to što bi trebalo ispraviti, promeniti. Definisanje problema je kompleksan postupak i u sebi sadrži niz poteškoća koje treba prevazići.

(3) Otkrivanje alternativnih akcija

Odluka ne može da bude bolja od najbolje alternativne akcije. Otkrivanje alternativnih akcija je često složen stvaralački proces. Kada se one identifikuju, traže se informacije koje su potrebne, da bi se izvršio korektan izbor jedne od alternativnih akcija.

(4) Sagledavanje mogućih stanja stvari – neizvesnih događaja

Nastupanje određene posledice neke od alternativnih akcija zavisi od mogućeg stanja stvari (čija pojava je neizvesna). Da bi se izvršilo ocenjivanje i upoređivanje alternativnih akcija s obzirom na te posledice, potrebno je sagledati neka moguća stanja stvari, odnosno anticipirati buduće uslove koji bi imali uticaj na posledice preduzete akcije.

(5) Razmatranje mogućih ishoda (posledica) i ocenjivanje njihove vrednosti.

Jedan od osnovnih uslova za upoređivanje alternativnih akcija je razmatranje mogućih ishoda (posledica) tih akcija i ocenjivanje njihove vrednosti (korisnosti) s obzirom na ciljeve radi čijeg se postizanja i vrši izbor između alternativnih akcija.

(6) Izbor kriterijuma odlučivanja

Pri odlučivanju u uslovima neizvesnosti donosilac odluke obično usvaja neki od kriterijuma odlučivanja, tj. pravilo za izbor jedne od alternativnih akcija. To je u stvari izbor odgovarajuće strategije koju donosilac odluke koristi u ocenjivanju alternativnih akcija i izboru jedne od njih na osnovu rezultata toga ocenjivanja.

(7) Ocenjivanje alternativnih akcija

Posle utvrđenih mogućih stanja stvari, kao i mogućih posledica alternativnih akcija, kada se ocene vrednosti tih posledica i pošto je odabrana odgovarajuća strategija na osnovu koje će se izvršiti ocenjivanje alternativnih akcija, moguće je oceniti očekivane vrednosti svake od raspoloživih alternativnih akcija.

(8) Donošenje odluke

Na osnovu dobijenih ocena očekivanih vrednosti svake od alternativnih akcija vrši se izbor akcije (donošenje odluke) u skladu sa usvojenim pravilima izbora, tj. kriterijuma odlučivanja.

(9) Izvođenje odabrane akcije, ocenjivanje efekata i ispravljanje

Poslednja faza u procesu odlučivanja se sastoji u izvođenju odabrane akcije. Posle toga je neophodno sakupljati informacije o efektima izvođenja odabrane akcije, oceniti vrednosti tih efekata s obzirom na postavljene ciljeve i izvršiti potrebne ispravke kako bi se što efikasnije i potpunije postigli ciljevi, radi čijeg je ostvarivanja proces odlučivanja i otpočeo. Nekada je potrebno doneti odluku o potrebnim ispravkama.

4. ULOGA VIŠEKRITERIJUMSKOG ODLUČIVANJA U PROCESU UVOĐENJA NOVOG PROIZVODA U PROIZVODNI PROGRAM

Početak četrdesetih godina formirana je u Velikoj Britaniji grupa istraživača nazvana operativnom grupom, dok je nešto kasnije, njenim proširenjem, promovisana posebna naučna aktivnost nazvana operacionim istraživanjima. Osnovni zadatak ove grupe je bio da primenom postojećih i razvojem novih naučnih metoda na kvantitativnim osnovama daju odgovore po pitanju najboljeg ili "dovoljno dobrog" funkcionisanja: tehničkih, organizacionih, ekonomskih i drugih sistema u postojećim uslovima.

Roi (Rou, A.), rukovodilac istraživačkog tima u Bodsiju (Bawdsey Research Station), među prvima je upotrebio termin operaciona istraživanja za specifične poslove koje je razvijala i primjenjivala ova grupa. Početkom pedesetih godina nastavilo se sa razvojem nove discipline, koja u osnovi sadrži integraciju raznih disciplina. Tokom te decenije, za veoma kratko vreme, ova nauka dala je privredi značajan niz korisnih metoda za rešavanje brojnih zadataka iz industrije, eksploatacije rudnog bogatstva, transporta, nalaženja optimalnog proizvodnog programa, utvrđivanje najboljeg redosleda proizvodnje, planiranja realizacije složenih projekata i sl.

Iako definicija predmeta „Operaciona istraživanja“ nije jednoznačna, zbog njene interdisciplinarnosti, ovde joj se daje uopštena formulacija: operaciona istraživanja predstavljaju skup kvantitativnih modela i metoda pomoću kojih se određuju nova rešenja na osnovu naučnih principa optimizacije ili suboptimizacije.

Model nekog objekta, po opštoj definiciji, predstavlja uređen skup informacija kojima se iznosi predstava o entitetu. Entitet je u ovom slučaju, kao što je rečeno, realni objekat, odnosno objekat koji je predmet i baza za modeliranje. Ako matematički model dobro prezentuje problem, tada se očekuje da i rešenje, dobijeno pomoću modela, bude adekvatno postavljenom problemu.

Matematički model stvarnog entiteta predstavlja uređen skup matematičkih relacija (formula, jednačina, nejednačina, logičkih uslova, relacionih operatora, operanata i sl.) koji opisuju entitet, odnosno određuju njegove karakteristike. Često, zbog složenosti entiteta i interakcije sa njegovim okruženjem, usvajaju se samo primarne osobine entiteta i parametri njegove interakcije sa okolinom.

U svakom slučaju, funkcija kriterijuma ima puno, u zavisnosti od objekta koji se analizira na kvantitativnoj osnovi. Ovi zadaci se nekad rešavaju iskustveno, dakle na bazi ranijih informacija i veštine donosioca odluka. Kod analize sasvim novih entiteta, kod kojih nema ranijih iskustava, neophodno je najčešće pronaći egzaktan način određivanja rešenja, što se postiže matematičkim modeliranjem i rešavanjem matematičkih modela odgovarajućim metodama za postavljene zadatke. Deo primenjene matematike, koji se bavi rešavanjem takvih problema, zove se matematičko programiranje.

Jedan od uslova za rešavanje problema jeste njegova pravilna formulacija, tj. izbor pravilnog okvira. Zbog složenosti problema i okruženja u kojem se problem rešava, formulisanje problema nužno podrazumeva njegovu delimičnu simplifikaciju i isključenje manje važnih komponenti. Formulacijom problema donosilac odluke formira okvir kojim jasno razgraničava relevantne elemente od onih manje važnih koje isključuje iz analize.

U drugoj polovini četrdesetih godina (1947.-1949.) američki matematičar Dancig (*Dantzig, G.B.*) je precizno definisao novu algebarsku metodu zvanu *simplex*. Ova metoda pripada porodici metoda linearnog programiranja i jedna je od najefikasnijih. Na njenom razvoju i usavršavanju narednih godina mnogo se istraživalo, pa je i sam tvorac metode, Dancig, objavio 1963. godine rezultate tih istraživanja u knjizi „*Linear Programming and*

Extensions“. Pored toga ova metoda je modifikovana u cilju rešavanja specijalnih slučajeva iz domena transportnog zadatka, kombinatorne optimizacije i sl.

Naziv linearno jasno naznačava da se promenljive veličine i parametri u matematičkom modelu uređuju linearnim vezama. Rešenje problema $X=[x_1, x_2, \dots, x_j, \dots, x_n]$, bilo da je najbolje ili bazno dopustivo, ima fizičko značenje elemenata nekog plana ili programa (optimalni program proizvodnje, program transporta i sl.), pa odatle i potiče naziv linearno programiranje.

5. PREDSTAVLJANJE LINEARNOG ZADATKA

Jedan proizvođač pletenih džempera u svom proizvodnom programu proizvodi muške, ženske i dečije pulovere od vunenog materijala. Resursi, potrebni za proizvodnju pojedinačnih proizvoda, u toku proizvodnje imaju određenu devijaciju, ali pošto su one neznatne, njih ćemo zanemariti i računamo sa prosečnim vrednostima. Podaci o utrošku osnovnog materijala, potrebnim i raspoloživim tehničkim kapacitetima, kao i o proizvodnim i prodajnim cenama po proizvodu prikazani su sažeto u sledećoj tabeli:

Prosečni troškovi jednog proizvoda su sledeći:

Tabela 1. Podela troškova i prihoda po proizvodu

		MUŠKI	ŽENSKI	DEČJI
Potrebna sirovina	[kg]	0,65	0,45	0,2
Troškovi sirovine	800 [Din/kg]	520	360	160
Vreme pletenja	[min]	43	23	17
Troškovi pletenja	500 [Din/h]	358,33	191,67	141,67
Vreme šivenja	[min]	45	30	31
Troškovi šivenja	200 [Din/h]	150	100	103,33
Vreme hem.obrade	[min]	1	2	1,5
Trošk. hem. obr.	500 [Din/h]	8,33	16,67	12,5
Cena koštanja		1037	668	418
Prodajna cena		1147	758	483
DOBITAK		110	90	65

Visina troškova amortizacije postrojenja i drugih troškova, koji ne zavise od veličine proizvodnje, iznose 500 000 na mesečnom nivou.

Cilj nam je da napravimo takvu proizvodnu strukturu koja, uz data ograničenja proizvodnih kapaciteta, obezbeđuje najveći mogući dobitak u datom periodu.

Do rešenja možemo doći na više načina:

Možemo analizirati ekonomičnost proizvoda pojedinačno, do čega se može doći ukoliko proizvođač, na primer, želi da proizvede samo muške džempere. Koliko mora komada da proizvede kako bi ostvario najveću dobit? U ovom slučaju su i prihod i troškovi funkcija (prvog stepena) proizvedene količine. Ukoliko količinu proizvedenih komada muških džempera obeležimo sa x_1 , onda ukupan je prihod: $1\,147 * x_1$, a ukupni troškovi iznose: $1\,037 * x_1 + 500\,000$ din.

S obzirom da razlika između prihoda i troškova (tj. dobit) iznosi 110 dinara, proizvodnju treba povećati sve dok to proizvodni kapaciteti dozvoljavaju. Povećanjem proizvodnje

mašinski časovi pletione prvi nestaju, pa tako možemo proizvesti svega 223 komada muških džempera.

Vidimo da, zbog ograničene količine mašinskih časova pletione, fiksni troškovi koji spadaju na taj period nisu pokriveni prihodima, jer su prihodi svega: 223 komada x 110 dinara = 490 600 dinara mesečno.

Ako bismo proizveli isključivo ženske pulovere, onda bi kapacitet mašine za hemijsku obradu prvi nestao i to na nivou od 240 komada proizvoda. Prihod ostvaren na ovaj način iznosi 432 000 dinara. Vidimo da proizvodnjom isključivo ženskih džempera ne možemo pokriti fiksne troškove.

Od dečjih džempera možemo proizvesti 320 komada, te se opet ne isplati proizvesti isključivo samo ovaj proizvod jer prihodi su 416 000 dinara, što ne pokriva fiksne troškove.

Dakle, proizvodnjom isključivo jednog artikla proizvođač ne bi mogao da pokrije fiksne troškove. Ali pri proizvodnji jednog artikla uglavno nestane samo jedan od resursa, dok od ostalih imamo još malo na raspolaganju. Retko se dešava da dva ili više resursa nestanu istovremeno. U našem slučaju proizvodnju veće količine muških džempera ograničava kapacitet mašinskih časova pletione, a proizvodnju veće količine ženskih i dečjih džempera ograničava oskudan resurs mašine za hemijsku obradu.

Ukoliko bismo umesto 223 muška džempera proizveli samo 222, onda bismo mogli proizvesti još jedan komad ženskog i jedan komad dečjeg džempera. Potrošili bismo istu količinu sirovine, jer za ova dva komada je potrebna ista količina, kao za jedan komad muškog džempera. Treba nam više vremena šivaone i hemijske obrade, ali tu imamo rezerve, nismo još dostigli granice. Dobitak ovom zamenom raste, pošto je on sad 155 din, dakle za 45 dinara više nego na jednom muškom džemperu.

Vidimo da se kombinacijom više vrsta proizvoda otvara mogućnost za povećanje dobitka. Nažalost, prilikom više stotina proizvoda bilo bi isuviše teško pronaći slične međuzavisnosti, pa ćemo iz tog razloga umesto da tražimo rešenja „peške”, konstruisati i rešiti model.

Neka su: x_1 = broj komada proizvedenih muških džempera,
 x_2 = broj komada proizvedenih ženskih džempera,
 x_3 = broj komada proizvedenih dečjih džempera.

Ukupan dobitak možemo zapisati tako što ćemo od dobitka po proizvodima oduzeti fiksne troškove. Dakle ukupan prihod možemo zapisati pomoću funkcije sa tri promenljive:

$$110 x_1 + 90 x_2 + 65 x_3 - 500 000 \quad (1)$$

Treba da pronađemo maksimum ove funkcije na takvom $[x_1, x_2, x_3]$ skupu brojeva, koji reprezentuju ostvariv proizvodni program u okviru raspoloživih kapaciteta.

Na mesto maksimuma fiksni troškovi perioda ne utiču, tako da ih u ovom slučaju možemo zanemariti. Funkcija cilja, dakle izgleda ovako:

$$\boxed{110 x_1 + 90 x_2 + 65 x_3 = z} \quad (2)$$

Treba pronaći maksimum ove funkcije, gde koeficijenti promenljivih predstavljaju aktuelnu dobit pojedinih proizvoda.

Kako bismo sprečili probijanje granica kapaciteta, zapisaćemo 3 nejednačine kao ograničavajuće uslove. Model se zapisuje u obliku:

$$\begin{aligned}
 & x_1, x_2, x_3 \geq 0 & (3) \\
 650x_1 + 450x_2 + 200x_3 & \leq 150000 & (4) \\
 43x_1 + 23x_2 + 17x_3 & \leq 9600 & (5) \\
 45x_1 + 30x_2 + 31x_3 & \leq 12000 & (6) \\
 x_1 + 2x_2 + 1,5x_3 & \leq 480 & (7) \\
 110x_1 + 90x_2 + 65x_3 & = z \rightarrow \max & (8)
 \end{aligned}$$

Pošto su u modelu:

Funkcije uslova linearne,

Promenljive neprekidne,

Funkcija cilja linearna,

Ovaj zadatak se naziva zadatak linearnog programiranja.

Zadatak ćemo rešiti primenom simpleks metoda linernog programiranja.

Pošto su sva ograničenja u formi \leq , vrednosti kapaciteta su nenegativne, a funkcija cilja teži ka maksimumu, reč je o standardnom zadatku linearnog programiranja, koji predstavlja osnovu polazne simpleks tabele bez dodatnih transformacija.

Pomoću simpleks metoda dobija se sledeće optimalno rešenje:

Tabela 2: Rešavanje simpleks metodom

	x1	x2	x3	
d1	650	450	200	150000
d2	(43)	23	17	9600
d3	45	30	31	12000
d4	1	2	1,5	480
	110	90	65	0
	d2	x2	x3	
d1	-15,12	(102,33)	-56,98	4883,72
x1	0,02	0,53	0,40	223,26
d3	-1,05	5,93	13,21	1953,49
d4	-0,02	1,47	1,10	256,74
	-2,56	31,16	21,51	-24558,14
	d2	d1	x3	
x2	-0,15	0,01	-0,56	47,73
x1	0,10	-0,01	0,69	197,73
d3	-0,17	-0,06	16,51	1670,45
d4	0,19	-0,01	(1,9205)	186,82
	2,05	-0,30	38,86	-26045,45
	d2	d1	d4	
x2	-0,09	0,01	0,29	101,89
x1	0,03	0,00	-0,36	130,30
d3	-1,83	0,07	-8,60	64,26
x3	0,10	-0,01	0,52	97,28
	-1,86	-0,01	-20,24	-29826,04

Ekonomska analiza dobijenog rešenja:

Pri optimalnom proizvodnom programu treba da proizvodimo ≈ 130 komada muških, ≈ 102 komada ženskih i ≈ 97 komada dečjih džempera, kako bi maksimalni dnevni dobitak bio najveći, tj. $\approx 29\,785$ dinara ili $595\,700$ dinara mesečno.

Pri ovakvom proizvodnom programu potrošili smo svu raspoloživu količinu prediva, tj. dnevnu predviđenu količinu od 150 kg (150 000 gr), iskorišćenost mašina za pletenje je 100%-tna, kao i mašine za hemijsku obradu.

Ostalo je neutrošeno ≈ 64 minuta, tj. ≈ 1 čas kapaciteta šivaone.

Upotreba dodatne količine (1 gr) prediva povećava dobitak za 0,01 dinara, povećanje kapaciteta pletione za 1 minut povećava dobitak za 1,86 dinara, a dodatni minut mašine za hemijsku obradu bi doprineo ukupnom dobitku u iznosu od 20,24 dinara.

6. ZAKLJUČNA RAZMATRANJA

Prilikom postavljanja ciljeva, u procesu donošenja odluka, suočavamo se sa različitim faktorima, kako interne, tako i eksterne prirode. Na faktore interne prirode možemo uticati, sprovođenjem različitih mera i akcija, u cilju povećanja efikasnosti rada svih zaposlenih, dok je na eksterne faktore veoma teško, odnosno skoro nemoguće uticati. Međutim, kako bi se postavili adekvatni, kvalitetni ciljevi, sa karakteristikama neophodnim za uspešno poslovanje, potrebno je da imamo u vidu sve što na bilo koji način utiče na poslovanje preduzeća. Ovi ciljevi su najčešće postavljeni tako da je neophodno izvršavanje više njih istovremeno.

U ovom radu bili su pokazani neki modeli linearnog programiranja na primeru jedne stvarne proizvodnje. Ukazali smo na važnost poznavanja osobina pojedinih matematičkih modela i mogućnosti njihove implementacije struktuiranjem, rešavanjem, kao i ekonomskim tumačenjem konkretnih modela. Prilikom izbora matematičkog modela, cilj nam je najbolje usklađivanje realnih međuzavisnosti i pravilnosti.

Znamo da je zadatak linearnog programiranja najbolja raspodela ograničenih resursa među konfliktnim ciljevima uz najveću ekonomsku dobit. U realnoj proizvodnji imamo znatno više ograničenih resursa od predstavljenih resursa prediva i kapaciteta pletione, šivaone i mašine hemijske obrade u radu. U procesu struktuiranja problema nismo, niti smo bili u mogućnosti, da uzmemo u obzir činjenice kao što su veličina skladišnog prostora, prisiljeni zastoje, zbog nekvalitetnog prediva, zastoje zbog kvarova na mašinama i opterećenost kapaciteta, uslovljena oscilacijom prodaje zbog sezonalne prirode proizvoda.

Bitno je napomenuti da su operaciona istraživanja samo sredstvo za pripremu i analizu opravdanosti odluka, a ne i sama odluka. To znači da ne možemo čoveka isključiti iz procesa donošenja odluka. Čak ni najperfektniji model nije sam dovoljan za rešavanje nekog problema, jer sem ograničenja ugrađenih u model, postoji uvek još niz činjenica koje utiču na proces odlučivanja. A kad smo već pronašli najbolju alternativu, možemo pri realizaciji iste naići na neke poteškoće zbog kojih se očekivani rezultat ne može realizovati.

REFERENCE

1. Z. Babić, Modeli i metode poslovnog odlučivanja, Ekonomski fakultet, Split, 2011.
2. M. Čupić, Pregledni rad po pozivu „Odlučivanje”, SYM-OP-IS”, Zbornik radova XXV Jugoslovenskog simpozijuma o operacionim istraživanjima, SYM-OP-IS '98, Herceg Novi, 21 – 24 septembar, 1998.
3. M. Čupić, M. Suknović, Odlučivanje, Fakultet organizacionih nauka, Beograd, 2008.
4. É. Komáromi, Linearno programiranje (na mađarskom), Budapesti Közgazdaságtudományi és Államigazgatási Egyetem, Budapest, 2005.
5. T. Kiš, M. Čileg, D. Vugdelija, O. Sedlak: Kvantitativni metodi u ekonomiji, Ekonomski Fakultet, Subotica, 2005.
6. B. Krekó, Gy. Szórád, Određivanje optimuma pri linearnim uslovima (na mađarskom), A Közgazdasági Kar Informatikai és szervezési kutatóintézete, Szabadka, 1983.
7. O. Sedlak, Z. Čirić, Strategijsko upravljanje u prisustvu konkurentnih i konfliktnih kriterijuma, SYM-OP-IS '98, Herceg Novi, 21 – 24 septembar, 1998.
8. A. Vári, Upravljanje konfliktima pomoću metoda podrške u odlučivanju (na mađarskom), Vezetéstudomány XIX. évf. dec., Budapest, 1988.
9. Cs. Vida, Najbolji instrumenti i metodi u upravljanju preduzećem (na mađarskom), Janus Pannonius Tudományegyetem, Műszaki Főiskolai Kar, Menedzsment tanszék, Pécs, 1999.

SAFETY CLIMATE MODELING IN THE METALLURGICAL SECTOR

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Abstract: This paper presents the results of the safety climate modeling and analysis of the worker's perceptions of occupational safety in metal industry. The research is based on the questionnaire methodology of data collection and it consists of 23 questions divided into the 8 groups, which was developed after several years of previous research. The survey was conducted on a sample of 191 employees within three companies. Safety climate measuring model with eight extracted safety factors was defined by using of confirmatory factor analysis – CFA. The collected data were analyzed using the statistical methods, where the worker's safety climate perceptions were analyzed by using of key safety factors. Within research conclusions the special emphasis is placed on those safety factors where have been identified the significant opportunities for improvement. Regardless of a small number of publications about occupational safety in the metallurgical sector, presented results provide a useful basis for further research.

Keywords: safety climate, confirmatory factor analysis, modeling, metallurgical sector

MODELOVANJE KLIME BEZBEDNOSTI U OKVIRU METALURŠKOG SEKTORA

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Abstrakt: U ovom radu su prezentovani rezultati modelovanja klime bezbednosti i analize percepcije bezbednosti na radu kod zaposlenih u okviru metalurškog sektora. U istraživanju je korišćena metodologija upitnika za sakupljanje podataka, sastavljenog od 23 pitanja raspoređenih u okviru 8 grupa, a koji je razvijen nakon prethodnih višegodišnjih istraživanja. Anketiranje je izvršeno na uzorku od 191 zaposlenog u okviru 3 kompanije. Merni model klime bezbednosti sa ekstrahovanih 8 faktora bezbednosti je urađen primenom konfirmatorne faktorske analize – CFA. Prikupljeni podaci su obrađeni statističkim metodama, gde je analizirana percepcija klime bezbednosti kod zaposlenih, a pomoću ključnih faktora bezbednosti na radu. U okviru zaključaka istraživanja, poseban akcenat je na onim faktorima bezbednosti kod kojih su ustanovljene značajne mogućnosti poboljšanja. Obzirom na mali broj publikovanih radova sa temom bezbednosti na radu u metalurškom sektoru, prezentovani rezultati predstavljaju korisnu osnovu za nastavak istraživanja.

Ključne reči: klima bezbednosti, konfirmatorna faktorska analiza, modelovanje, metalurški sektor

1. UVODNA RAZMATRANJA

Razvoj metalurškog sektora u Srbiji vezuje se za sam početak XX veka i period ubrzane industrijalizacije. Osniva se kompleks obojene metalurgije Rudarsko topioničarski basen Bor, kao i centar crne metalurgije Železara Smederevo. Nakon Drugog svetskog rata nasupa period još intenzivnijeg razvoja kako ova dva metalurška kompleksa, tako i niza novih organizacija za preradu i obradu metala (Valjaonica bakra Sevojno i dr.). Krajem prošlog veka osnivaju se brojna mala i srednja privatna preduzeća u oblasti metalurgije i prerade metala (topionice, valjaonice i sl.).

Metalurški sektor spada u radno intenzivne delatnosti, tako da su zaposleni u ovoj oblasti izloženi brojim rizicima od povređivanja [1,2]. Otuda je bezbednost zaposlenih u ovoj industrijskoj oblasti tema koja zaslužuje značajnu pažnju, kako u pogledu proučavanja i istraživanja, tako i u pogledu implementacije praktičnih unapređujućih rešenja. Sa aspekta upravljanja bezbednošću zaposlenih na radu, koncept klime bezbednosti predstavlja esenciju ovog procesa. Klima bezbednosti se može definisati kao percepcija zaposlenih u smislu vrednosti, stavova, politika i procedura vezanih za bezbednost na radu u okviru organizacije [3,4,5,6]. Kreiranje i negovanje pozitivne klime bezbednosti predstavlja ključ poboljšanja performansi bezbednosti [7,8]. Brojni istraživači su dali svoj doprinos u pronalaženju načina i metoda za poboljšanja klime bezbednosti. U literaturi preovladava stav da menadžment ima ključnu ulogu pri kreiranju pozitivne klime bezbednosti u organizaciji. Menadžeri svojim delovanjem utiču na ponašanja zaposlenih kod kojih se vremenom vrši promena u percepcijama i stavovima, a što ishoduje popravljanjem klime bezbednosti u organizaciji. Na taj način se kontinualno unapređuju performanse bezbednosti [9,10].

Modelovanjem klime bezbednosti se vrši grupisanje stavki bezbednosti u grupe (faktore). Identifikacijom faktora bezbednosti koji pokazuju nedostatke sužava se fokus na pojedince ili grupe u organizaciji koje imaju uticaja na te faktore. Faktori ne moraju biti uniformni u različitim svetskim privredama. Osim razlika među industrijskim sektorima, tome doprinose kulturološke razlike, geografski, klimatski i drugi uticaji. Stoga je fokus modela klime bezbednosti na unifomnosti percepcije zaposlenih [11,12,13,14,15].

Kada je u pitanju proučavanje klime bezbednosti u metalurškom sektoru, ili bezbednosti na radu u ovoj oblasti u širem smislu, primetan je nedostatak literature. Izvestan broj autora proučava bezbednost zaposlenih u proizvodnim industrijama, a među njima i u okviru metalurškog sektora [16,17,18], dok je broj radova čiji je fokus bezbednost radnika u metalurškim kompleksima izuzetno mali [1,19,20]. Takva situacija je predstavljala osnovni razlog sprovođenja istraživanja bezbednosti na radu u jednom delu metalurškog sektora u Srbiji. Formiran je merni model klime bezbednosti i izvršeno merenje performansi bezbednosti na radu u okviru 3 kompanije metalurškog sektora, a ovaj rad predstavlja prikaz dobijenih rezultata.

2. METODOLOGIJA I UZORAK

U istraživanju je primenjena metodologija upitnika za prikupljanje podataka. Upitnik predstavlja modifikaciju originalnog upitnika koji je razvijen od strane autora ovog rada tokom ranijih istraživanja problematike bezbednosti na radu u proizvodnim kompanijama [21,22], a na osnovu dostupne relevantne literature [3,23,24,25,26]. Izvestan broj upitnika o bezbednosti na radu koji se može sresti u literaturi je razvijen za primenu u konkretnoj privrednoj delatnosti [27]. Sa druge strane, većina upitnika ovog tipa je univerzalno

primenljiva, bez obzira na vrstu industrije, što je slučaj i sa upitnikom korišćenim u okviru ovog istraživanja. Anketni listić se sastoji iz dva dela - prvi deo sadrži 8 pitanja kojima se dolazi do demografskih podataka (vezanih za ispitanika i organizaciju u kojoj je zaposlen), dok se drugi sastoji od 23 pitanja podeljenih u 8 grupa (faktora bezbednosti), a koja su vezana za oblast bezbednosti na radu.

Anonimno anketiranje je obavljeno među zaposlenima u metalurškom sektoru (proizvodnja i obrada metala) u okviru 3 organizacije na teritoriji istočne i centralne Srbije. Ispitanici su bili menadžeri, administrativno i ostalo osoblje, kao i proizvodni radnici. Anketiranje je obavljeno na skupu od 250 zaposlenih, pri čemu je prikupljn 191 ispravno popunjen anketni listić, što predstavlja 76.4 %. Za gradaciju dobijenih odgovora ispitanika je korišćena Likertova petostepena skala, sa vrednostima od 1 do 5, gde 1 predstavlja najmanji značaj (apsolutno se ne slažem sa datom konstatacijom), a 5 predstavlja najveći značaj (apsolutno se slažem sa datom konstatacijom). Skup prikupljenih podataka je analiziran statističkim alatima pomoću softverskog paketa SPSS 18.0 [28], dok su faktorska analiza i definisanje finalnog modela bezbednosti na radu obavljeni korišćenjem softverskog paketa LISREL 8.30 [29]. Demografske informacije o učesnicima ankete su prikazani u tabeli 1.

Tabela 1. Demografske informacije o učesnicima ankete

	Broj ispitanika koji je ispravno popunio anketni listić	%
Kompanija		
Kompanija 1	160	83.8
Kompanija 2	18	9.4
Kompanija 3	13	6.8
Ukupno ispitanika	191	100.0
Pozicija u kompaniji		
Proizvodno osoblje	101	52.9
Osoblje indirektno vezano za proizvodnju	67	35.1
Administrativno osoblje	14	7.3
Menadžeri	9	4.7
Ukupno ispitanika	191	100.0
Pol		
Ženski	20	10.5
Muški	171	89.5
Ukupno ispitanika	191	100.0
Školska sprema		
Osnovna škola	8	4.2
Srednja stručna sprema	161	84.3
Viša stručna sprema	5	2.6
Visoka stručna sprema	17	8.9
Ukupno ispitanika	191	100.0
Godine starosti		
do 29 godina	25	13.1
30 – 44 godine	92	48.2
45 – 54 godine	54	28.3
55 i više godina	20	10.5
Ukupno ispitanika	191	100.0
Da li ste imali povrede na radu?		
Da	55	28.8
Ne	136	71.2
Ukupno ispitanika	191	100.0

3. REZULTATI ISTRAŽIVANJA

3.1. ANALIZA POUZDANOSTI INDIKATORA BEZBEDNOSTI

Kvalitetna statistička obrada podataka kao početnu aktivnost zahteva utvrđivanje pouzdanosti i validnosti mernih skala [30], odnosno dobijenih rezultata na osnovu prikupljenih i obrađenih podataka [32]. U tu svrhu, obavljena je ocena interne konzistentnosti instrumenta za prikupljanje podataka korišćenjem Cronbach alpha testa i Spearman–Brown testa [32,33,34,35,36]. Cronbach-ovom formulom se izračunavaju prosečne vrednosti korelacija među stavkama mernog instrumenta (alpha koeficijent) kada su odgovori na pitanja ocenjeni na osnovu stepena zadatih skala (npr. Likertova petostepena skala). Verifikacija pouzdanosti je izvršena primenom Spearman–Brown testa [36]. Spearman–Brown koeficijent predstavlja koeficijent pouzdanosti svih mogućih kombinacija podele pitanja u dva seta [37].

Prema ovim testovima vrednosti koeficijenta α , kao i Spearman–Brown koeficijenta veće od 0.70 predstavljaju dobru mogućnost modelovanja rezultata ankete kod razmatrane populacije [38]. Na osnovu dobijenih Cronbach alpha koeficijenata interne konzistentnosti grupacija pitanja u okviru upitnika (P1 – P8), kao i cele populacije (GP), a takođe i Spearman–Brown koeficijenata svih kombinacija podele pitanja u dva seta, kako po grupama (P1 – P8), tako i cele populacije (GP), dokazana je validnost i pouzdanost upitnika o bezbednosti na radu, odnosno pravilnost formiranih grupa pitanja u okviru njega (Tabela 2.).

Tabela 2. Koeficijenti interne konzistentnosti grupacija pitanja u upitniku

Grupa pitanja	Broj stavki u okviru grupe	Cronbach alpha koeficijent	Spearman–Brown koeficijent
P1	5	0.740	0.680
P2	4	0.770	0.809
P3	3	0.844	0.850
P4	2	0.836	0.836
P5	3	0.742	0.730
P6	2	0.725	0.726
P7	2	0.673	0.678
P8	2	0.729	0.730
GP	23	0.782	0.721

3.2. MERA ADEKVATNOSTI UZORKA I VALIDACIJA STRUKTURE

3.2.1. Kaiser–Meyer–Olkin (KMO) i Bartlett test

Merenje adekvatnosti uzorkovanja (MSA analiza) je obavljeno primenom Kaiser–Meyer–Olkin (KMO) testa. Minimalno prihvatljiva vrednost Kaiser–Meyer–Olkin indikatora je 0.6, a njegova vrednost na razmatranom uzorku iznosi 0.808 što pokazuje da su podaci prikupljeni u ovom istraživanju adekvatni i pogodni za primenu faktorske analize [39,40,41]. Takođe, Bartlett-ov test sferičnosti je značajan ($\chi^2 = 1854.133$, $p = 0.000$), što ukazuje da postoje korelacije između grupa pitanja u okviru upitnika i da korelaciona matrica nije jedinična [42,43].

3.2.2. Korelaciona matrica faktora bezbednosti

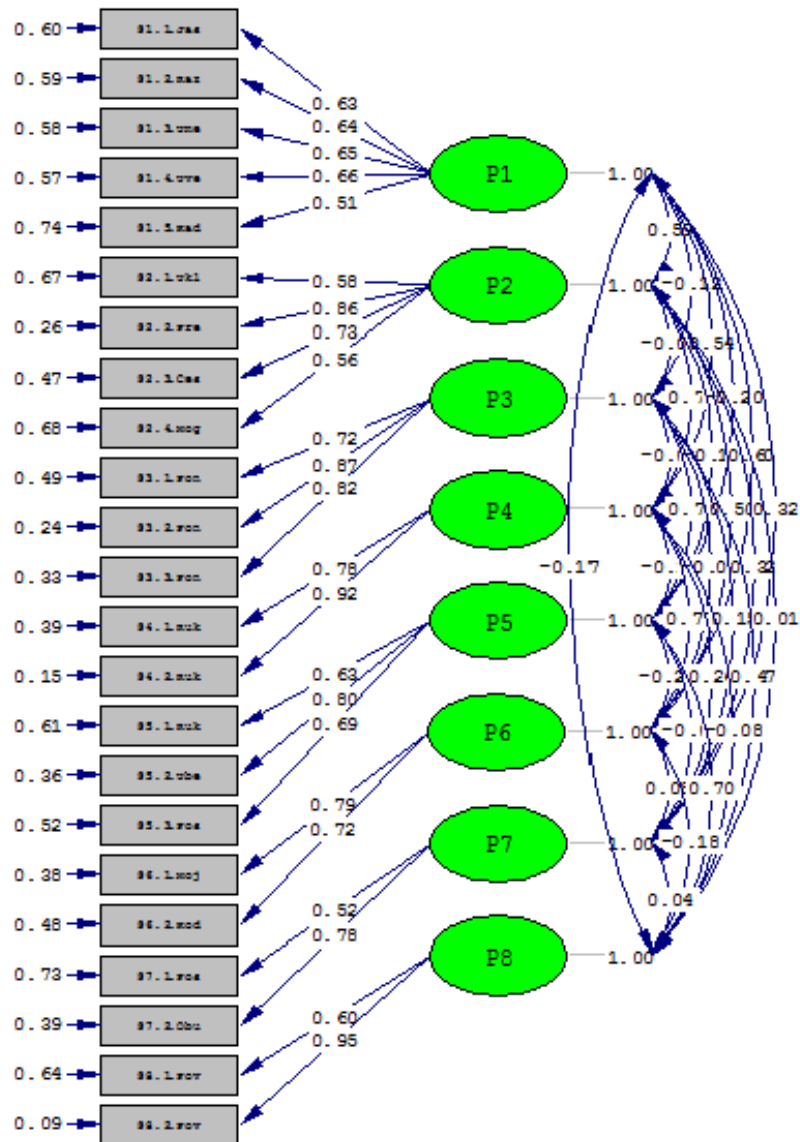
Korelacije između osam faktora bezbednosti na radu u okviru predloženog modela, prikazane su u tabeli 3. Kod velikih uzoraka koeficijenti korelacije imaju statističku značajnost na nivou 0.01, dok je na razmatranom uzorku nivo značajnosti 0.05, što svaki korelacioni koeficijent u materici ispunjava. Većina koeficijenata je oko, ili iznad vrednosti 0.5, što ukazuje na značajnu unutrašnju korelaciju između osam faktora klime bezbednosti, te je primena faktorske analize opravdana [44,45].

Table 3. Unutrašnje korelacije osam faktora klime bezbednosti

Koeficijent	P1	P2	P3	P4	P5	P6	P7	P8
P1	1.00							
P2	0.47	1.00						
P3	0.04	0.11	1.00					
P4	0.44	0.60	0.45	1.00				
P5	0.23	0.07	0.57	0.17	1.00			
P6	0.46	0.38	0.04	0.62	0.15	1.00		
P7	0.35	0.30	0.90	0.28	0.50	0.19	1.00	
P8	0.22	0.05	0.37	0.03	0.54	0.10	0.03	1.00

3.2.3. Konfirmatorna faktorska analiza – CFA

U cilju ispitivanja međuzavisnosti unutar velikog broja varijabli, koje je moguće objasniti pomoću malog broja zajedničkih faktora, urađena je konfirmatorna faktorska analiza (Confirmatory Factor Analysis – CFA), u kojoj su testirane matrice korelacija. U skladu sa teorijskim i empirijskim istraživanjima proizašao je merni model, kojim je predstavljena interkorelacija osam faktora (P1 – Svesnost o bezbednosti i kompetencija, P2 – Komunikacija o bezbednosti, P3 – Organizaciona okolina, P4 – Podrška rukovodstva, P5 – Ocena rizika, P6 – Mere bezbednosti, P7 – Obuka o bezbednosti, P8 – Nivo bezbednosti radnog mesta) (Slika 1).



Slika 1. Merni model bezbednosti na radu

Mera u kojoj model predstavlja dobru aproksimaciju realnosti ocenjena je na osnovu indeksa fitovanja, poput GFI (goodness-of-fit index) i aproksimativne greške RMSEA (root-mean-square error of approximation) [46]. GFI indikator je ograničen na interval vrednosti [0, 1]. Veća vrednosti GFI indikatora je pokazatelj dobre podudarnosti. Dobro fitovanje modela je označeno vrednošću većom od 0.90 [47], te je stoga ovaj indikator u razmatranom modelu blizak prihvatljivoj vrednosti (GFI = 0.86). Indikator RMSEA je zasnovan na aproksimativnoj grešci koja se javlja usled očekivanog stepena slobode u posmatranoj populaciji. Što je vrednost indikatora manja, podudarnost je bolja. Podudarnost je prihvatljivije ukoliko su vrednosti manje od 0.10 [47]. U razmatranom modelu, indikator ima vrednost 0.064, tako da zajedno sa GFI pokazuje dobru podudarnost, o čemu govori i relativni indeks fitovanja CFI, čija vrednost iznosi 0.95.

Kod svih većih uzoraka postoji verovatnoća dobijanja statistički značajne vrednosti χ^2 testa, odnosno odbacivanja modela, usled čega se izračunava relativna vrednost χ^2 testa, podelom sa brojem stepeni slobode (value χ^2 /d.f.). Ovo merenje mora imati vrednost iznad

1 i ispod 3, ili čak 5, da bi se osiguralo fitovanje podataka [43,47,48], a na taj način se potvrđuje da su i podaci zaista reprezentativni. U našem slučaju ova vrednost je $360.73/202 = 1.78$, šte je ispod gornjedonje moguće granice, a koja je definisana od strane navedenih autora.

3.3. DESKRIPTIVNA STATISTIKA

U tabeli 4. su prikazani rezultati deskriptivne statistike. Izračunate su srednje vrednosti odgovora ispitanika na pitanja iz ankete, kao i standardne devijacije odgovora. Na ovaj način sistematizovani odgovori ispitanika daju mogućnost analize percepcije zaposlenih u odnosu na svako pitanje pojedinačno, ili u odnosu na grupe pitanja (faktore bezbednosti).

Tabela 4. Rezutati deskriptivne statistike

Pitanja	Srednja vrednost	Std. devijacija	Pitanja	Srednja vrednost	Std. devijacija
P1-1	4.74	0.591	P4-1	3.55	1.195
P1-2	4.73	0.512	P4-2	3.45	1.172
P1-3	4.36	0.794	P5-1	2.97	1.254
P1-4	4.39	0.862	P5-2	2.94	1.263
P1-5	4.71	0.662	P5-3	3.21	1.164
P2-1	3.46	1.208	P6-1	3.19	1.095
P2-2	3.68	1.178	P6-2	3.74	1.018
P2-3	3.63	1.092	P7-1	4.43	1.008
P2-4	4.02	1.015	P7-2	4.44	0.868
P3-1	3.35	1.054	P8-1	3.36	1.269
P3-2	3.45	1.150	P8-2	2.80	1.180
P3-3	3.40	1.128			

N=191

3.4. UTICAJ DEMOGRAFSKIH FAKTORA NA PERCEPCIJU BEZBEDNOSTI ZAPOSLENIH

U cilju ustanovljavanja razlika ili sličnosti u stavovima i percepciji bezbednosti na radu kod zaposlenih na osnovu njihovih pozicija u kompaniji, kao i na osnovu radnog staža u kompaniji, sproveden je ANOVA test (analyses of variaces). U pitanju su promenljive koje mogu imati jednu od mogućih tri ili više vrednosti [49].

Takođe je analiziran uticaj doživljenih povreda na radu na stavove i percepciju bezbednosti kod zaposlenih. Doživljene (nedoživljene) povrede na radu predstavljaju demografski podatak koji može imati samo jednu od dve moguće vrednosti (0 ili 1), što je usov primene T–testa. Kao najbolji od varijanti T–testa, za podatke obrađivane u ovom radu, korišćen je Independetn – Samples T–test. Vrednosti demografskog podatka su korišćene kao grupišuće, dok su odgovori ispitanika na pitanja po grupama korišćeni kao test promenljive. Na taj način je određen uticaj grupišućih promenljivih na svaku od test promenljivih [50,51], odnosno uticaj povreda na radu na odgovore ispitanika na pitanja iz ankete sa temom bezbednosti na radu. U tabeli 5. su prikazani rezultati ANOVA testa i T–testa.

Tabela 5. Rezultati uticaja pozicije ispitanika u kompaniji, godina provedenih u kompaniji i doživljenih (nedoživljenih) povreda na radu na odgovore na pitanja iz ankete

Stavke u okviru upitnika	Pozicija u kompaniji	Godine provedene u kompaniji	Doživljene (nedoživljene) povrede na radu	
	ANOVA Sig.	ANOVA Sig.	T-test	Sig. (2-tailed)
P ₁₋₁	0.469	0.108		0.030
P ₁₋₂	0.842	0.728		0.028
P ₁₋₃	0.122	0.492		0.019
P ₁₋₄	0.008	0.107		0.017
P ₁₋₅	0.344	0.306		0.048
P ₂₋₁	0.716	0.074		0.253
P ₂₋₂	0.042	0.270		0.028
P ₂₋₃	0.867	0.312		0.018
P ₂₋₄	0.379	0.134		0.000
P ₃₋₁	0.126	0.062		0.173
P ₃₋₂	0.119	0.025		0.082
P ₃₋₃	0.171	0.155		0.765
P ₄₋₁	0.596	0.393		0.172
P ₄₋₂	0.634	0.170		0.089
P ₅₋₁	0.021	0.188		0.034
P ₅₋₂	0.028	0.157		0.047
P ₅₋₃	0.013	0.137		0.048
P ₆₋₁	0.197	0.318		0.015
P ₆₋₂	0.061	0.406		0.018
P ₇₋₁	0.179	0.057		0.000
P ₇₋₂	0.061	0.308		0.015
P ₈₋₁	0.008	0.005		0.000
P ₈₋₂	0.032	0.002		0.000

Na osnovu rezultata ANOVA testa uočava se da pozicija u kompaniji vrši neznatan uticaj na stavove i percepciju bezbednosti na radu kod zaposlenih. Statistički značajan uticaj ovog demografskog faktora na odgovore na većinu pitanja iz ankete ne postoji ($p > 0.05$). Izuzetak su grupe pitanja P5 (ocena rizika) i P8 (nivo bezbednosti radnog mesta) ($p < 0.05$), što je i očekivano. Takođe i godine provedne u kompaniji gotovo da ne vrše nikakav uticaj na promenu stavova i percepcija o bezbednosti kod zaposlenih, sa izuzetkom grupe pitanja P8 (nivo bezbednosti radnog mesta) ($p < 0.05$). Sa druge strane, posmatrajući rezultate T-testa, uočava se da postoji izuzetno snažan uticaj doživljenih povreda na radu na stavove i percepciju bezbednosti kod zaposlenih ($p < 0.05$). Izuzetak predstavlja grupa pitanja P3 (organizaciona okolina), gde prilikom ocene ovog faktora bezbednosti, doživljene povrede ne vrše nikakv uticaj na stavove zaposlenih ($p > 0.05$).

4. DISKUSIJA REZULTATA

Modelovanje klime bezbednosti, odnosno merenje vrednosti, stavova i percepcija bezbednosti na radu zaposlenih u okviru metalurskog kompleksa bio je osnovni cilj ovog istraživanja. Analizom prikupljenih podataka je utvrđeno da se percepcija bezbednosti zaposlenih, kao i klima bezbednosti mogu pouzdano izmeriti pomoću upitnika sastavljenog od 23 pitanja, koncipiranih na osnovu 8 faktora bezbednosti: svenost o bezbednosti i kompetencija, komunikacija o bezbednosti, organizaciono okruženje, podrška rukovodstva, ocena rizika, mere bezbednosti, obuka iz oblasti bezbednosti i nivo bezbednosti radnog

mesta. Rezultati obrađenih podataka prikupljenih anketiranjem zaposlenih u okviru metalurškog sektora su pokazali da stavke u okviru korišćenog upitnika o bezbednosti na radu imaju prihvatljivu konzistentnost kako u njegovoj celini, tako i unutar grupa pitanja. Konceptija stavki u okviru mernog modela pruža prihvatljivu validnost rezultata merenja klime bezbednosti. Testiranje mernog modela je pokazalo pravilnost odabranh faktora bezbednosti, te na taj način merni model predstavlja dobru aproksimaciju realnosti.

Koršćenjem predstavljenog mernog modela klime bezbednosti na radu u okviru kompanija metalurškog sektora došlo se do zanimljivih zaključaka. Poput rezultata dobijenih u okviru prethodnih istraživanja [21,22] i ova studija je pokazala veliki uticaj doživljenih poveda na radu na formiranje klime bezbednosti u okviru organizaija. Na osnovu rezultata T-testa očigledna je razlika u stavovima i percepciji klime bezbednosti, a posledično i u ponašanju kod radnika koji su doživljavali povrede na radu u odnosu na radnike kojima se nisu dešavale povrede. Ovakva situacija je identična saznanjima proisteklim iz Bemovih istraživanja. Prema Bemu, stavovi zaposlenih i njihove percepcije su odraz ponašanja i pozitivnih ili negativnih dešavanja prouzrokovanih njima [52].

Pri posmatrnju rezultata ANOVA testa, očigledan je izostanak uticaja pozicije ispitanika u organizaciji (radnog mesta) na stavove i percepciju klime bezbednosti. Identična situacija je i kod uticaja godina koje je ispitanik proveo u kompaniji na razmatrani koncept. Izuzetak su grupe pitanja P5 – Ocena rizika i P8 – Nivo bezbednosti radnog mesta, što je u potpunosti i očekivano. Izostanak uticaja pomenutih demografskih faktora na percepciju klime bezbednosti zaposlenih može se objasniti verovatno snažnih uticajem organizacionih faktora i organizacione kulture na sve članove organizacije [53].

Merenje klime bezbednosti u okviru kompanija metalurškog sektora je pokazalo visok nivo svesnosti i kompetentnosti iz oblasti bezbednosti na radu kod zaposlenih (Mean = 4.58). I pored toga, na osnovu samoprijavlivanja povreda na radu stepen njihovog dešavanja je prilično visok u poređenju sa prosekom u industrijsom sektoru u Srbiji [22]. Naime, gotovo svaki treći radnik je doživeo određeni vid povrede na radu (28.8%), što je znatno više od pomenutog proseka (15.3%) [22]. Ovaj nivo povređivanja zaposlenih u metalurškom sektoru može se tumačiti velikim brojem radnih mesta sa povećanim rizikom od povređivanja [1], ali takođe, nije isključeno ni svesno nepoštovanja od strane radnika svih tehničkih, organizacionih i ostalih mera bezbednosti prilikom obavljanja radnih aktivnosti [54]. Kako bi se sve planirane bezbednosne mere i procedure realizovale, neophodna je adekvatna komunikacija o bezbednosti na relaciji menadžer – radnik [14]. Na osnovu odgovora ispitanika, postoje određeni nedostaci po pitanju kvaliteta ovog tipa kominikacije u okviru organizacija (Mean = 3.69). Prema Zhangu i Fangu, izostanak povratne informacije u sistemu komunikacije o bezbednosti je jedan od ključnih uzroka slabljenja klime bezbednosti, što za posledicu ima povećanu stopu povreda na radu [55]. Da li se u proučvanim organizacijama radi o sličnom problemu, ovakav vid analize nije u stanju da da odgovor, te ovo pitanje ostaje otvoreno i kao takvo može da predstavlja polazne smernice za buduća istraživanja klime bezbednosti u kompanijama.

Neadekvatno organizaciono okruženje može biti uzrok drastičnog ugrožavanja stanje bezbednosti radnika na radnim mestima [54], a obzirom da su ispitanici prilično niskom ocenom procenili ovaj faktor bezbednosti (Mean = 3.40), očito je da je to jedan od uzroka čestih povređivanja zaposlenih. Kada radnici prepoznaju punu posvećenost i podršku rukovodilaca bezbednosti na radu, dešava se snažan pozitivan uticaj na njihovu percepciju i stavove, a to se posledično reflektuje na popravljavanje stanja bezbednosti na radu [56,57]. Na osnovu dobijenih rezultata u okviru ankete, ovakva interakcija se ne može očekivati u potpunosti (Mean = 3.50). To potvrđuje i ocena mera bezbednosti (Mean = 3.46). Obavljene obuke o bezbednosti na radu, tj. njihov kvalitet, zaposleni uglavnom pozitivno

ocenjuju (Mean = 4.43). Konačno, prilikom analize ocene nivoa bezbednosti radnog mesta na kome ispitanik radi, uočava se gotovo apsolutna sredina između dve krajnosti (potpuno bezbednog i potpuno nebezbednog radnog mesta) (Mean = 3.08).

5. ZAKLJUČAK

Metalurški sektor spada u radno intenzivne privredne delatnosti, tako da su zaposleni u ovoj oblasti izloženi brojnim rizicima od povređivanja. Stoga, kako bi se dostigli proizvodni ciljevi bez ugrožavanja života i zdravlja zaposlenih, bezbednost na radu se mora posmatrati kao jedan od najbitnijih segmenata poslovanja. Na osnovu rezultata sprovedenog istraživanja na uzorku od 191 zaposlenog u okviru 3 kompanije, može se zaključiti da je klima bezbednosti relativno zadovoljavajuća. Formiranje ovakvog, generalnog stava o stanju klime bezbednosti u kompanijama metalurškog sektora je rezultat izvršenog modelovanja i merenja klime bezbednosti. Zahvaljujući strukturi mernog modela, moguća je detaljna analiza. Ocena svakog od osam faktora bezbednosti pomaže u procesu pronalazanja nedostataka u sistemu bezbednosti na radu. Na taj način je moguće formiranje planova za otklanjanje ustanovljenih nedostataka, čiji je cilj popravljavanje klime bezbednosti, odnosno unapređenje performansi bezbednosti na radu.

Nezadovoljavajući stav zaposlenih u metalurškom sektoru po pitanju ocene organizacionog okruženja, mera bezbednosti, podrške rukovodstva i komunikacije o bezbednosti, otkriva slabosti u sistemima bezbednosti razmatranih kompanija. Pomenuti faktori u velikoj meri utiču na slabljenje klime bezbednosti, koje vremenom dovodi do pogoršanja stanja bezbednosti, odnosno povećanja broja povreda na radu. U takvoj situaciji, neophodna je analiza i revizija organizacionih uslova u smislu prilagođavanja ciljevima bezbednosti, a takođe i preispitivanje svih mera i procedura bezbednog rada. Pored toga, potrebno je preispitati sistem komunikacije u cilju kvalitetnog protoka informacija, a tamo gde informacije ne stižu do lica kojima su namenjene obezbediti potrebne elementu u cilju rešavanja ovog problema. Takođe, u sistemu komunikacije o bezbednosti je potrebno omogućiti kvalitetan prijem i analizu povratne informacije, čime se značajno osnažuje podrška rukovodstva. Upotreba mernog modela klime bezbednosti omogućava još detaljniju analizu u konkretnim metalurškim sistemima i donošenje odluka za realizaciju usvojenih planova za ostvarenje pune bezbednosti zaposlenih.

REFERENCE

1. Seseć, A., Palmer, A.L., Cajal, B., Montañó, J.J., Jiménez, R., Llorens, N. (2002). Occupational safety and health in Spain. *Journal of Safety Research*, 33, 511– 525.
2. Abdat, F., Leclercq, S., Cuny, X., Tissot, C. (2014). Extracting recurrent scenarios from narrative texts using a Bayesian network: Application to serious occupational accidents with movement disturbance. *Accident Analysis and Prevention*, 70, 155– 166.
3. Zohar, D. (1980). Safety climate in industrial organizations: theoretical and applied implications. *Journal of Applied Psychology*, 60(1), 96 – 102.

4. Griffin, M., Neal, A. (2000). Perceptions of safety at work: a framework for linking safety climate to safety performance, knowledge, and motivation. *Journal of Occupational Health Psychology*, 5(3), 347–358.
5. Clarke, S. (2010). An integrative model of safety climate: linking psychological climate and work attitudes to individual outcomes using meta-analysis. *Journal of Occupational and Organizational Psychology*, 83, 553–578.
6. Nahrgang, J.D., Morgeson, F.P., Hofmann, D.A. (2011). Safety at work: a meta-analytic investigation of the link between job demands, job resources, burnout, engagement, and safety outcomes. *Journal of Applied Psychology*, 96, 71–94.
7. Fang, D., Wu, H. (2013). Development of a Safety Culture Interaction (SCI) model for construction projects. *Safety Science*, 57, 138–149.
8. Hon, C.K.H., Chan, A.P.C., Yam, M.C.H. (2014). Relationships between safety climate and safety performance of building repair, maintenance, minor alteration, and addition (RMAA) works. *Safety Science*, 65, 10–19.
9. Langford, D., Rowlinson, S., Sawacha, E. (2000). Safety behaviour and safety management: its influence on the attitudes of workers in the UK construction industry. *Engineering Construction and Architectural Management*, 7(2), 133–140.
10. Christian, M., Bradley, J., Wallace, J., Burke, M. (2009). Workplace safety: a meta-analysis of the roles of person and situation factors. *Journal of Applied Psychology*, 94, 1103–1127.
11. O'Toole, M. (2002). The relationship between employees' perceptions of safety and organizational culture. *Journal of Safety Research*, 33, 231–243.
12. Findley, M., Smith, S., Gorski, J., O'neil, M. (2007). Safety climate differences among job positions in a nuclear decommissioning and demolition industry: Employees' self-reported safety attitudes and perceptions. *Safety Science*, 45, 875–889.
13. Vinodkumar, M.N., Bhasi, M. (2009). Safety climate factors and its relationship with accidents and personal attributes in the chemical industry. *Safety Science*, 47, 659–667.
14. Ismail, Z., Doostdar, S., Harun, Z. (2012). Factors influencing the implementation of a safety management system for construction sites. *Safety Science*, 50, 418–423.
15. Cheng, E.W.L., Ryan, N., Kelly, S. (2012). Exploring the perceived influence of safety management practices on project performance in the construction industry. *Safety Science*, 50, 363–369.
16. Leger, J.-P., Macun, I. (1990). Safety in South African Industry: An Analysis of Accident Statistics. *Journal of Occupational Accidents*, 11, 197–220.
17. Koradecka, D., Dryzek, H. (2001). Occupational safety and health in Poland. *Journal of Safety Research*, 32, 187–208.
18. Fernández-Muñiz, B., Montes-Peón, J.M., Vázquez-Ordás, C.J. (2009). Relation between occupational safety management and firm performance. *Safety Science*, 47, 980–991.
19. Basha, S.A., Maiti, J. (2013). Relationships of demographic factors, job risk perception and work injury in a steel plant in India. *Safety Science*, 51, 374–381.
20. Metaxas, T., Tsavdaridou, M. (2013). CSR in metallurgy sector in Greece: A content analysis. *Resources Policy*, 38, 295–309.

21. Mihajlović, I., Živković, Ž., Milijić, N. (2011). Importance of the safety climate measurement at workplace in Serbia, The 3rd International scientific conference, "Toyotarity in the context of European enterprises improvement", Poronin koło Zakopanego 2-4.12.2011 Poland, Chapter 5. in the Monography: Elements of the organizations mission, pp.70-91. ISBN:978-966-1507-70-7. Editor Stanislaw Borkowski, Dorota Klimecka Tatar.
22. Milijić, N., Mihajlović, I., Štrbac, N., Živković, Ž. (2013). Developing a Questionnaire for Measuring Safety Climate in the Workplace in Serbia, *International Journal of Occupational Safety and Ergonomics*, 19(4), 631–645.
23. Seo, D.C., Torabi, M.R., Blair, E.H., Ellis, N.T. (2004). A cross-validation of safety climate scale using confirmatory factor analytic approach. *Journal of Safety Research*, 35, 427 – 445.
24. Zohar, D., Luria, G. (2005). A multilevel model of safety climate: Cross-level relationship between organization and group-level climates. *Journal of Applied Psychology*, 90(4), 616 – 628.
25. Lin, S.H., Tang, W.J., Miao, J.Y., Wang, Y.M., Wang, P.X. (2008). Safety climate measurement at workplace in China: A validity and reliability assessment. *Safety Science*, 46, 1037-1046.
26. Hsu, S.H., Lee, C.C., Wu, M.C., Takano, K. (2008). A cross-cultural study of organizational factors on safety: Japanese vs. Taiwanese oil refinery plants. *Accident Analysis and Prevention*, 40, 24–34.
27. Glendon, A.I., Litherland, D.K. (2001). Safety climate factors, group differences and safety behaviour in road construction. *Safety Science*, 39, 157–188.
28. Pallant, J. (2008). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS for Windows*, Open University Press, United Kingdom.
29. Du Toit, M., Du Toit, S.H.C. (2001). *Interactive LISLER User's Guide*. Lincolnwood, IL: Scientific Software International, Inc.
30. McDonald, R. P. (1999). *Test theory: A unified treatment*. Mahwah, NJ: Lawrence Erlbaum.
31. Thompson, B., Wacha-Haase, T. (2000). Psychometrics is datametrics: The test is not reliable. *Educational and Psychological Measurement*, 60, 174.
32. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297–334.
33. Allen, M.J., Yen, W.M. (2002). *Introduction to Measurement Theory*. Long Grove, IL: Waveland Press.
34. Kupermintz, H. (2003). Lee J. Cronbach's contributions to educational psychology. In B.J. Zimmerman and D.H. Schunk (Eds.). *Uducational psychology: A century of contributions*, pp. 289-302. Mahwah, NJ, US: Erlbaum.
35. Eisinga, R., Te Grotenhuis, M., Pelzer, B. (2012). The reliability of a two-item scale: Pearson, Cronbach or Spearman-Brown? *International Journal of Public Health*, 58(4), 637–642.
36. Vasić, A., Šarčević, D. (2013). Od alfe do omega i natrag. *Primenjena psihologija*, 6(3), 287–310.
37. Gerbing, D.W., Anderson, J.C. (1988). An updated paradigm for scale development incorporating unidimensionality and its assessment. *Journal of Marketing Research*, 25, 186–192.

38. Nunnally, J.M. (1994). *Psychometric Theory*, third ed. McGraw-Hill, New York.
39. Dziuban, C.D., Shirkey, E.C. (1974). When is a correlation matrix appropriate for factor analysis? Some decision rules. *Psychological Bulletin*, 81(6), 358–361.
40. Kaiser H.F. (1974) An index of factorial simplicity. *Psychometrika* 39, 31–36.
41. Cerny, C.A., Kaiser, H.F. (1977). A study of a measure of sampling adequacy for factor-analytic correlation matrices. *Multivariate Behavioral Research*, 12(1), 43–47.
42. Tobias, S., Carlson, J.E. (1969). Brief report: Bartlett's test of sphericity and chance findings in factor analysis. *Multivariate Behavioral Research*, 4(3), 375–377.
43. Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E. (2010). *Multivariate Data Analysis*, 7th ed., Prentice – Hall, Englewood Cliffs, NJ.
44. Stewart, D.W. (1981). The Application and Misapplication of Factor Analysis in Marketing Research. *Journal of Marketing Research*, 18(1), 51–62.
45. Gorsuch, R.L. (1983). *Factor Analysis*. Hillsdale, NJ: Lawrence Erlbaum.
46. Bentler, P.M., Bonett, D.G. (1980). Significance Tests and Goodness of Fit in the Analysis of Covariance Structures. *Psychological Bulletin*, 88(3), 588–606.
47. Molina, L.M. (2007). Relationship between quality management practices and knowledge transfer. *Journal of Operations Management*, 25, 682–701.
48. Velicer, W.F., Jackson, D.N. (1990). Component analysis versus common factor analysis: Some issues in selecting an appropriate procedure. *Multivariate Behavioral Research*, 25(1), 1–28.
49. Kirk, R.E. (1995). *Experimental Design: Procedures For The Behavioral Sciences*, Third Edition, Pacific Grove, CA, USA: Brooks/Cole.
50. Altman, D.G., Gore, S.M., Gardner, M.J., Pocock, S.J. (1983). Statistical guidelines for contributors to medical journals. *British Medical Journal*, 286, 1489–1493.
51. Gardner, M.J., Altman. D.G. (1986). Confidence intervals rather than P values: estimation rather than hypothesis testing. *British Medical Journal*, 292, 746–750.
52. Bem, D.J. (1972). Self perception theory. An alternative interpretation of cognitive dissonance phenomena. In: Berkowitz, L. (Ed.), *Advances in Experimental Social Psychology*, Vol. 6. Academic Press, New York, pp. 1–62.
53. Hsu, S.H., Lee, C.C., Wu, M.C., Takano, K. (2010). The influence of organizational factors on safety in Taiwanese high-risk industries. *Journal of Loss Prevention in the Process Industries*, 23, 646–653.
54. Lund, J., Aarø, L.E. (2004). Accident prevention. Presentation of a model placing emphasis on human, structural and cultural factors. *Safety Science*, 42, 271–324.
55. Zhang, M., Fang, D. (2013) A continuous Behavior-Based Safety strategy for persistent safety improvement in construction industry. *Automation in Construction*, 34, 101–107.
56. Martínez-Córcoles, M., Gracia, F., Tomás, I., Peiró, J.M. (2011) Leadership and employees' perceived safety behaviours in a nuclear power plant: A structural equation model. *Safety Science* 49, 1118–1129.
57. Eid, J., Mearns, K., Larsson, G., Laberg, J.C., Johnsen, B.H. (2012) Leadership, psychological capital and safety research: Conceptual issues and future research questions. *Safety Science* 50, 55–61.

COMPARATIVE TECHNO-ECONOMIC ANALYSIS OF TECHNOLOGIES FOR CREATION OF PERSONALIZED OSTEO- FIXATION MATERIALS

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Abstract: This paper shows review and comparison of characteristics for metal materials and technologies used for creating of osteo-fixation materials in collaborative environment. Along with subtractive and formative, additive technologies become more and more interesting. That is why techno-economic analysis is always necessary. CAPP (Computer Aided Process Planning) was used for analysis, while methods of arithmetic mean, median and Fuller triangle were used for evaluation of technological process variants. Analysis was performed on the specimen of stainless steel screw for biomedical purposes, used for fixation of lacking part of humerus.

Keywords: osteo-fixation metal materials, biocompatibility, CAPP, Fuller triangle

UPOREDNA TEHNO-EKONOMSKA ANALIZA TEHNOLOGIJA ZA IZRADU PERSONALIZOVANOG OSTEOFIKSACIONOG MATERIJALA

Dalibor Djenadić, Dejan Tanikić, Jelena Djoković

Abstrakt: U ovom radu je prikazan pregled i poređenje karakteristika metalnih materijala i tehnoloških postupaka koji se koriste za izradu osteofiksacionog materijala u kolaborativnom okruženju. Uz substraktivne i formativne tehnologije sve više su u primeni i aditivne tehnologije, pa je zbog toga gotovo uvek neophodna tehnološka i ekonomska analiza primene neke od tehnologija. Za analizu je korišćen CAPP (Computer Aided Process Planning) sistem, dok su za ocenjivanje varijanti tehnoloških procesa korišćeni metodi aritmetičke sredine, medijane i Fulerovog trougla. Analiza je urađena na primerku zavrtnja za biomedicinsku upotrebu od nerđajućeg čelika koji se koristi za fiksiranje nedostajućeg dela humerusa.

Ključne reči: osteofiksacioni metalni materijali, biokompatibilnost, CAPP, Fulerov trougao

1. UVOD

U razvoju savremenih sistema projektovanja proizvoda i tehnoloških procesa neophodna je primena novih koncepcija i modela koji podrazumevaju dinamičko usaglašavanje svih aktivnosti i faza u cilju unapređenja kvaliteta projektovanja. Razvoj informacionih tehnologija omogućio je primenu brojnih programskih sistema i tehnika namenjenih unapređenju procesa projektovanja i proizvodnje. To je dovelo do stalne potrebe za kooperacijom sa drugim ljudima, kako bi se proširivalo znanje i kako bi se što pre ostvarili postavljeni ciljevi. Kolaborativno inženjerstvo omogućava pojedincima i organizacijama da aktivno razmenjuju znanje i na taj način efikasno ostvare zajedničke ciljeve.

Predmet istraživanja u okviru ovog rada odnosi se na savremene pristupe u području projektovanja tehnoloških procesa izrade proizvoda kao i tehno ekonomsku analizu tehnoloških procesa za izradu osteofiksacionog materijala.

2. PREGLED METALNIH MATERIJALA ZA IZRADU OSTEOFIKSACIONOG MATERIJALA

Metalni materijali se ubedljivo najduže koriste u biomedicini za izradu osteofiksacionog materijala. Najčešće se koriste za izradu sledećih proizvoda: veštačkih kukova, veštačkih kolena, pločica za fiksaciju prelomljenih kostiju, zavrtnjeva i klinova za fiksaciju, za izradu delova u stomatologiji itd., kao i za izradu hirurških instrumenata [1].

Materijali koji su biokompatibilni nazivaju se biomaterijali, dok je biokompatibilnost opisni izraz kojim se označava sposobnost materijala da se ponaša na odgovarajući način u organizmu u kome se aplicira [2].

Za izradu fiksatora i implanta se koriste biokompatibilni materijali. Biokompatibilni materijali su materijali koji pokazuju dobre karakteristike u kontaktu sa ćelijama, tkivima ili telesnim tečnostima ljudskog organizma. Karakteristike koje treba da poseduju ovakvi materijali su: netoksičnost, otpornost prema koroziji, izdržljivost, veliku čvrstoću, žilavost uz niske vrednosti modula elastičnosti itd [3].

Danas se u ortopedskoj hirurgiji najviše koriste nerđajući čelici (austenitni i precipitaciono ojačani), super legure na bazi kobalta (kobalt-hrom legure), titan i njegove legure i sve više je u primeni magnezijum i njegove legure koje teže da zamene titanijumove legure. Pregled primene metalnih materijala je dat u tabeli 1 [3].

Nerđajući čelici obuhvataju jednu veliku grupaciju različitih vrsta čelika koji imaju dobru otpornost na koroziju, uslovljenu visokim procentom hroma. Ovi čelici koriste se za mnogobrojne aplikacije u medicini, jer su lako dostupni, imaju nisku cenu, odlične mehaničke karakteristike uz odgovarajuću biokompatibilnost. Nedostatak ove vrste čelika je otpornost prema koroziji.

U biomedicini se veoma često koriste legure na bazi kobalta i hroma [4]. One imaju dosta veću otpornost na habanje od nerđajućih čelika i titanijumovih legura. Iz tog razloga se najčešće koriste za izradu veštačkih kukova, uglavnom za izradu glave proteze. Pored dobre tvrdoće, ove legure imaju i odlične mehaničke karakteristike koje dozvoljavaju poliranje površine gotovog proizvoda (do granice ogledala), što u nekim slučajevima može biti od izuzetnog značaja. Obradivost legura je odlična, o kom god postupku mašinske obrade da se radi.

Titanijum i njegove legure predstavljaju ubedljivo najšire korišćene materijale za biomedicinsku upotrebu. Koriste se za zamenu i reparaciju tvrdog tkiva, kao što su: veštačka ramena, veštački kukovi, zavrtnjevi za fiksatore, pejsmejkleri, veštačka srca itd.

Tabela 1. Pregled primene metalnih materijala [3]

Materijal	Primena
Nerđajući čelici: Austenitni: AISI 316, 316L, 316LVM, 316 Ti, 317, 321 Precipitaciono ojačani: AISI 630 (17 - 4PH)	Veštački zglobovi, fiksatori preloma kostiju
Titanijum i titanijumove legure: Ti Ti-6Al-4V Ti-6Al-7Nb	Veštački zglobovi
Kobaltove superlegure: Co-Cr Co-Cr-Mo	Veštački zglobovi, fiksatori preloma kostiju
Magnezijum	Veštački zglobovi
Tantal (Trabekularni metal)	Veštački zglobovi

Komercijalno čist titanijum se smatra najboljim biokompatibilnim materijalom. Njegove glavne fizičke karakteristike su: nizak nivo elektro konduktivnosti, velika otpornost na koroziju, mala tendencija ka stvaranju jona u tečnim sredinama itd. Prednosti čistog titanijuma u odnosu na druge materijale koji se koriste u medicini jesu velika čvrstoća u kombinaciji sa malom specifičnom težinom, dobrom otpornošću na koroziju itd. Najčešće se koristi kada je neophodno ostvariti direktan kontakt između implanta i tvrdog tkiva, odnosno kosti. Obradivost ovog materijala je dosta dobra.

Legure titanijuma koje su najviše u primeni su legure: Ti-6Al-4V i Ti-6Al-4V ELI (engl. *Extra Low Interstitial*) pri čemu je osnovna razlika ovih legura u manjem sadržaju kiseonika, ugljenika, azota i gvožđa.

Magnezijum i njegove legure su u poslednjih nekoliko godina postali izuzetno interesantni materijali u polju biomedicine. Razlog za to jeste biorazgradivost tih materijala, pa su i sami implantati na bazi magnezijuma biorazgradivi. Biorazgradivost implanta omogućava razne olakšice pacijentu jer nema potrebe za dodatnim operacijama za uklanjanje implanta, što prouzrokuje manje troškove vremena i novca oko operacije, rehabilitacije itd.

Pored dosta niskog modula elastičnosti legure magnezijuma poseduju još niz prednosti u smislu implantiranja u ljudski organizam. Jedna od tih prednosti jeste i to da je magnezijum prirodni sastojak ljudskog organizma i da pri tom ima mnogo važnih funkcija u ljudskom organizmu. Magnezijum je takođe dokazan kao nealergijski element i pospešuje formiranje nove koštane strukture in vitro i in vivo [5,6,7].

Jedna izuzetno velika prednost magnezijumovih legura je biokompatibilnost. To omogućava da se usled biorazgradivosti implanta deo magnezijuma zadržava u organizmu dok se višak jona koji se mešaju sa telesnim tečnostima vrlo lako izlučuju iz ljudskog organizma putem bubrega. Ovo je možda i najveći razlog za dalje istraživanje magnezijumovih legura i poboljšanje u cilju primene u biomedicini.

U primeni su uglavnom legure magnezijuma koje imaju visoku otpornost na koroziju. Naročito su u primeni legure sa aluminijumom, litijumom, retkim zemljanim metalima, kalcijumom ili cinkom i sa cirkonijumom.

Magnezijumove legure se koriste za izradu biorazgradivih vijaka i pločica, koronarnih stentova pri čemu se utvrdilo da gotovo da nema uticaja prisutnosti implanta na okolno tkivo, i za skafolde kao privremena zamena za koštane strukture [8].

3. TEHNOLOŠKI POSTUPAK IZRADE IZABRANOG OSTEOFIKSACIONOG MATERIJALA

Sistem za kolaborativno projektovanje tehnoloških procesa izrade proizvoda treba da obezbedi efikasnu saradnju svih relevantnih subjekata koji učestvuju u neposrednoj pripremi proizvodnje. Osnovni zadatak ovog sistema je efikasno uključivanje odgovarajućih resursa u proces odlučivanja pri definisanju tehnoloških procesa izrade određene grupe proizvoda. Međutim, s obzirom da se odlučivanje ne može realizovati bez adekvatnih geometrijskih i tehnoloških podataka, kao i podataka o neposrednim proizvodnim uslovima i resursima, kolaborativni sistem treba da omogući i pristup ključnim podacima na bazi kojih će se doći do odgovarajućih tehnoloških rešenja. Pored toga sistem treba da omogući arhiviranje dobijenih rešenja, u cilju njihove buduće analize i eksploatacije, kao i generisanje odgovarajuće dokumentacije.

Porudžbina proizvoda inicira analizu ulaznih podataka od strane inženjera u okviru matičnog preduzeća. Porudžbina treba da obuhvati osnovne ulazne geometrijske i tehnološke podatke koji su neophodni za projektovanje tehnoloških procesa i neposrednu proizvodnju poručenog proizvoda. Porudžbina uključuje detaljan crtež proizvoda, obim proizvodnje, zahtevane rokove isporuke, kao i dopunske specifične zahteve koji imaju direktan ili indirektan uticaj na tehnološki proces izrade, odnosno proizvodni proces. Nakon toga sledi interna klasifikacija proizvoda, što podrazumeva njegovo geometrijsko i tehnološko prepoznavanje. Upravo se na taj način definiše pripadnost novog proizvoda odgovarajućoj grupi ili tipu proizvoda koji se nalaze u sastavu proizvodnog programa matičnog preduzeća.

Generisanje tehnoloških procesa se vrši na principima grupne i tipske tehnologije uz primenu CAPP sistema. U sastavu kolaborativnog okruženja predviđena je primena specijalizovanog CAPP sistema koji u svojoj integrisanoj bazi znanja sadrži tipske tehnološke procese izrade za sve tehnološke grupe proizvoda koje postoje u matičnom preduzeću.

Primena CAPP sistema podrazumeva podršku odgovarajuće tehnološke baze podataka i baze znanja. Ovo su dve ključne komponente bez kojih automatizacija projektovanja tehnoloških procesa izrade ne bi bila moguća.

Verifikacija kolaborativnog sistema izvršena je na primeru proizvoda koji se koristi za biomedicinsku upotrebu, odnosno za fiksiranje nedostajućeg dela humerusa i takav primer se može primeniti u svrhe bilo kog nedostajućeg dela ljudskog koštanog tkiva. Specijalizovani CAPP sistem se primenjuje u kolaborativnom okruženju. Automatizacija projektovanja tehnoloških procesa u okviru CAPP sistema se odnosi na sledeće grupe proizvoda: nedostajući delovi koštane strukture, zavrtnji, pločice, igle, itd.

Za primer primene kolaborativnog sistema uzet je deo proizvodnog programa preduzeća koji se odnosi na proizvodnju zavrtnja koji se koriste za fiksiranje i spajanje nedostajućih delova koštane strukture.

Struktura proizvodnog programa vezanog za delove za implementaciju nedostajućeg dela humerusa za koji se razmatra CAPP sistem je klasifikovana u odgovarajuće kategorije, odnosno grupe i tipove proizvoda. Takva klasifikacija je prisutna i u web okruženju, gde je ekspertima omogućena analiza i ocena tipskih tehnoloških rešenja. U

pripremnjoj fazi razvoja CAPP sistema definisani su standardni, odnosno tipski tehnološki procesi predviđeni za odgovarajuće tipove proizvoda. Pored toga, definisana su i pravila za preciziranje standardnih operacija izrade proizvoda koji pripadaju elementima koštane strukture. Instalirana tipska tehnološka rešenja su formirana na osnovu predloga inženjera i lekara na bazi prethodnih iskustava. Na taj način se na izlazu iz CAPP sistema generiše precizirana tehnološka dokumentacija za nove proizvode.

Na osnovu ulaznih geometrijskih podataka, primenom grafičkog korisničkog interfejsa, radi se interaktivna klasifikacija posmatranog zavrtnja, slika 1, pri čemu je određeno:

- Vrsta: Zavrtnj za biomedicinsku upotrebu,
- Klasa: Zavrtnj sa upuštenom glavom na predmeru (ZUP),
- Podklasa: Zavrtnj sa upuštenom glavom i metričkim navojem (ZUM).



Slika 1. Interaktivna klasifikacija zavrtnja za biomedicinsku upotrebu na bazi geometrijskih parametara i njegova vizuelna identifikacija

Definisanje opštih podataka o zavrtnjevima za biomedicinsku upotrebu, kao i unos dimenzija zavrtnja za biomedicinsku upotrebu u integrisanu bazu podataka, vrši se primenom korisničkog interfejsa za unos novog proizvoda u CAPP sistem.

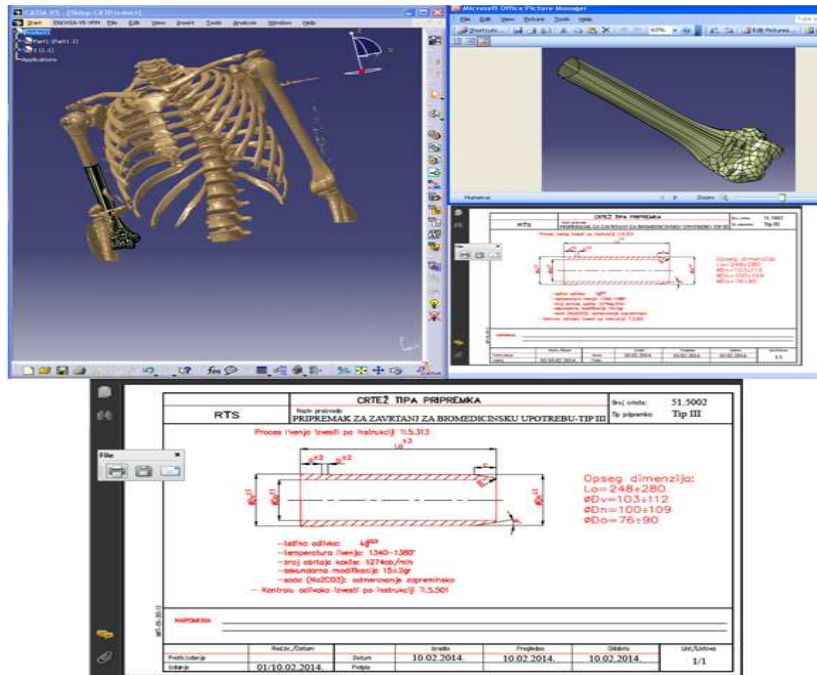
4. TEHNO-EKONOMSKA ANALIZA

Tehnološki procesi izrade proizvoda karakterišu se varijantnošću rešenja u svim svojim fazama, odnosno operacijama. Ovakve karakteristike su uslovljene ulaznim podacima, tehnoekonomskim uslovima i subjektivnim opredeljenjem projektanta tehnološkog procesa. Svaka varijanta tehnološkog procesa čini logičan tehnološki skup odgovarajućih operacija izrade čija rešenja zavise od rešenja prethodnih i narednih operacija. Višestruka varijantnost rešenja tehnoloških procesa izrade proizvoda ili grupe proizvoda za zadate uslove zasnovana ja na mogućnostima različitih rešenja u pogledu: vrste priprema, vrste obradnih procesa, redosleda operacija, struktura operacija, obradnih i tehnoloških sistema, alata, pribora, merila, režima obrade, itd.

Definisani parametri izrade gotovog dela od velike su važnosti za faktore koji utiču na upotrebu osteofiksacionog materijala i gotovog proizvoda za biomedicinsku upotrebu. U skladu sa tim se u startu na osnovu elemenata tehnološkog procesa mogu predvideti

karakteristike gotovog dela, troškovi izrade, cena proizvoda itd. Zato je jako važno da se tim koji saraduje u potpunosti razume jer će zbog toga biti lakše i doneti određene odluke u vezi sa gotovim proizvodom i samim tim bolji proizvod.

Ekspertima je prvo omogućena analiza geometrijskih podataka o izabranom tipu proizvoda, odnosno odgovarajućem tipu priprema. Konstrukcije proizvoda i priprema se u web okruženju prikazuju u obliku 3D konstrukcionih modela i 2D dokumentacije. Na crtežima proizvoda i priprema je definisan i opseg karakterističnih tipskih dimenzija. Vizuelizacija 3D konstrukcionih modela se vrši u okviru web čitača primenom eDrawings modula, dok se 2D crteži prikazuju u PDF formatu, slika 2.



Slika 2. Vizuelizacija geometrijskih podataka o predviđenom pripremu

Eksperti imaju mogućnost predloga novih tehnoloških rešenja ukoliko nisu zadovoljni postojećim ponuđenim tehnološkim procesima. Novi tehnološki procesi se mogu zasnivati na postojećim standardnim operacijama izrade, ali takođe, eksperti mogu predložiti potpuno nove operacije, što se može videti na slici 3.



Slika 3. Predlog nove varijante tehnološkog procesa sa definisanjem nove standardne operacije obrade

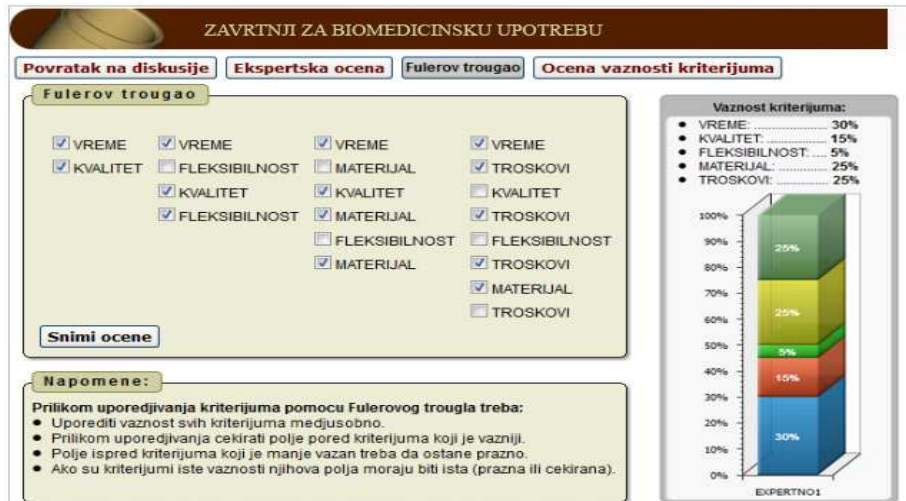
Uopšteno, izbor najpovoljnijih varijanti tehnoloških rešenja se može izvršiti na osnovu vrednosnih ocena različitim metodama. Korektno određivanje vrednosnih ocena bazirano je na ocenama eksperata pri čemu su prethodno utvrđeni kriterijumi koji su od najvećeg značaja za tehnoekonomske nivo vrednosti jednog tehnološkog procesa. Za ekspertsku ocenu tehnoloških procesa u kolaborativnom sistemu su predviđeni sledeći kriterijumi: vreme tehnološkog ciklusa, kvalitet tehnološkog procesa, fleksibilnost tehnološkog procesa, iskorišćenje materijala i pogonski troškovi. Orjentacione preporuke kriterijuma date su u tabeli 2.

Tabela 2. Vrednovanje kriterijuma za ocenu tehnoloških procesa - preporuke

Ocena	VREME [min]	KVALITET	FLEKSIBILNOST	MATERIJAL	TROŠKOVI
1	>150	Loš kvalitet, Prosečna pouzdanost	Ekstremno teško prilagođavanje	Otpad > 100% gotovog proizvoda	Vrlo visoki troškovi opreme
2	50-150	Prosečan kvalitet	Sporo prilagođavanje	Otpad 50-100% gotovog proizvoda	Visoki troškovi opreme i obrade
3	10-50	Prosečan do dobar kvalitet	Prosečno prilagođavanje i vreme pripreme	Otpad 10-50% gotovog proizvoda	Relativno niski troškovi opreme
4	2-10	Dobar do najbolji kvalitet	Brzo prilagođavanje	Otpad < 10% gotovog proizvoda	Niski troškovi opreme i obrade
5	<2	Najbolji kvalitet	Nema pripremnog vremena	Bez značajnijeg otpada	Bez troškova opreme

Predviđeni kriterijumi za ocenjivanje tehnoloških rešenja se mogu menjati u zavisnosti od strateških interesa matičnog preduzeća koji se usklađuju sa zahtevima tržišta. Pored toga, važnost ovih kriterijuma procenjuju sami eksperti pri ocenjivanju tehnoloških procesa, što takođe značajno utiče na izbor najpovoljnije varijante tehnološkog procesa izrade.

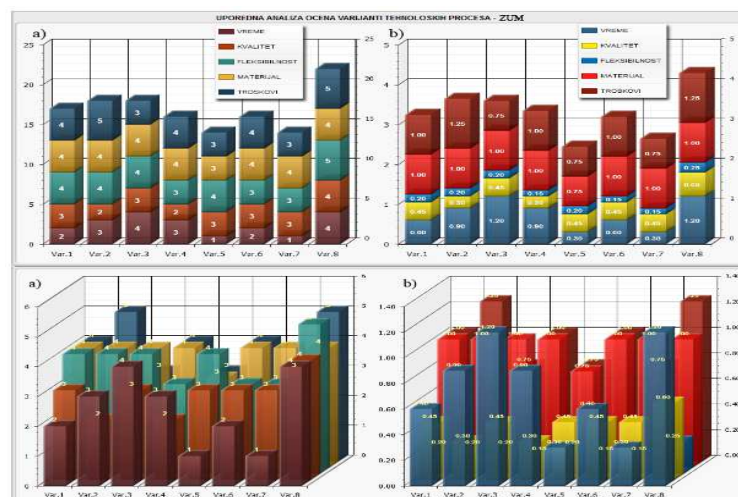
Ekspertsko ocenjivanje započinje ocenom važnosti ponuđenih kriterijuma, čijim kasnijim vrednovanjem će biti rangirane varijante tehnoloških procesa. Ocenu važnosti kriterijuma ekspert može izvršiti metodom Fulerovog trougla, pri čemu se kriterijumi međusobno upoređuju. Na slici 4 je prikazan primer ocene važnosti kriterijuma ovom metodom koju je izvršio jedan od eksperata.



Slika 4. Primer ocene važnosti kriterijuma metodom Fulerovog trougla

Nakon upoređivanja kriterijuma kolaborativni sistem izračunava važnost kriterijuma u procentima, a ove vrednosti se kasnije koriste u izračunavanju konačne ocene varijanti tehnoloških rešenja.

Rezultati ekspertskog ocenjivanja se prikazuju u obliku zbirnih i diferenciranih histograma. Na ovaj način ekspert može izvršiti analizu sopstvenih ocena sa ili bez uticaja važnosti kriterijuma. Na slici 5 prikazana je uporedna analiza ocena eksperta koji je predložio novu varijantu tehnološkog procesa izrade zavrtnjeva za biomedicinsku upotrebu tipa ZUM. Pri tom je on pri ocenjivanju dao prednost sopstvenom predloženom rešenju.

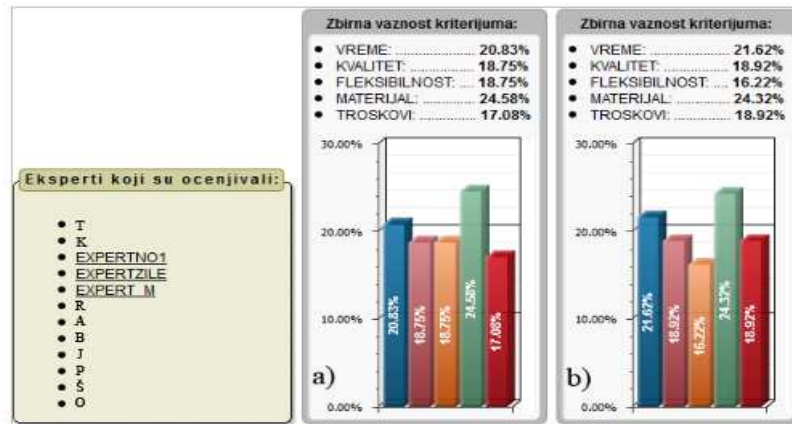


Slika 5. Zbirni i diferencirani pregled ocena jednog od eksperata ocene uticaja vrednosti kriterijuma, b) ocene sa uticajem vrednosti kriterijuma

4.1. ANALIZA REZULTATA OCENJIVANJA EKSPERTSKOG TIMA

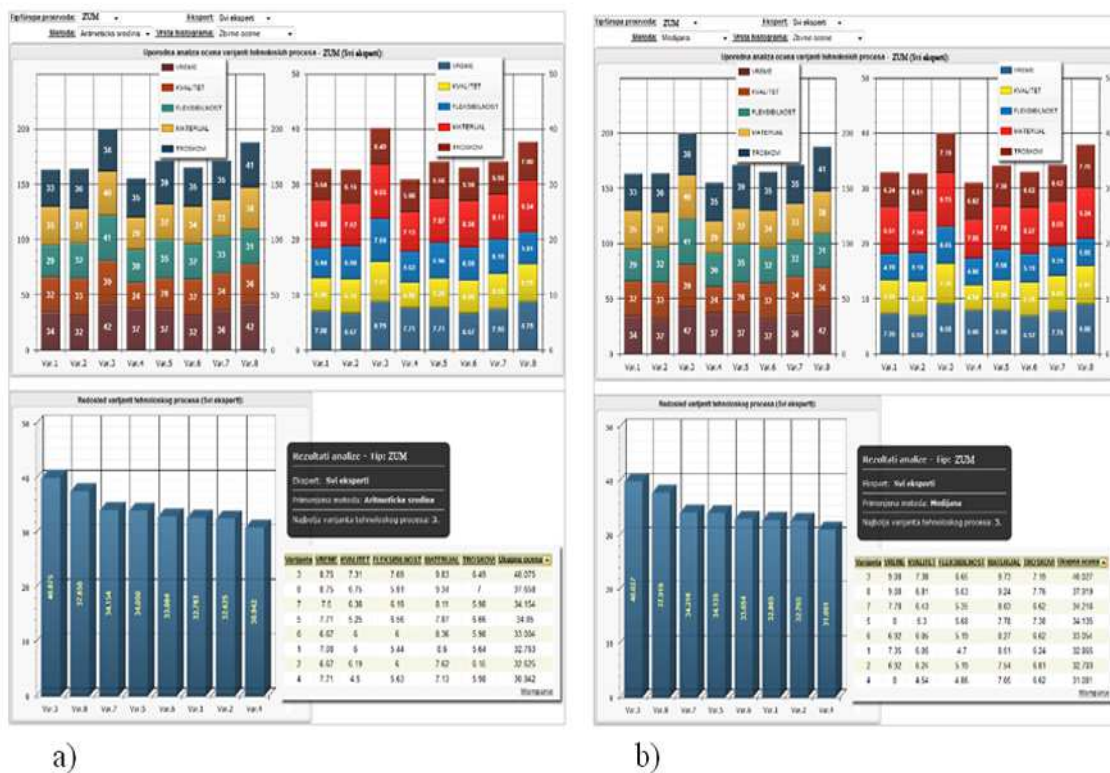
Jedan od osnovnih zadataka administratora sistema jeste analiza rezultata ocenjivanja varijanti tehnoloških procesa. Pored toga što administrator ima uvid u ocenjivanje svakog

eksperta pojedinačno, on, takođe, ima pregled zbirnih ocena na nivou kompletnog ekspertskeg tima čiji su članovi učestvovali u ocenjivanju, slika 6.



Slika 6. Pregled eksperata koji su učestvovali u ocenjivanju tehnoloških procesa izrade zavrtnjeva za biomedicinsku upotrebu tipa ZUM i srednje važnosti kriterijuma izračunate: a) metodom aritmetičke sredine, b) metodom medijane

Pri izračunavanju ukupnih ocena, zasnovanih na ocenama svih eksperata, koriste se srednje vrednosti vezane za važnost kriterijuma. Ove srednje vrednosti su u kolaborativnom sistemu izračunate metodom aritmetičke sredine i metodom medijane, slika 6a i 6b.



Slika 7. Rezultati ekspertskeg ocenjivanja tehnoloških procesa izrade zavrtnjeva za biomedicinsku upotrebu tipa ZUM dobijeni primenom metode aritmetičke sredine (a), i primenom metode medijane (b) pri izračunavanju važnosti kriterijuma

Rezultati ekspertskog ocenjivanja tehnoloških procesa izrade zavrtnjeva za biomedicinsku upotrebu tipa ZUM prikazani su na slikama 7a i 7b.

Može se uočiti da je, u konkretnom slučaju, redosled rangiranih varijanti identičan bez obzira da li je pri izračunavanju zbirnih važnosti kriterijuma primenjena metoda aritmetičke sredine ili metoda medijane. To zapravo znači, da eksperti nisu pojedinim kriterijumima davali drastično veću važnost u odnosu na ostale kriterijume.

5. ZAKLJUČAK

Primena kolaborativnog inženjerstva predstavlja imperativ u sadašnjim i budućim projektantskim i proizvodnim procesima. Razvoj informacionih tehnologija omogućava projektantima efikasnu komunikaciju, saradnju, deljenje i razmenu različitih resursa tokom procesa projektovanja.

CAPP sistem predstavlja izvor znanja, ali se njegova baza znanja proširuje novim ekspertskim znanjem. Kolaborativni sistem pruža mogućnost ekspertima i inženjerima da učestvuju u kolaborativnom procesu i modifikaciji postojećih tehnoloških rešenja, ali i da svojim znanjem unapređuju sistem automatizovanog projektovanja tehnoloških procesa koji se koristi u neposrednoj tehnološkoj pripremi proizvodnje.

Kada su pitanju metalni materijali koji se koriste u biomedicini, sve je više materijala koji se koriste u te svrhe. U zavisnosti od karakteristika koje poseduju treba birati one materijale koje zahteva stanje pacijenta. Pored materijala koji se pojavljuju, sve je veći i broj tehnologija za izradu materijala. Pojedine tehnologije su još uvek skupe, ali sa pojavom sve većeg broja tehnologija i troškovi izrade opadaju, pa su cene manje.

Rezultati korišćenja razvijenog kolaborativnog sistema u realnim uslovima su verifikovani na primeru proizvoda koji je deo proizvodnog programa jednog matičnog preduzeća, ali je sistem uopšten i može biti primenjen na bilo koju drugu vrstu proizvoda. To je prednost primene jednog ovakvog sistema jer iako je ceo proces urađen na jednostavnom delu, postupak se može primeniti na bilo kakav drugi element i kompleksniji proces, kao i na potpuno drugačije tehnologije izrade u odnosu na konvencionalne tehnologije prikazane u radu.

Primenom jednog ovakvog kolaborativnog sistema se u startu u velikoj meri smanjuju troškovi izrade pod uslovom da je sistem opremljen odgovarajućim softverskim paketima u kojima bi se dobili digitalni modeli koji bi se proverili različitim simulacijama za konkretan slučaj.

Ekspertsko ocenjivanje varijanti tehnoloških procesa predloženih u okviru kolaborativnog sistema se odnosi na vrednovanje ponuđenih kriterijuma definisanih unutar matičnog preduzeća. Dislocirani eksperti ne mogu uticati na izbor ovih kriterijuma, već mogu sami da definišu njihovu važnost prema sopstvenom ubeđenju vezanom za trenutne tržišne i proizvodne uslove. Time eksperti mogu dodatno da utiču na izbor najboljeg tehnološkog rešenja.

REFERENCE

1. Grupa autora: *Biomaterijali*, ISBN 978-86-80321-23-3, Institut tehničkih nauka Srpske akademije nauka i umetnosti, Beograd, 2010.
2. Black J., Hastings G.: *Handbook of Biomaterial Properties*, London UK: Chapman and Hall, 1998.
3. Ristić B., Popović Z., Adamović D., Devedžić G.: *Izbor materijala u ortopedskoj hirurgiji*, Vojnosanitetski pregled, Vol.67, No.10, str. 847-855, UDC 615.477::617.3-089-77, Beograd, 2010.
4. Tanikić D., Manić M., Đenadić D., Randelović S., Milovanović J., Đekić P.: *Metali i legure u funkciji biomaterijala*, Vojnotehnički glasnik, str.202-215, ISSN 0042-8469, Ministarstvo odbrane Republike Srbije, 2012.
5. Revell P.A.: *The effect of magnesium ions on bone bonding to hydroxyapatite*, Key.Eng.Mater., 254-256, 447-450, 2004.
6. Zreiqat H., Howlett C.R., Zannettino A., Evans P., Schulze-Tanzil G., Knabe C., Shakibaei M.: *Mechanisms of magnesium-stimulated adhesion of osteoblastic cells to commonly used orthopaedic implants*, J.Biomed.Mater.Res., 62, 175-184, 2002.
7. Witte F., Ulrich H., Palm C., Willbold E.: *Biodegradable magnesium scaffolds: Part II: Peri-implant bone remodeling*, J.Biomed.Mater.Res.A, 81, 3, 757-765, 2007.
8. Gu X. & Zheng F.: *A review on magnesium alloys as biodegradable materials*, Front.Mater.Sci.China, 4, 2, 111-115, 2010.

LEASE QUALITY SUPPORT SERBIAN ECONOMY

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Abstract: Leasing in Serbia is currently the most dynamic para banking segment with the prospect of high growth rates in the future as well as introducing new forms such as the leasing of real estate. Leasing in Serbia as in most other countries are developing rapidly through subsidiary organizational forms within the banks and allow placement of money and those customers who do not have enough of their own capital to purchase and investment vehicles and plants and does not meet the criteria for obtaining bank credits. In many countries financed by leasing more than a quarter of all purchases of business equipment. In Serbia leasing is still very present especially after the adoption of the law on financial leasing of the republic of Serbia was adopted in may 2003rd year. In the years that followed it is necessary to develop the economy of Serbia and raise it to a higher level to capture the port of countries that are far ahead of us and that use leasing as an economic mainstay.

Keywords: leasing, economic development, corporate financing , the state

LIZING - KVALITETNA PODRŠKA PRIVREDI REPUBLIKE SRBIJE

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Apstrakt: Lizing poslovi u Srbiji trenutno predstavljaju najdinamičniji parabankarski segment sa perspektivom visokih stopa rasta i u narednom periodu, kao i uvodjenja novih oblika kao što je lizing nekretnina. Lizing poslovi u Srbiji, kao i u većini drugih zemalja, se ubrzano razvijaju kroz subsidijarne organizacione oblike u sklopu poslovnih banaka, i omogućavaju plasman novca i onim klijentima koji ne raspolažu sa dovoljno sopstvenog kapitala za nabavku investicione opreme i postrojenja, i ne ispunjavaju kriterijume za dobijanje bankarskih kredita. U mnogim zemljama se putem lizinga finansira više od četvrtine svih nabavki poslovne opreme. U Srbiji lizing je danas izuzetno zastupljen, naročito posle donošenja Zakon o finansijskom lizingu Republike Srbije je usvojen u maju 2003. godine. U godinama koje slede potrebno je razviti privredu Srbije i podići je na viši nivo, kako bi uhvatili priključak sa zemljama koje su daleko ispred nas, a koje koriste lizing kao ekonomski oslonac.

Ključne reči: lizing, razvoj privrede, finansiranje privrede, drzava

1.UVOD

Sistem u kome smo živeli prethodnih pedeset godina nije stimulisao preduzetničku inicijativu, usled čega nije bilo slobode u ekonomskim poduhvatima. Lizing nije bio pravno normiran, jer ono čega nema u praksi nema ni u pravnoj regulativi. Tako na primer za uobičajen najam bile su dovoljne odredbe Zakona o obligacijama. Ipak, bilo je primera da je uzimana oprema za lizing (bivše preduzeće JAT je veoma često koristio ovu poslovnu mogućnost, angažujući avione prema potrebama). Temelj razvoja lizinga u Srbiji nastao je donošenjem Zakona o finansijskom lizingu krajem maja 2003. godine i koji je usledio kao dopuna izmenama Poreskog zakona. Konkurentnost domaće privrede je bila niska, jer za proizvodnju robe koja ima pristup tržištu razvijenih zemalja potrebna je i savremena oprema. Nabavka nove opreme je skup posao i za mnogo bogatije zemlje. Donošenjem ovog zakona obezbeđena je pravna sigurnost u poslovima lizinga kao novog finansijskog proizvoda, čime je stvorena osnova za ulaganja u privredu Srbije. Stvoreni su povoljniji uslovi da privredni subjekti dodju do nove opreme, postrojenja, transportnih sredstava i time podignu tehničko-tehnološki nivo poslovanja. Jedna od najvećih prednosti lizinga, prema donetom Zakonu je efikasna zaštita poverioca, što čini lizing konkurentnim u odnosu na druge finansijske aranžmane i bankarske kredite. [1]

U prvih godinu dana od donošenja Zakona u Srbiji je registrovano više od deset lizing preduzeća, a ukupna vrednost svih ugovora, koji su morali biti zavedeni u Registru lizinga, dostigla je 150 miliona evra. Već 2004. godine povećao se broj lizing kompanija na dvanaest, od kojih deset su međunarodne a dve domaće firme. Prvog januara 2005. godine u Srbiji je uveden i PDV, i to je prouzokovalo zastoje privredne aktivnosti, dok su kompanije prolazile kroz period nedostatka likvidnosti. Na transakcije lizinga se obračunava PDV, što je mana u poredjenju sa tretmanom bankarskih kredita. PDV mora da se plati unapred ukupno za objekat uzet u lizing, i za kamatnu komponentu transakcije lizinga, što zahteva veću investiciju na početku transakcije. Jula 2005. godine usvojen je Zakon o izmenama Zakona o finansijskom lizingu.[7] On je praktično stavio davaoce lizinga pod kontrolu Narodne banke Srbije. Uveo je izdavanje dozvola za lizing kompanije i njihovo rukovodstvo, nadzor od strane Narodne banke Srbije, minimalne uslove za zaključivanje ugovora o finansijskom lizingu, i zahtev da se objavljuju efektivne kamatne stope. On je takodje omogućio Narodne banke Srbije da uvede obaveznu rezervu za lizing kompanije. Obavezna rezerva od 10% uvedena je na sva zaduživanja iz inostranstva nakon 10. decembra 2005. godine. Pored toga, lizing kompanije su ograničene u pogledu zaduživanja kod banke - akcionara u Srbiji – davaoci lizinga mogu da pozajme do 5% kapitala takvih akcionara [8] Lizing nekretnina je konačno počeo 2005. godine. Sklopljeno je malo poslova ali početak obećava. Razvoj lizing nekretnina u Srbiji je bio prilično spor, ali ipak je počeo mnogo ranije nego u ostalim zemljama Srednje i Istočne Evrope.

2.KORIŠĆENJE LIZINGA KAO OBLIKA INVESTIRANJA U SRBIJI

Kao jedan od osnovnih problema naših preduzeća, pogotovo onih koja se svrstavaju u kategoriju malih i srednjih, pojavljuje se nedostatak raspoloživih izvora za nabavku nove opreme i postrojenja, a time i prihvatanje priključka sa savremenom tehnologijom, što predstavlja neophodan preduslov podizanja konkurentnosti na lokalnom, a naročito, na globalnom tržištu. Ako preduzeće, što je veoma čest slučaj, nema dovoljno sopstvenih sredstava za ovu vrstu investicije koja obično dostiže i nekoliko desetina hiljada evra, onda mu preostaje dokapitalizacija koja, podrazumeva i prepuštanje dela vlasništva i prava na

donošenje poslovnih odluka ili uzimanje, još uvek skupih, kredita, pod uslovom da za to postoji odgovarajuća garancija. [2]

Lizing je dobro rešenje za ono preduzeće koje ima dobar biznis plan i tržište, ali nema dovoljno svog kapitala, jer lizing kuća može da finansira izgradnju objekta i mašine sa mnogo manje početnog sopstvenog kapitala klijenta nego što je to slučaj kod banke. Srbija je jedna od retkih zemalja koja ima poseban zakon o finansijskom lizingu, ali taj zakon nedovoljno prati realne potrebe tržišta, zbog čega oblast operativnog lizinga i lizinga nepokretnosti nije uređena novijim propisima. Prilikom donošenja zakona i kasnijih izmena, mera za njegovo sprovođenje i minimalnih uslova za zaključenje ugovora o finansijskom lizingu, zakonodavac nije konsultovao stručnu javnost niti članove Udruženja lizing kompanija Srbije, odakle se i sada upućuju inicijative za uređenje drugih vrsta lizinga, pored finansijskog. [6] Srbija je, takodje, prva zemlja na području bivše Jugoslavije koja je uopšte uredila lizing jednim specijalnim zakonom. Nijedna zemlja sa ovih prostora nema posebne zakone, jer ovaj sektor uređuju zakoni o obligacionim odnosima i međunarodni računovodstveni standardi, pa čak i u Evropi, u većini zemalja nema posebnog zakona koji reguliše lizing. Zakon o finansijskom lizingu donet je 2003. godine, tada pod pokroviteljstvom Ministarstva za ekonomske odnose sa inostranstvom. [3]

Sama tumačenja ministarstva i poreskih organa bila su drugačija nego u drugim zemljama. Ipak, najveći nedostatak ovog zakona je što on definiše samo lizing pokretnosti i ništa drugo. S jedne strane, u trenutku donošenja Zakona, to je i bilo razumljivo, jer se finansijsko tržište Srbije tek uspostavljalo, posle višegodišnje krize i recesije. Tržište nekretnina takodje je tek počinjalo uzlaznu putanju, a pravni okvir za promet nepokretnosti nije bio adekvatan, zbog problema sa zemljišnim knjigama, tapijskim sistemom nasledjenim iz daleke prošlosti, kao i zbog nesprovedene denacionalizacije i povraćaja imovine vlasnicima. Izmene i dopune Zakona iz 2005. godine, koje su dovele do uvođenja obaveznih rezervi za davaoce lizinga i do drugih ograničenja u ovoj oblasti, stupile su na snagu, bez rasprave u javnosti. Time je, po mišljenju Udruženja lizing kompanija Srbije, onemogućena primena ranije donetog Zakona o stranim ulaganjima, koji je garantovao prava stečena pri ulasku na tržište, a ovaj zakon je značajno menjao te uslove. [5]

Od ukupno 16 davalaca lizinga, koliko ih je registrovano u Srbiji, 11 je u stoprocentnom ili većinskom vlasništvu stranih firmi, pet ih je u potpunom ili većinskom vlasništvu domaćih lica (ipak, od toga su četiri u vlasništvu domaćih banaka sa stranim kapitalom), dok je jedna lizing kuća u vlasništvu domaće banke sa stranim kapitalom i stranog pravnog lica, sa po 50% učešća u kapitalu [9] Lizing kuće, inače, po pravilu su osnivače banke, članice bankarskih grupa ili druge finansijske institucije. Izuzetak čine svega tri lizing kuće. Ako neko ima dobru ideju, dobar biznis plan i tržište, ali nema dovoljno svojih sredstava, lizing kuća može da finansira izgradnju objekta, mašine, sa mnogo manje početnog vlastitog kapitala klijenta nego što je to slučaj kod banke. Banka traži obezbeđenje svojih ulaganja i retko ide u posao ako proceni da su obezbeđenja nedovoljna. Lizing kuća bi se na to lakše odlučila, jer bi ona, pored obezbeđenja predviđenih uslova za finansiranje, bila vlasnik zemlje, vlasnik objekta i opreme [9]

3.ASOCIJACIJA LIZING KOMPANIJA SRBIJE - ALCS

Asocijacija lizing kompanija Srbije osnovana je zahvaljujući ideji i naporu predstavnika Programa Svetske banke za razvoj malih i srednjih preduzeća (SEED) u našoj zemlji, na osnovu broja i veličine lizing ugovora koji su u poslednjih godinu dana zaključeni u Srbiji.

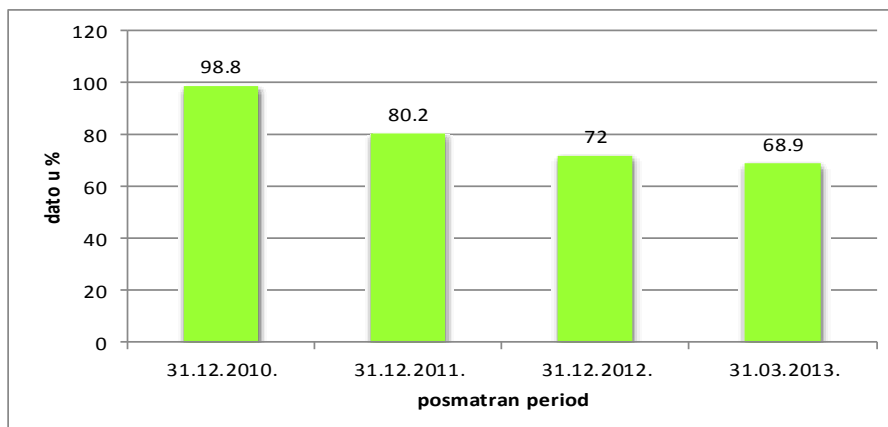
Razlog zbog kojeg je SEED zainteresovan za razvijanje lizinga u zemljama u razvoju je to što lizing veoma često predstavlja jedini način da mala i srednja preduzeća dodju do nove opreme i mehanizacije. Vlasnici tih preduzeća često nisu u stanju da se kvalifikuju za dobijanje klasičnih bankarskih zajmova i lizing je za njih jedino rešenje. Osim toga, lizing u većini slučajeva finansira sam sebe, odnosno privrednik dolazi u situaciju da od profita koji ostvari korišćenjem nove mašine ili opreme plaća mesečne rate, razvija se i unapređuje svoje poslovanje. Osnovni ciljevi Asocijacije su bili slični ciljevima Odbora za lizing Saveta stranih investitora [9]

- stvaranje povoljnog okvira za poslove lizinga,
- obezbeđivanje jedinstvenog informativnog centra za postojeće i potencijalne klijente kako bi se obezbedili jednaki uslovi za sve firme koje se bave lizingom, i
- pristupanje Evropskoj federaciji nacionalnih asocijacija, Leaseurope.

Zajedno sa Odborom za lizing Saveta stranih investitora, Asocijacije Lizing kompanija Srbije (ALCS) stalno vrši unapređenje i radi na doprinosu efektivnosti i efikasnosti odnosa sa vlastima i unapređenju poslovnog okruženja za poslove lizinga. Osnivanjem Asocijacije Lizing kompanija Srbije formiran je jedan informativan centar preko koga će svi zainteresovani moći da saznaju šta je to lizing, koji su uslovi i koje vrste lizinga postoje kod nas i slično. Na istom mestu mogu se dobiti informacije o svim kompanijama koje se bave finansijskim lizingom u Srbiji, kao i specifičnostima njihove ponude. Trenutno u Srbiji se na lizing daju samo pokretne stvari, dok su zakonski uslovi za lizing nekretnina u našoj zemlji i dalje takvi da su samo pojedine lizing kompanije zainteresovane da ulažu u izgradnji objekata. Glavni razlog tome je što su kod nas obezbeđenja i zaštita interesa lizing kuća u toj oblasti poslovanja minimalna i ne garantuju brzo prevazilaženje eventualnih problema[4].

Na kraju prvog tromesečja 2013. godine, u sektoru finansijskog lizinga u Republici Srbiji, poslovali su sledeći davaoci lizinga:

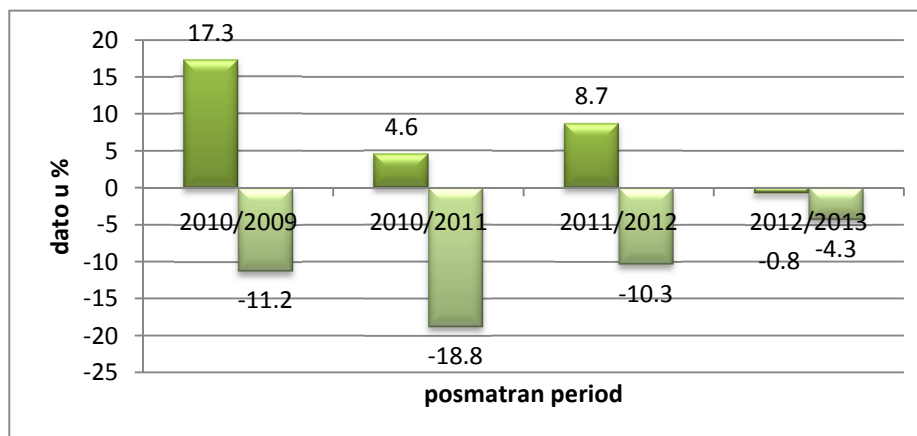
- CA Leasing Srbija d.o.o. Beograd,
- ERB Leasing a.d. Beograd,
- Hypo Alpe-Adria-Leasing d.o.o. Beograd,
- Intesa Leasing d.o.o. Beograd,
- LIPAKS d.o.o. Beograd
- NBG Lizing d.o.o. Beograd,
- NLB Leasing d.o.o. Beograd,
- Piraeus Leasing d.o.o. Beograd,
- Porsche Leasing SCG d.o.o. Beograd,
- Procredit Leasing d.o.o. Beograd,
- Raiffeisen Leasing d.o.o. Beograd,
- S-Leasing d.o.o. Beograd,
- Sogelease Srbija d.o.o. Beograd,
- UniCredit Leasing Srbija d.o.o. Beograd,
- VB Leasing d.o.o. Beograd,
- Zastava Istrabenz Lizing d.o.o. Beograd [9]



Slika 1: Bilansna suma davalaca lizinga u procentima

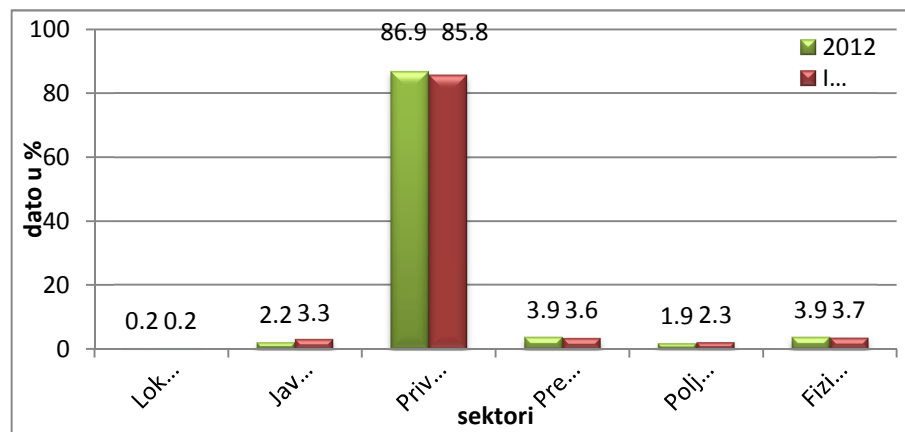
Izvor: (2013, www.nbs.rs)

Davaoci lizinga su na dan 31. marta 2013. godine ostvarili bilansnu sumu u iznosu od 68,9 milijardi dinara, što čini 2,41% bilansne sume bankarskog sektora. Bilansna suma davalaca lizinga na dan 31. marta 2013. godine, u odnosu na 31. decembar 2012. godine, smanjena je za 4,3%, dok je u istom periodu bilansna suma bankarskog sektora smanjena za 0,8% što možemo videti na slici. Za potrebe praćenja strukture tržišta finansijskog lizinga i stepena konkurencije izmedju davalaca lizinga, pored pojedinačnog i ukupnog tržišnog učešća prema visini bilansne aktive, izvršen je i obračun *Herfindahl–Hirschman-ovog* indeksa. Takodje, na osnovu pojedinačnog tržišnog učešća prema visini potraživanja po osnovu finansijskog lizinga (portfolija), utvrđen je i rang prema visini tih potraživanja.



Slika 2: Stopa rasta bilansne sume davalaca lizinga i stopa rasta bilansne sume banaka

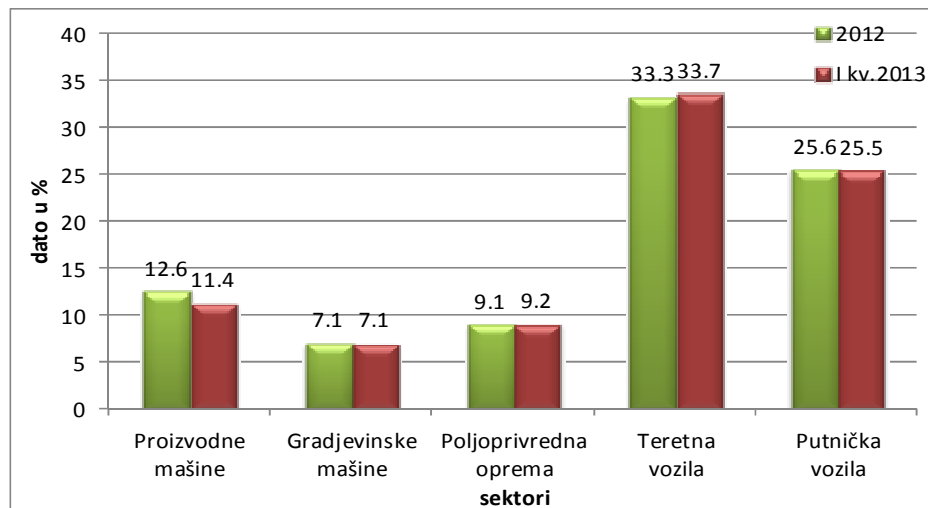
Izvor: (2013, www.nbs.rs)



Slika 3: Struktura plasmana prema primaocu lizinga kao obliku investiranja

Izvor: (2013, www.nbs.rs)

Na kraju prvog tromesečja 2013. godine, kao i na kraju 2012. godine, strukturu plasmana prema primaocu lizinga (slika) karakterisalo je visoko učešće plasmana po osnovu finansijskog lizinga odobrenih privrednim društvima koja ne pripadaju finansijskom sektoru, uključujući i nefinansijska pravna lica u stečaju (što iznosi 85,8%). Učešće ostalih primalaca lizinga je znatno niže. Fizička lica su u ukupnim plasmanima učestvovala sa 3,7%, preduzetnici sa 3,6%, javna preduzeća sa 3,3%, a poljoprivrednici sa 2,3%. Na kraju prvog tromesečja 2013. godine nije bilo velikih promena u strukturi plasmana prema predmetu lizinga u odnosu na prethodnu godinu, tako da najveće učešće i dalje ima finansiranje teretnih vozila, minibusa i autobusa sa 33,7% (taj procenat je iznosio 33,3% u 2012. godini).



Slika 4: Struktura plasmana prema predmetu lizinga (dato u %)

Izvor: (2013, www.nbs.rs)

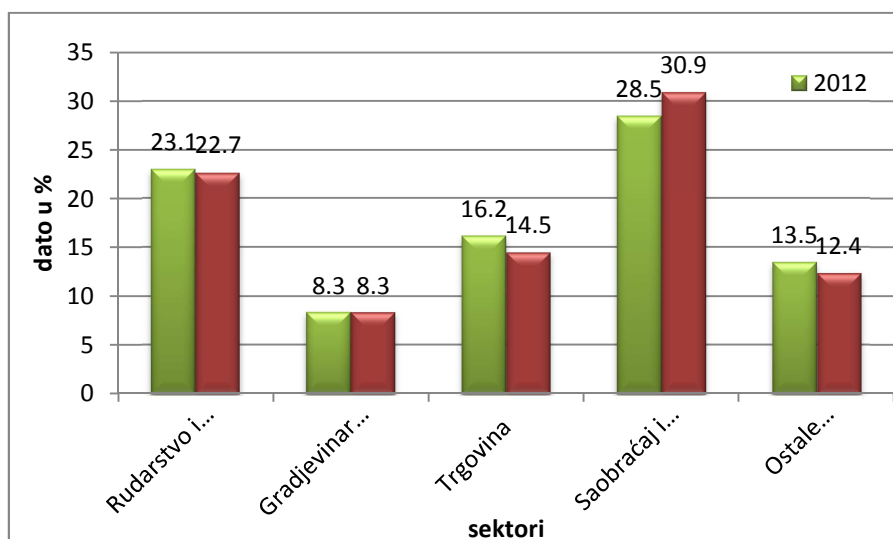
Sledeća po učešću u finansiranju su putnička vozila sa 25,5% (25,6% u 2012. godini). Učešće finansiranja poljoprivredne opreme se na kraju prvog tromesečja 2013. godine, u odnosu na 2012. godinu, povećalo sa 9,1% na 9,2%, kao i učešće finansiranja opreme za

pružanje usluga sa 2,7% na 3,0% i ostalih pokretnih stvari sa 6,9% na 7,4%, dok je učešće finansiranja proizvodnih mašina i opreme smanjeno sa 12,6% na 11,4%. Učešće finansiranja građevinskih mašina i opreme ostalo je na istom nivou kao i prethodne godine i iznosi 7,1% [8]

4.LIZING –KVALITETNA PODRŠKA PRIVREDI

Jedini način motivacije potrošača je odlična usluga uz prihvatljive cene što predstavlja osnovni cilj većine lizing kuća. Konkurencija čini svoje tako da su kamate u lizingu niže od bankarskih i takvu situaciju klijenti treba da iskoriste. Srbija je još uvek na relativno niskom razvoju lizing industrije kada se upoređuje sa razvijenijim zemljama regiona (Slovenijom i Hrvatskom), a posebno u poredjenju sa evropskim zemljama. Lizing industrija u Srbiji je do sada finansirala 270 miliona evra i u poslednje tri godine, godišnja prodaja se kreće od 260 do 280 miliona evra. U odnosu na 2011.godinu finansijski lizing je blago porastao dok je operativni lizing u padu čak 20% u odnosu na prošlu godinu što je rezultiralo ukupnim padom od 4%. Medjutim i pored svega navedenog možemo reći da se lizing tržište stabilizovalo, ali na relativno niskom nivou. Razloga je puno osnovni je da iza svakog lizing ugovora ostaje predmet lizinga koji se u 99% slučajeva može koristiti duže od 5 godina, koliko je uobičajeni rok trajanja lizing ugovora. Lizing industrija još uvek trpi i negativne efekte prirodne situacije koja se desila tokom krize, a to je da klijenti nisu mogli da plaćaju i da su morali da vrate predmete. Takva dešavanja su naravno loše uticala na ostale koji bi mogli da budu lizing klijenti, ali se uzdržavaju čekajući bolja vremena. Medjutim, kako vreme prolazi tako će ovu razlozi odlaganja korišćenja lizinga slabiti tako da možemo reći da u narednim godinama nas očekuje rast i razvoj [10]

U sektorskoj strukturi plasmana, na dan 31. marta 2013. godine, najznačajnije učešće imali su sektori saobraćaja, skladištenja, informisanja i komunikacija sa 30,9% (28,5% u 2012. godini) i sektor preradivačke industrije sa sektorima rudarstva i snabdevanja vodom sa 22,7% (23,1% u 2012. godini).



Slika 5: Sektorska struktura plasmana (dato u %)

Izvor:(2013, www.nbs.rs)

Značajnije je i učešće sektora trgovine sa 14,5% (16,2% u 2012. godini), ostalih delatnosti sa 12,4% (13,5% u 2012. godini), sektora građevinarstva sa 8,3% (kao i u 2012. godini) i sektora poljoprivrede, šumarstva i ribarstva sa 7,8% (7,0% u 2012. godini).

Podaci Asocijacije lizing kompanija Srbije pokazuju značajan rast plasmana lizing industrije u 2013. godini. Tokom prve polovine 2013. godine, lizing industrija je finansirala 136,31 miliona evra, što je za 9,36 miliona evra više nego u prvoj polovini 2012. godine. Ovime je lizing industrija zabeležila rast plasmana od 7,4% u poredjenju sa istim periodom prethodne godine. Ovakav rast posledica je aktivne podrške lizing kompanija privredi Srbije, a posebno sektoru malih i srednjih preduzeća. Lizing tržište se stabilizovalo tokom 2012. godine, a podaci o porastu plasmana u prvoj polovini 2013. godine samo potvrđuju naša očekivanja rasta portfelja u 2013. godini. U prvoj polovini 2013. godine najveći rast odnosi se na finansiranje poljoprivrednih i teških teretnih vozila, ali i svih vrsta polovnih vozila koja se takodje mogu finansirati putem lizinga. Početkom godine je aktivirano i tržište lizinga nekretnina koje se posebno odnosi na finansiranje poslovnih objekata. Posle deset godina prisustva na tržištu Srbije, lizing prepoznat od strane malih i srednjih preduzeća kao najpogodniji vid finansiranja koji je u skladu sa njihovim potrebama.

U prvom kvartalu 2013. godine, lizing industrija je finansirala 52 miliona evra, što je za 4,2 miliona evra više nego u prvom kvartalu 2012. godine. Ovim je lizing industrija zabeležila rast plasmana od 8,8% u poredjenju sa istim periodom prethodne godine. Imajući u vidu stabilizaciju tržišta 2012. godine, porast plasmana u prvom kvartalu 2013. godine, najveći rast se odnosi na finansiranje lakih komercijalnih vozila i poljoprivrednih vozila i mašine. U okviru lizing industrije u Republici Srbiji posluju kompanije koje se bave finansijskim lizingom (operativni lizing) i koje su ukupno plasirale 271 milion evra u 2012. godini [8]

5. ZALJUČAK

Lizing tržište u Srbiji trebalo bi da očuva fleksibilnost, brzinu i jednostavnost pri odobravanju finansiranja i da dobije značajniju regulatornu podršku. U uslovima nedostatka sopstvenog kapitala i povoljnih kredita, lizing omogućava malim i srednjim preduzećima da na brži i jeftiniji način nabave neophodnu opremu i modernizuju svoje poslovanje, što omogućava kapilarni razvoj privrede Republike Srbije. Lizing industrija odlično razume probleme i izazove sa kojima se suočavaju mala i srednja preduzeća jer su i same lizing kompanije organizovane po istom principu. Mere koje lizing kuće treba da sprovedu kako bi se iskoristio kapacitet, treba da se odupru internom i eksternom pritisku da budu regulisane kao banke. , Lizing naknade treba da budu oslobođene PDV-a, da se nabavka putem lizinga uključi u poreski kredit, da lizing kuće imaju pravo da zaključuju kasko i imovinsko osiguranje, kao i da učestvuju u programima Vlade koji subvencionišu kredite.

Upoređujući se sa regionom možemo slobodno istaći da lizing kompanije u Srbiji imaju znanje, ali da mora da se promeni pristup ovom obliku finansiranja, jer se nalazi u nekonkurentnom položaju u odnosu na bankarski sektor. Osim finansiranja vozila, lizing industrija predstavlja značajnu finansijsku podršku investicijama u opremu, mehanizaciju, transportna i putnička vozila, a u narednom periodu u većoj meri i investicijama u nepokretnosti. Lizing industrija je spremna da snažno podrži segmente, kao što je

proizvodnja energije iz obnovljivih izvora, čija se ekspanzija očekuje u narednim godinama.

REFERENCE

- [1] Gajić, M., Lizing, Grafos, Smederevska Palanka (2005)
- [2] Ilić, S., Finansiranje investicija A.P., Fakultet za menadžment, Zaječar (2010)
- [3] Perović, S.J., Komentar Zakona o finansijskom lizingu, Glosarijum, Beograd (2003)
- [4] Stakić, B., Lizing i lizing, Fakultet za finansijski menadžment i osiguranje, Beograd (2003)
- [5] Zdjelar, Z., Marketing i lizing, Direktor br. 7-8, Beograd (2001),
- [6] Zdjelar, Z., Lizing – šansa za uključivanje u svetsko tržište, Direktor br. 1-2, Beograd (2002),
- [7] Zakon o finansijskom lizingu („Sl. glasnik RS” br. 55/03)
- [8] www.nbs.rs
- [9] www.kamatica.com
- [10] www.s-leasing.rs/44_38_novosti_prodajne-akcije.html

MANAGEMENT OF PUBLIC - PRIVATE PARTNERSHIPS IN SERBIA

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Abstract: In recent years, there was a significant increase in cooperation between the public and private sector in infrastructure development and management of infrastructure, designed to perform a number of economic activities. Although the partnership model between public and the private sector is one of the best ways to build a Serbian high quality infrastructure and facilities of public importance, for now is realized a small number of such contracts. The reason for this is the lack of adequate legislation on public - private partnership limited local governments in managing property, as well as non-privatized companies with which the private sector could enter into a partnership.

Keywords: private sector, state, PPP, economy

UPRAVLJANJE JAVNO-PRIVATNIM PARTNERSTVOM U REPUBLICI SRBIJI

Silvana Ilić, Srđan Žikić, Aleksandra Cvetković

Apstrakt: Poslednjih godina zabeležen je značajan porast saradnje javnog i privatnog sektora u razvoju infrastrukture i upravljanju infrastrukturom, namenjenom za obavljanje brojnih ekonomskih delatnosti. Iako je model partnerstva između javnog i privatnog sektora jedan od najboljih načina da Srbija izgradi kvalitetnu infrastrukturu i objekte od javnog značaja, za sada je realizovan mali broj takvih ugovora.. Uzrok tome je nepostojanje adekvatnog zakona o javno - privatnom partnerstvu, ograničenost lokalnih samouprava u raspolaganju imovinom, kao i neprivatizovana preduzeća sa kojima bi privatni sektor mogao da stupi u partnerski odnos..

Ključne reči: privatni sektor, država, JPP, privreda

1. UVOD

Za uspešno razvijanje javno-privatnog partnerstva neophodno je da sve strane budu na adekvatan način uključene u proces i da jasno prepoznaju mogućnost bolje i kvalitetnije realizacije sopstvenih interesa nego što bi to bilo moguće kroz alternativne institucionalne aranžmane. [3] Prednosti koje su na strani privatnog sektora kao što su: inovativnost,

preduzetnički duh, menadžerska efikasnost, poznavanje tehnologije, pristup finansijskim resursima, putem javno-privatnog partnerstva se kombinuju sa socijalnom odgovornošću, ekološkom svešću i poznavanjem konkretnih problema, u čemu se ispoljava prednost javnog sektora. Na tim principima partnerstva, u mnogim zemljama su privatne firme manifestovale svoju spremnost i sposobnost da učestvuju u unapređenju infrastrukturnih usluga.

Rezultat modela javno-privatnog partnerstva je stvaranje dodatne vrednosti kako za javnog, tako i za privatnog partnera. Dodatna vrednost javnog partnera se iskazuje kroz smanjenje javnih izdataka, veći kvalitet javne usluge, mogućnost da se u kraćem vremenskom periodu pruži više javnih usluga, prevazilaženje dužničkih restrikcija, a privatni partner ostvaruje planiranu stopu dobiti, smanjuje troškove podinvestiranja i smanjuje rizik u poslovanju. To je rezultat konkurencije u procesu proizvodnje javnih dobara ili pružanja javnih usluga. Konačni cilj javno-privatnog partnerstva je pružanje kvalitetnije, efikasnije i efektivnije javne usluge i brže povećanje blagostanja stanovništva.

Prilikom kreiranja javno-privatnog partnerstva, od javnog sektora se očekuje da uspostavi adekvatnu ravnotežu, koja, s jedne strane, podrazumeva zaštitu prava i interesa građana, a s druge strane, da kreira uslove u kojima će privatni partneri moći da funkcionišu efektivno i efikasno. Da bi javno-privatno partnerstvo bilo uspešno i da bi rezultiralo ostvarivanjem definisanih ciljeva i interesa, neophodno je da budu ispunjene odgovarajuće pretpostavke i da uslovi partnerstva budu jasno specificirani. Neophodno je, pre svega, da se u cilju veće sigurnosti za obe strane, ugovor zaključuje na duži vremenski period (na 25 do 30 godina).

U savremenim uslovima privređivanja imidž i reputacija određene lokacije bitno utiču na zainteresovanost privatnog sektora za ulaganja u razvoj kroz povezivanje sa partnerima iz javnog sektora. Sa rastom globalizacije sve zemlje, gradovi i lokacije konkurišu međusobno ne samo za potrošače, već i za izvore snabdevanja i investitore.

2. JAVNO PARTNERSTVO I PRIVREDNI RAZVOJ

Nacionalna i poslovna konkurentnost Srbije je na veoma niskom nivou. To je uslovalo potrebu pronalaženja proverenih načina za sticanje i održavanje konkurentne prednosti svih sektora. Potrebu intenziviranja razvoja javno-privatnog partnerstva u Srbiji, pored ostalog, uslovljavaju i neefikasnost javnog sektora na svim nivoima u pružanju usluga, neizgrađenost i zastarelost infrastrukture i opreme, nedovoljan obim i kvalitet usluga javnog sektora, nedostatak kvalifikovanih kadrova u jedinicama lokalne samouprave, nedostatak finansijskih sredstava za ulaganje u razvoj lokalne infrastrukture i javnih usluga. Oblasti u kojima je realizacija javno-privatnog partnerstva u Srbiji najizvesnija su: upravljanje otpadom, javni prevoz, parking servis, vodovod i kanalizacija i snabdevanje gasom.

Srbija još uvek nema adekvatan zakon o javno-privatnom partnerstvu. Zato je model javno-privatnog partnerstva jedan od najboljih načina da Srbija izgradi kvalitetnu infrastrukturu i objekte od javnog značaja. Uzrok tome je nepostojanje adekvatnog zakona o javno-privatnom partnerstvu, ograničenost lokalnih samouprava u raspolaganju imovinom, kao i neprivatizovana preduzeća sa kojima bi privatni sektor mogao da stupi u partnerski odnos. Ona se nalazi tek na početku procesa uspostavljanja političkog, pravnog i administrativnog okvira koji bi omogućio i olakšao razvoj privatnog sektora i javno-privatnih partnerstava.

Oblast javno-privatnog partnerstva u Srbiji uređena je mrežom relevantnih zakona - o lokalnoj samoupravi, komunalnim delatnostima, koncesijama, javnim nabavkama i komunalnim preduzećima. Postojeća javno-privatna partnerstva u Srbiji ostvaruju se ili u formi ugovornih javno-privatnih partnerstava, kojima se poverava „obavljanje komunalnih usluga” privatnom investitoru, ili u formi mešovitih javno-privatnih društava za obavljanje komunalnih delatnosti. [1]

Iako još uvek nije formirana državna agencija za koordinaciju i pružanje saveta u pogledu formiranja javno-privatnog partnerstva, postoji velika motivisanost lokalne vlasti da sklapaju ovakva partnerstva zbog uočenih koristi od dopune skromnih opštinskih budžeta privatnim finansijskim sredstvima, želje da se dobije know-how od privatnog sektora i pomeranja uloge javne uprave koja od neposrednog pružaoca usluga sve više postaje organizator, regulator i kontrolor.

Ono što je najbliže modelu zakonodavstva koji je neophodan za implementaciju projekata javno-privatnog partnerstava je Zakon o koncesijama koji je usvojen 2003. godine. Međutim, koncesije su u Srbiji koncipirane po BOT sistemu, što znači izgradi, upravljaj i prenesi, u smislu vrati državi posle isteka roka gradnje koncesije. To je ograničavajući faktor kad su u pitanju projekti koji eksploatišu prirodna bogatstva kao što su rudnici. Iako Zakon o koncesijama predviđa da ugovor za izgradnju lokalne infrastrukture potpisuje jedinica lokalne samouprave ona mora da se obrati državi kao vlasniku. Ta činjenica otežava postupak i komplikuje proceduru. Lokalne samouprave ne mogu bez pitanja da koriste imovinu koja je u državnom vlasništvu, a saglasnost od Republičke direkcije za imovinu se u proseku čeka 3 godine i deset meseci. To odbija strane investitore i privatne ulagače. Dodatni problem za izbor strateškog partnera, odnosno predstavnika privatnog kapitala za javno-privatna partnerstva je nedostatak transparentnosti i kompetitivne procedure pri odabiru.[1] Uspostavljanje javno-privatnog partnerstva u Republici Srbiji motivisano je kombinacijom nekoliko faktora: potragom za privatnim finansijskim sredstvima koja bi dopunila skromne javne budžete željom da se iskoriste know-how i operativne veštine privatnog sektora istrukturnim promenama uloge lokalne vlasti, koja sve više postaje organizator, regulator i kontrolor, a manje neposredni operater.

Srbija, i njene jedinice lokalne samouprave mogu da povere pružanje komunalnih usluga privatnim subjektima koji obavljaju komercijalne delatnosti, ali i drugim pravnim licima kao što su neprofitne organizacije, kao i fizičkim licima odnosno preduzetnicima. Kako bi ovi subjekti obavljali tražene delatnosti, javni subjekt mora da im poveri obavljanje tih delatnosti putem ugovora, kojim se definišu prava i obaveze u vezi s obavljanjem delatnosti od opšteg interesa. Ugovorima se utvrđuju prava, obaveze i odgovornosti ugovornih strana. Zakon predviđa da se obavljanje delatnosti od opšteg interesa može poveriti privatnom preduzeću na period od pet godina, osim ako se preduzeće nije obavezalo da investira u datu delatnost, i u tom slučaju će se obavljanje delatnosti poveriti na rok koji je potreban za povraćaj uložениh sredstava, a koji je kraći od 25 godina. Po okončanju tog roka, preduzeće ima pravo da konkuriše, pod istim uslovima kao i druga zainteresovana preduzeća, za dalje obavljanje date delatnosti. Pravila i uslove učešća na konkursu utvrđuje skupština opštine. Prilikom poveravanja vršenja komunalnih usluga jedinica lokalne samouprave ima pravo da kontroliše kako se obavlja ta delatnost i da utvrđuje cene. Čak i kad kod javno-privatnog partnerstva postoji direktna povezanost između privatnog partnera i krajnjeg korisnika i privatni partner je taj koji pruža usluge građanima, grad zadržava pravo kontrole kad je u pitanju izmena visine cena koje plaćaju korisnici usluga.

3. UPRAVLJANJE JAVNO PRIVATNIM PARTNERSTVOM

Glavni argument za uspostavljanje javno-privatnog partnerstva (JPP) je mogućnost ostvarivanja koristi za korisnike usluga i lokalnu vlast, kao rezultat učešća privatnog partnera u investiranju u infrastrukturu, pružanju javnih usluga i upravljanju javnim uslugama. U nekim državama kao što su, na primer, Mađarska ili Srbija, u kojima su javne institucije, zbog zakonskih i administrativnih ograničenja, bile manje sposobne da odgovore na potrebe od privatnih subjekata, državne vlasti su se nadale da će akteri iz privatnog ili nevladinog sektora biti sposobni da pruže više i kvalitetnije. JPP je neophodno tokom perioda fiskalnih restrikcija, kada je pritisak na javni sektor da smanji broj zaposlenih i ukupne troškove izuzetno snažan. Kod nekih oblika JPP zaposleni u javnom sektoru se zapošljavaju kod privatnog partnera ili koncesionara, čime se smanjuje broj zaposlenih u javnom sektoru.

Javno-privatno partnerstvo teži da privuče dodatne resurse u javni sektor. JPP pomaže javnim preduzećima da poštuju ograničenja koja se odnose na javni dug. To je od izuzetnog značaja u državama članicama Evropske unije s obzirom na to da je jedan od kriterijuma da javni dug ne sme da premaši 60% BDP-a. Forma JPP omogućuje javnom sektoru bolji pristup modernoj opremi i tehnikama upravljanja. Očekuje se i da će JPP poboljšati ekonomičnost, jer postojanje ugovornih obaveza znači da se projekti završavaju na vreme i da njihovi troškovi retko rastu tokom realizacije. [2] Na lokalnom nivou u Srbiji postoji potreba za ulaganjima da bi se proširila postojeća infrastruktura i unapredile komunalne usluge pri čemu lokalne vlasti nisu u stanju da iz budžeta obezbede investicije u infrastrukturu koja nedostaje. Zbog manjka budžetskih sredstava za investiranje u izgradnju potrebnih komunalnih objekata i dalji razvoj javnih delatnosti, lokalne vlasti odlučuju da privuku privatne partnere, koji bi uložili svoja sredstva i preuzeli na sebe upravljanje tim delatnostima. Većina jedinica lokalne samouprave odlučila je da uspostavi javno-privatno partnerstvo sa privatnim sektorom, zbog manjka javnih sredstava koja bi se ulagala u komunalne objekte i delatnosti.

Kao osnovni argumenti za uspostavljanje javno-privatnog partnerstva na opštinskom nivou navodi se sledeće: [4]

- povećanje efikasnosti zahvaljujući uvođenju tržišnih principa u rad komunalnog sistema
- povećanje nivoa i kvaliteta komunalnih usluga
- obezbeđivanje dugoročne finansijske, tehničke i ekološke održivosti komunalnog sistema, uz prihvatljive cene za krajnje korisnike
- uvođenje visoko funkcionalnog sistema plaćanja i kontrole komunalnih delatnosti
- razvoj novih komunalnih usluga uvođenjem tehničkih veština i iskustva privatnog partnera
- povećanje naplate prihoda budžeta.

Prioriteti projekata javno-privatnog partnerstva u većini slučajeva su izgradnja i razvoj komunalnih usluga i unapređenje infrastrukture. Po pravilu, to su projekti od kojih se očekuje da unaprede neko područje ili grad. Privatni partneri su pokazali rastuće interesovanje za profitabilne oblasti gradskog prevoza, distribucije gasa i izgradnje infrastrukture za upravljanje čvrstim otpadom. Očekivanja javnih i privatnih partnera od ove saradnje razlikuju se u zavisnosti od njihovih specifičnih funkcija i uloga. Javni sektor očekuje mobilisanje privatnih sredstava, rasterećenje ograničenih opštinskih budžeta,

pristup stručnim znanjima i kapacitetima privatnog sektora, kao i brži i profesionalan završetak projekata dok privatni sektor polaže velike nade u zajedničke projekte zbog obećanog pristupa lokalnim ovlašćenjima i vlasti, većeg uticaja na proces planiranja i odlučivanja i zbog dobro finansirane i uglavnom nerizične realizacije projekata. [4]

3.1. PRIMERI JAVNO - PRIVATNOG PARTNERSTVA U SRBIJI

3.1.1. Javni prevoz u Gradu Beogradu

Osnovna načela na kojima se zasniva ovo javno-privatno partnerstvo jemogućnost ostvarivanja koristi i za grad i za privatnog partnera. Grad bi trebalo da unapredi infrastrukturu javnog gradskog prevoza bez trošenja budžetskih sredstava i prihoda JKP za nabavku novih vozila. Privatni javni prevoznik stupanjem u ugovorni odnos obezbeđuje sebi dugoročne prihode za narednih sedam godina, koji zavise od obavljanja usluga javnog prevoza. Ispunjenjem ugovornih obaveza privatni prevoznik ostvaruje profit, koji ne mora da zavisi od broja prevezenih putnika. Privatni partneri se biraju putem javnog konkursa. Svaki privatni prevoznik koji je učestvovao na konkursu, morao je da dokaže kvalifikovanost za obavljanje usluga javnog prevoza i sposobnost da obezbedi vozni park predviđen tehničkim specifikacijama.

Privatni partner obavezuje se da investira u vozni park, u skladu sa uslovima definisanim u konkursnoj dokumentaciji. Dokaz o finansijskoj sposobnosti za nabavku voznog parka bio je presudan kriterijum za priznavanje kvalifikacije privatnog partnera u postupku javnog konkursa. Privatnom partneru se garantuje ostvarivanje prihoda koji se obračunava na osnovu ostvarene kilometraže i ugovorene cene obavljenog prevoza.

Prihod se ostvaruje iz sledećih izvora: [1]

1. integrisanog tarifnog sistema naplate
2. prodaje pojedinačnih karata u vozilima i
3. gradskog budžeta, subvencija do garantovanog nivoa prihoda.

Tabela 1. Osnovni podaci javno-privatnog partnerstva javnog prevoza u gradu Beogradu

Analiza slučaja	Poveravanje obavljanja prevoza putnika u javnom gradskom prevozu Grada Beograda
Ciljevi javno-privatnog partnerstva	Bolji kvalitet usluga i proširenje infrastrukture javnog prevoza
Učesnici u javno-privatnom partnerstvu	Grad Beograd, Direkcija za javni prevoz i privatni prevoznici koji imaju licencu za rad
Izvor finansiranja	Vlastita sredstva ili sredstva pozajmljena od privatnog partnera
Inostrane donacije	Ne
Vrsta ugovora	Ugovor o poveravanju obavljanja usluga
Rok ugovora	7 godina
Podela rizika	Komercijalni rizik snosi Grad
Način upravljanja	Direkcija za javni prevoz kontroliše izvršenje ugovornih obaveza
Formiranje cena	Grad, u skladu sa ugovorom
Prednosti	Uvođenje konkurentskog okruženja za GSP. Investiranje u javnu infrastrukturu bez trošenja javnih sredstava.
Nedostaci	Komercijalni rizik snosi grad kroz garantovani nivo prihoda privatnih partnera u skladu sa pruženim uslugama

Izvor: Damjanović, Pavlović, Peteri, 2013, str. 78

Podela rizika tokom trajanja ugovora. Rizik tražnje snosi grad zbog cene karata, koja je subvencionisana iz budžeta. Finansijski rizici usled kretanja na tržištu uključeni su u obračun i korekciju cene javnog prevoza. Tu cenu utvrđuje gradska vlada. Rizik od štete pokriven je polisom osiguranja. Rizik neizvršenja ugovornih obaveza privatnog partnera pokriven je bankarskom garancijom. Ugovorne obaveze privatnog partnera su: finansiranje nabavke određenog broja vozila, određenog kvaliteta i obavljanje usluge gradskog prevoza.

Obavljanje usluga javnog prevoza uređeno je ugovorom.

Direkcija za javni prevoz ima obavezu da vrši stalnu kontrolu kvaliteta usluga, koje pružaju privatni prevoznici. Prilikom kontrole uzimaju se u obzir sledeći kriterijumi kvaliteta javnog prevoza: ugovoreni nivo usluga, učestalost pružanja usluga, oprema, održavanje higijene vozila i obaveštavanje građana

Raskid ugovora zbog nezadovoljavajućeg rada. Privatni partner može raskinuti ugovor, ali ne pre roka definisanog ugovorom. Direkcija za javni prevoz može da raskine ugovor u bilo kom trenutku ako utvrdi da privatni partner ne ispunjava svoje ugovorne

obaveze. Pružanje kvalitetnih usluga građanima garantuje se ugovorom. Sprovođenje ugovora o poveravanju obavljanja usluga javnog prevoza u Beogradu omogućilo je gradu da proširi infrastrukturu javnog prevoza za 30% bez zahvatanja u javne fondove, uvede konkurenciju za operatere javnog prevoza, što je dovelo do porasta efikasnosti i profitabilnosti, i unapredi kvalitet usluga koje se pružaju građanima bez povećanja tarifa.

3.1.2 Beogradski vodovod i kanalizacija

Vodovodno-kanalizacionim sistemom za najveći deo teritorije grada Beograda trenutno upravlja JKP „Beogradski vodovod i kanalizacija” (BVK). Od ukupno 1,8 miliona stanovnika grada ono opslužuje 1,6 miliona i zapošljava 3.700 radnika. Zbog nedostatka budžetskih sredstava i prihoda BVK koji bi se mogli uložiti u izgradnju preko potrebnog kanalizacionog sistema, grad je doneo odluku da stupi u partnerstvo sa nekim privatnim partnerom zainteresovanim da ulaže u ovaj komunalni sistem. Urađena je studija izvodljivosti koja je identifikovala i predložila tri izvodljiva modela javno-privatnog partnerstva, koji bi grad trebalo da odabere i sprovede u narednom periodu. To su [1]

1. Model A: Davanje koncesije za vodovod, kanalizaciju i otpadne vode
2. Model B: Davanje koncesije za vodovod i kanalizaciju i ugovaranje DBFO (projektovanje-izgradnja-finansiranje-korišćenje) objekata zapreradu otpadnih voda.
3. Model C: Davanje koncesije za vodovod i kanalizaciju uz finansiranje prerade otpadnih voda iz ekološkogfonda.

Osnovna načela objedinjene koncesije za vodovod, kanalizaciju i otpadne vode su: davanje koncesije za vodovod, kanalizaciju i preradu otpadnih voda zasnivalo bi se na odluci Vlade Srbije. Sporazum bi bio sklopljen između Grada Beograda i novoosnovanog preduzeća „Novi BVK”. „Novi BVK” kao SPC bio bi zadužen za izvršenje koncesionog ugovora. Novo preduzeće formirali bi JKP BVK i odabrani privatni partner. Glavni kriterijum za izbor privatnog partnera su predložene cene usluga. Koncesionar bi bio zadužen da: upravlja postojećom infrastrukturom i održava je, sprovede restrukturiranje JKP BVK i finansira i vrši kapitalna ulaganja u vodovod, kanalizaciju i preradu otpadnih voda. [2]

Tabela 2. Osnovni podaci javno-privatnog partnerstva Beogradskog vodovoda i kanalizacije

Analiza slučaja	Strategija razvoja modela javno-privatnog partnerstva za Beogradski vodovod i kanalizaciju
Ciljevi javno-privatnog partnerstva	Izgradnja kanalizacione mreže, bolja prerada otpadnih voda i restrukturiranje komunalnih usluga
Učesnici u javno-privatnom partnerstvu	Grad Beograd, Direkcija za vode, JKP „Beogradski vodovod i kanalizacija” (BVK) i privatni partner
Izvori finansiranja	Budžetski prihodi Grada Beograda, akcijski kapital privatnog partnera, novac pozajmljen na tržištu kapitala
Inostrane donacije	Donacija Evropske unije
Vrsta ugovora	Koncesioni ugovor i ugovor o projektovanju -izgradnji - finansiranju - korišćenju (DBFO)
Rok ugovora	25 godina
Podela rizika	Komercijalni rizik snosi privatni partner. Finansijski rizici usled kretanja na tržištu ugrađeni u formiranje cena
Način upravljanja	Grad kontroliše izvršenje ugovornih obaveza
Formiranje cena	Skupština Grada Beograda
Prednosti	Izgradnja infrastrukture uz dugoročnu finansijsku, tehničku i ekološku samoodrživost sistema i dostupnost usluga korisnicima
Nedostaci	Privatni partner bi mogao biti izložen visokom komercijalnom riziku, zbog nedostatka preciznih podataka o stanju/statusu i radu postojećeg komunalnog sistema.

Izvor: Damjanović, Pavlović, Peteri, 2013, str. 97

Tender i koncesija diktiraju ukupno projektovanje, finansiranje, izgradnju i eksploataciju nove infrastrukture. Finansiranje kapitalnih investicija vršilo bi se iz jedinstvenog sistema naplate usluge, sredstava koncesionara, kredita i donacija. Koncesionar bi snosio rizike finansiranja, gradnje, eksploatacije, naplate od korisnika i unapređenja naplate. Koncesionar može biti vlasnik novoizgrađene infrastrukture, koja po okončanju koncesije mora da bude predata u vlasništvo grada. Koncesionar bi imao pravo da koristi postojeću infrastrukturu.

4. ZAKLJUČAK

Postojeća JPP u Srbiji ostvaruju se ili u formi ugovornih JPP, kojima se poverava „obavljanje komunalnih usluga” privatnom investitoru, ili u formi mešoviti javno-privatnih društava za obavljanje komunalnih delatnosti. Uspostavljanje JPP u Republici Srbiji motivisano je kombinacijom nekoliko faktora: potragom za privatnim finansijskim sredstvima koja bi dopunila skromne javne budžete; željom da se iskoriste know-how i operativne veštine privatnog sektora i strukturnim promenama uloge lokalne vlasti, koja sve više postaje organizator, regulator i kontrolor, a manje neposredni operater.

Vlada Republike Srbije je prepoznala značaj javno-privatnog partnerstva (JPP). Međutim, JPP još uvek ne može u svom punom obliku da se primeni uspešno u našoj zemlji zato što i dalje ne postoji usvojen Zakon o JPP koji bi regulisao u potpunosti tu oblast, što predstavlja osnovnu prepreku za ulaganje privatnog kapitala. Imajući u vidu globalne trendove i lokalne potrebe, zakon o JPP u Srbiji je preko potreban jer će otvoriti nove mogućnosti za investitore i finansijere, podstaći razvoj infrastrukture i omogućiti realizaciju JPP projekata u našoj zemlji na način na koji se to radi u svetu. Unapređenje saradnje javnog i privatnog sektora kroz JPP na nivou lokalne samouprave predstavlja jedan od najznačajnijih faktora razvoja u Republici Srbiji.

REFERENCE

1. Damjanović, D., Pavlović, T., Peteri, G. *Partnerstvo javnog i privatnog sektora: Dobra i lošaiskustva u odabranim zemljama u tranziciji*, Beograd: Palgo centar. (2013).
2. Ilić, S., Pašić, V. *Perspektiva JPP u Srbiji*, Beograd: VIII skup privrednika i naučnika, FON. (2011).
3. Juričić, D. *Ekonomija javno-privatnog partnerstva*, Beograd: Ekonomski pregled broj 59. (2010).
4. Pavlović-Križanić, T., Brdarević, Lj. *Partnerstvo javnog i privatnog sektora u Srbiji: Orjentacija ka pravičnoj podeli rizika i isplativosti investicija*, Beograd: Palgo centar. (2012).

ASSESSMENT OF HUMAN RESOURCES ABILITIES AS PART OF HUMAN RESOURCES MANAGEMENT

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Abstract: Not only physical strength, economy, general health state, purposeful directing and usage of human organism are something which have economic meaning. The fact is the following: when a man from any reason is dissatisfied and bitter at work it is the most negative thing which influences the success and by that, it influences the clear economic useful effect. And, on the other hand, positive attitude and love for such kind of work give positive effect. So, it can not be, all the same, equal if a man succeeds to tie himself with all his soul to his work or not.

Keywords: ability, knowledge, evaluation.

OCENJIVANJE SPOSOBNOSTI LJUDSKIH RESURSA KAO DEO MENADŽMENTA LJUDSKIH RESURSA

Mladen Mitrović, Marija Stefanović

Apstrakt: Nije samo fizička snaga, ekonomičnost, opšte zdravstveno stanje, svrsishodno usmeravanje i korišćenje čovekovog organizma ono što ima privredno značenje. Činjenica je, kad je čovek iz bilo kojeg razloga na poslu nezadovoljan i ogorčen, da to krajnje negativno utiče na uspeh a time i na čisto ekonomski korisni učinak. I obratno, vedro raspoloženje i ljubav prema poslu deluju pozitivno na učinak. Ne može, dakle, biti svejedno da li se uspeva u tome da se čovek svom dušom veže za svoj posao ili ne.

Ključne reči: sposobnost, znanje, ocenjivanje.

1. SUŠTINA I ELEMENTI OCENJIVANJA KADROVA

Jedan od osnovnih preduslova za pristup ocenjivanju uspešnosti bilo kojih profila kadrova je u tome da se zadovolji glavno načelo naučne organizacije rada: “adekvatni kadrovi za adekvatnu tehnologiju”, tj. svaki čovek na “svoje” pravo mesto. To načelo, naime, postiže svoju svrsishodnost time što osigurava uspeh preduzeću, ali i zadovoljstvo pojedincu. Jer, čovek može ostvariti optimalan rezultat samo na poslovima i na onom radnom mestu gde će najbolje doći do izražaja njegove sposobnosti. On će biti zadovoljniji ako postigne uspeh na radnom mestu koje odgovara njegovim znanjima i sposobnostima, negoli ako bude raspoređen na mesto više po statusu i izvan dometa njegovih sposobnosti, a ne ostvari očekivane rezultate.

Čovek radije doživljava uspehe, pa bili oni i “manji” po značenju, nego kritiku za neuspehe, bez obzira na nominalni status. Naravno, ta veza vredi u sistemu gde se rad meri

i ocenjuje, odnosno analiziraju uspesi i propusti, tj. gde se valorizuje rad svakog pojedinca, naročito rukovodećih kadrova. Tada dolazi do prirodne selekcije izbora i napredovanja kadrova.

Prema tome, prva faza ocenjivanja kadrova u svim preduzećima i institucijama odnosila bi se na to da li su oni adekvatno raspoređeni u procesu rada, i to svi, bez obzira na funkcije koje zauzimaju. Naravno, to će imati svoju svrsishodnost i opravdati "troškove" samo ako su prethodno sistematizovana radna mesta i uspostavljeno merenje uspeha u radu, kao i kriterijumi za to.

Sigurno je da se na svakom mestu neće moći meriti rezultat rada putem preciznih instrumenata, ali tamo treba da se uvede sistem procenjivanja kadrova i ocenjivanja njihove uspešnosti. Sistem ocenjivanja uspešnosti kadrova nije značajan samo s aspekta vrednovanja doprinosa u radu, već u prvom redu sa stanovišta optimalnosti uspeha, tj. da li su pojedini kadrovi ostvarili uspeh adekvatan svojoj funkciji (realizacija optimalno planiranog rezultata). Taj je sistem, osim toga, veoma pogodan za pravilno napredovanje kadrova i za njihovu smenljivost sa pojedinih odgovornih funkcija.

Ocenjivanje uspešnosti kadrova je vrednovanje osobina i ponašanja kadrova, te merenje i analiza rezultata njihovog rada. Proces ocenjivanja sastoji se iz nekoliko faza: ocene ličnosti, procene aktivnosti, kao i analize i ocene uspešnosti u radu pojedinaca. Svaka kategorija kadrova zahteva i posebne metode ocenjivanja, te njihovu adaptaciju uslovima rada, složenosti poslova i funkcija i, naravno, društvenim odnosima. Dakle, do sada upotrebljavani metodi nemaju univerzalan karakter, a pogotovo su elementi pojedinih metoda podložni izmenama, s obzirom na vrstu i svrhu ocenjivanja uspešnosti kadrova.

Uspešnost kadrova, a naročito rukovodilaca, ocenjuje se na različite načine i različitim metodama, koji su uslovljeni i opštim uslovima i stanjem u društvu. U odnosu prema "objektu" ocenjivanja (profil) postoje tri nivoa rukovodilaca. Svaki nivo zahteva specifične metode, s obzirom na složenost funkcija, nadležnosti i odgovornosti.

Posmatrajući sistem ocenjivanja uspešnosti kadrova kroz prizmu subjekata ocenjivanja, postoje tri metoda ocenjivanja: (a) ocenu rukovodioca donose drugi (upravni odbor, komisija, istraživač na temelju posebnih metoda - testova, podsetnika, anketa i postignutih rezultata); (b) ocenu daje sam rukovodilac putem metode "kontrola sopstvene akcije" i (c) ocena se sprovodi timski (odgovarajući rukovodilac s ostalim rukovodiocima i organima, a takođe i istraživački tim) metodom "grafikon rukovođenja".

Za ocenjivanje rukovodilaca dva su osnovna merila: (a) **ocena relativnih vrednosti** i (b) **ocena uspešnosti**, a to nadalje uslovljava i izbor odgovarajućeg metoda. Sama procedura ocenjivanja zahteva određena načela, sistematičnost, a sadrži niz elemenata, kao što su:

- svrha i program ocenjivanja,
- nacrt šeme ocenjivanja,
- izbor termina i rokova ocenjivanja,
- pravila (uputstva) ocenjivanja i
- tačnost ocenjivanja (ujednačenje kriterijuma i objektivnost kod ocenjivača).

Prema tome, izbor metoda ocenjivanja zavisi prvenstveno od merila i elemenata ocenjivanja, ali i od specifičnih uslova i svrsishodnosti te akcije.

2. TEHNOLOGIJA OCENJIVANJA SPOSOBNOSTI I USPEŠNOSTI

Istraživanje unutrašnjih i spoljašnjih karakteristika ljudske prirode zaokupljalo je stručnjake u različitim vremenima i prostorima. Kada su pre 2,5 milenijuma upitani Konfučija šta je mudrost, odgovorio je da je mudrost “*poznavati čovečanstvo*”. U stvari, to je ta vrsta mudrosti potrebna za ocenjivanje ljudi. Uz pomoć naučnih saznanja, danas se već može procenjivanjem i ocenjivanjem kadrova predvideti stepen dostignuća u karijeri pojedinca kao i stepen njegove uspešnosti na radu.

Ocenjivanje aktera u procesima rada je ekspertni posao, ali znači i demokratizaciju interakcija između kadrova različitih struka i položaja. Svrha je ocenjivanja, dati mogućnost najsposobnijima da zauzmu ključne funkcije u sistemu napredovanja, sa namerom da se ostvari optimalni rezultat na osnovu raspoloživih potencijala. Naime, ocena sposobnosti i uspešnosti kadrova omogućuje promociju kadrova u odnosu na vertikalnu, horizontalnu, dijagonalnu i spacijalnu (prostornu) mobilnost. Paralelno sa potrebama javljaju se otpori ocenjivanju zbog raznih razloga, kao npr.: *inertnost* organizacije što otežava promene, “*zamrzavanje*” statusnih pozicija, prikriveni *interesi* određenih snaga, *zastavljanje javnosti rada*, *ritualizacija* promocija bez kriterijuma. Te razloge je teško slamati, jer imaju duboko korenje i tradiciju.

Ipak, u reformisanju privrede preovlađuju inovacije u svim fazama, pa i u kadrovskoj politici. Oblik saradnje u procesima rada kao značajan činilac efikasnosti, znači zajedničke napore više sposobnih pojedinaca u nastojanju da ostvare kolektivne ciljeve. To načelo zahteva i ocenjivaje sposobnosti i uspešnosti kadrova, posebno rukovodećih.

U praksi se često čuje da treba imenovati rukovodioca prema sposobnosti. Međutim, to još ništa određenije ne govori, jer se ne može obavljati promocija na nekoj imaginarnoj, već na konkretizovanoj sposobnosti u odnosu na tehničke karakteristike posla i optimalizaciju uspeha. A kada se dođe do optimalnog kadrovskog rešenja, sposobnost se mora povećavati putem obrazovanja za funkciju rukovođenja, tj. menadžmenta³⁴.

Osnovu uspešne saradnje u procesima rada čine uloga i zadaci menadžeri, otelovljeni u njihovim postupcima i ponašanju, od kojih su najkarakterističniji sledeći (to su ujedno i kriterijumi za ocenjivanje):

- postupati sa radnicama kao ličnostima,
- upoznavati radnike sa pravima, dužnostima, obavezama,
- radnicima davati odgovarajuća dužna priznanja,
- pravovremeno informisati radnike o događajima i zacrtanim promenama,
- optimalno koristiti sposobnost radnika,
- motivisati radnike za rad i obrazovanje i stimulisati rezultate,
- uspostaviti ravnotežu zajedničkog interesa,
- omogućiti stvaralačku atmosferu i međusobno poverenje

Dobro rukovođenje je ono koje postiže najbolje moguće rezultate sa odgovarajućom strukturom radnika. S obzirom na to da se rezultati postižu pomoću svih kadrova, oni su i srž odgovornosti rukovodilaca za uspešnost poslovanja (*Miller*) što čini homogenu snagu preduzeća. Nikakvi zahvati spolja ne mogu uspešno izmeniti nedostatke unutar preduzeća, već to mogu sopstvene snage.

³⁴ Šire videti u knjizi Vidoja Stefanovića “Menadžment ljudskih resursa u uslovima globalizacije”, SVEN, Niš, 2008.g.str. 215-229

U tehnološkom postupku sistema ocenjivanja u funkciji promocije kadrova razrađeni su i prikazani ovi elementi karaktera čoveka:

(a) *Vrste sposobnosti*

- primarne mentalne (umne) sposobnosti i
- organizacione sposobnosti

(b) *Karakterne crte ličnosti*

- primarne osobine temperamenta i
- primarne crte ličnosti;

(c) *Etičke vrline ličnosti*

- etička načela i
- moralne navike ponašanja u interkadrovnim odnosima;

2.1. MENTALNE SPOSOBNOSTI

Sposobnost angažovanja i upotrebe mozga naziva se inteligencija. Ocenjivanje inteligencije je vrlo delikatno, jer zadire u intimnost čoveka, u sujetu. Svako misli da ima dovoljno inteligencije, pa bi se s te strane moglo reći da je inteligencija najraširenija stvar na svetu. No, koliki je stupanj inteligencije u ljudi, može se proveriti testovima mentalne sposobnosti. U kolokvijalnom govoru često se umesto termina inteligencija upotrebljava reč pamet kao sinonim. Opšta inteligencija (*ILJ*) pruža pogled na mentalne sposobnosti i omogućuje savremenoj nauci da produbljeno ocenjuje ljude.

Inteligencija u širem smislu obuhvata mehaničku, društvenu i apstraktnu inteligenciju neke osobe. Rad čoveka s opipljivim predmetima (baratanje alatom, upravljanje mašinom, montiranje od slagalica do složenih naprava) naziva se tehnička inteligencija, koja se razvija od malih nogu. Sposobnost prilagođavanja drugim ljudima i uspostavljanje kontakta s okolinom se definiše kao društvena (socijalna) inteligencija. Apstraktna inteligencija omogućuje čoveku razumevanje misli i apstraktnih pojmova, kako bi mogao kreativnošću rešavati složene probleme (*Laird*).

U novije vreme, termin inteligencija posebno u nauci, rezervisan je za opštu ili apstraktnu inteligenciju, što označava sposobnost razmišljanja, dok za mehaničku i društvenu inteligenciju se upotrebljavaju oznake: sposobnost, sklonost ili veština neke individue. Apstraktnu inteligenciju Aristotel je definisao kao intelektualnu ili prognostičku osobinu čoveka, podelivši je na saznajne i rasuđivačke osobine.

Ocenjivanje opšte inteligencije moguće je *ex ante*, putem testova, produbljenog intervjua i *post festum*, verifikacijom ostvarenih rezultata (aplikacija pameti). Kategorijalna podela pameti može poslužiti kao osnova za utvrđivanje kriterijuma ocenjivanja. Testove i intervjue treba kreirati prema stepenu znanja, funkciji (složenosti posla), organizacionoj strukturi i sl. kako bi se što više mogle uočiti razlike između individua.

Kao što se vidi, presekom pogleda na čoveka, kao najinteligentnijeg živog bića, uočava se da je inteligencija vrlo složena. S tim u vezi, (a zbog raščlanjenog prezentiranja ocenjivanja sposobnosti) primarne mentalne sposobnosti se dele na: brzinu percipiranja, numeričku sposobnost, rečitost, sposobnost razumevanja reči, specijalnu sposobnost, sposobnost memorisanja i sposobnost rezonovanja, što sve skupa predstavlja bogatstvo ideja.

a) Brzina percipiranja

Sposobnost objedinjavanja čula logičkim zaokruženjem predstavlja brzinu *percipiranja* (opažanja, poimanja, shvatanja). Objedinjavanje odvojenih delova u celinu, misaono popunjavanje praznina i shvatanje značenja putem opažanja naziva se brzina percipiranja. (npr. da se iz neke reči izostave samoglasnici ili neki slog i tako primeni reč.) Ako se letimično pogledaju slični crteži na nekoj zadatoj slici, može se steći utisak da su znakovi u redu isti. No, ako se pogleda slika pažljivije, većina onih koji gledaju odmah će uočiti razliku. Brzina tog uočavanja označava se kao sposobnost percipiranja.

b) Numerička sposobnost

Obično sabiranje i oduzimanje, odnosno jednostavno snalaženje u aritmetici označava se kao *numerička* (brojčana sposobnost). Numerička brzina je potrebna knjigovođama, blagajnicima i revizorima, raznim evidentičarima, normircima i sl.

c) Sposobnost rečitosti

Dosetiti se prave reči na nekoj zadatoj slici testa, u zadanoj brzini, označava se kao sposobnost *rečitosti*. Slaba rečitost je znatan hendikep u javnim nastupima, govorima, usmenim i pisanim izlaganjima (ponavljanje iste reči ili zamuckivanje u traženju adekvatne reči, ili pak služenje poštapalicama “*ovaj*”, “*onaj*”, “*je li*”, “*razumeš*”, “*shvataš*”, odnosno kašljucanje). Sve to ostavlja nepovoljan utisak o nastupu, otklanja pažnju slušalaca i od sadržaja i od poruke izlagača. Međutim, neko može imati veliki vokabular izražavanja, ali je problem u pronalaženju odgovarajuće reči, {to govori da rečitost i bogatstvo izraza ne moraju biti u visokoj povezanosti (npr. *Dima* je pokazao izuzetnu rečitost u romanima, dok je u običnom životu zastajkivao u govoru.)

d) Sposobnost razumevanja reči

Za razliku od rečitosti, ova primarna sposobnost čoveka ima drugačije značenje. To je sposobnost razumevanja reči bez obzira da li se koriste ili ne, u kolokvijalnom govoru (radi se o rečima stranog porekla). Ta sposobnost znači osnovu za učenje stranih jezika. Za razliku od ostalih sposobnosti, ova se javlja znatno kasnije u životu čoveka, jer je reč o kumuliranju znanja.

Ta sposobnost potrebna je naučnicima, istoričarima, profesorima, instruktorima, pravnicima, ekonomistima, meteorolozima i posebno, menadžerima prevodiocima.

e) Spacijalna sposobnost

Predočavanje dimenzionalnosti odnosa u prostoru označava se kao *spacijalna* (prostorna) *sposobnost*. Ta sposobnost izražava se u dočaravanju približne slike kancelarije, hale, parka, područja. Niska spacijalna sposobnost stvara učenicima poteškoće pri učenju geometrije, konstruktorima pri uređenju prostora, geometrima, izviđačima i sl. Razvijenu spacijalnu sposobnost moraju takođe imati i naučnici, modni crtači i dekorateri enterijera, a posebno je potrebna vozačima, planinarima, lovcima, izletnicima i ljubiteljima šuma i prirode. Ta sposobnost razvija se u ranom životnom dobu.

f) Sposobnost memorisanja

Mogućnost pamćenja i sećanja neke situacije ili događaja označava se kao *sposobnost memorisanja*. U datoj okolnosti čovek se može (ne mora) setiti svega što se dogodilo. Međutim, ne može se setiti nečega što nije naučio, video, znao. Pamćenje je delovanje stečenog iskustva u jednom trenutku na ponašnje u drugom trenutku (**V. Greg**).

Faktor memorisanja ima trihotomnu dimenziju (prema **Vernonu Gregu**):

- sistem pamćenja - “*mašina*” koja izvodi procese pamćenja,
- skladištenje pamćenja,
- primena pamćenja, tj. sposobnost sećanja.

Načelo kontinuiranog učenja, odnosno pamćenja omogućuje čoveku: razvoj “*aparata*” svakodnevnog pamćenja, semantičko pamćenje (kombinacijom reči u rečenici), činjenično pamćenje (usklađivanjem i korišćenjem posebnih znanja), epizodično pamćenje (preslikavanje), sticanje veština (kad se nešto dobro nauči, to se ne može zaboraviti, {to znači da se koriste uskladištene informacije). Zaboravljanje upamćenog znači da su nastale smetnje u sećanju mentalnih slika (iz ranijih perioda), {to označava i moždana oštećenja (skleroza i slične tegobe). Zainteresovanost za nešto i pamćenje u uskoj su korelativnoj povezanosti. Posebno su u uskoj povezanosti spacijalna sposobnost i faktor memorisanja. Tako, npr. neke osobe mogu s lakoćom gotovo u celosti pročitati stranicu u zatvornoj knjizi na osnovu samo jednog prethodnog čitanja. S druge strane, neki ne mogu zapamtiti ni više puta ponovljenu informaciju.

Pamćenje je potrebno za sva zanimanja. Rano se javlja. Ta sposobnost može se razviti vežbanjem, zato se to i forsira kod dece, čak i u predškolskom uzrastu.

g) Sposobnost rezonovanja

Rezonovanje je specijalna sposobnost logičnog planiranja i predviđanja posledica. Ta sposobnost izražava se kod uočavanja načela i pravila u naučnim otkrićima i na drugim područjima, kao i kod primenjivanja načela u rešavanju problema. Menadžeri i drugi stručnjaci moraju imati visok stepen rezonovanja (u globalu i segmentarno).

2.2. ORGANIZACIONE SPOSOBNOSTI

Organizovanje je obavljanje poslova zajedno s drugim i pomoću drugih, a voditi tim koji se bavi organizacijom znači potvrđivanje sopstvenih organizacionih sposobnosti u saradnji s drugima (članovima tima). **Theodore Roosevelt** je rekao “*da je najbolji rukovodilac onaj koji ima smisla izabrati dobre saradnike, koji će znati šta on želi, a istovremeno će on biti dovoljno disciplinovan da se ne meša u njihov posao dok ga rade*”. Uspeh organizovanja počiva na adekvatnom delegiranju poslova i zadataka iz svoje nadležnosti drugim saradnicima, pomoćnicima, zamenicima. Putem delegiranja verifikuje se sposobnost saradnika, ali i sopstveni pristup organizaciji³⁵.

Dobar deo rukovodilaca-menadžera ne zna slušati, već samo pričati. **Njegoš** je govorio: “*Ko ne zna slušati, ne zna ni upravljati*”. Zbog toga su potrebne sposobnosti da se stekne širina gledanja na privredu i život. Radnici su velika proizvodna snaga, samo se oni ne smeju tretirati kao fizička radna snaga. S toga, menadžeri moraju reagovati na proteste i

³⁵ Prof. dr Vidoje Stefanović - *ibid.*, str.238

stavove radnika (poput seizmografskog aparata). Radnici moraju biti informisani o svemu što se događa u preduzeću, o poslovanju, rezultatima, proizvodnim problemima, mogućnostima vlastitog razvoja, perspektivi ukupnog razvoja i o ulozi svakog pojedinca. “*Gde radnici imaju informaciju, mogu delovati, gde je nemaju, ne mogu delovati*” (Carllsson).

Mogu se izabrati različite varijante testova kojima se ocenjuju organizacione sposobnosti, a najučestaliji je u primeni “*Test 12 sposobnosti*”. Test se može sprovesti pomoću uputstva za standardni intervju. Svrha je da se vidi koje sposobnosti poseduje kandidat za imenovanje ili promociju, i u kojem obimu, kao i strukturalna zastupljenost pojedinih sposobnosti u ukupnoj organizacionoj sposobnosti.

Pri izboru kandidata za odgovarajući posao, funkciju, potrebno je upoređivati rezultate testa ocenjivanja organizacionih sposobnosti u odnosu na uslove. Skala ocene značenja (važnosti) pojedinih sposobnosti za odgovarajuće mesto može imati takođe tri stepena kao i test kandidata, a mogu oba imati i po pet stepeni, npr.: izražajna, značajna, srednja, manje značajna i nebitna. Međutim, mogu se obe skale ocenjivati od 1 - 10 kako bi se mogle upoređivati i na osnovu njih izračunati *Ro* - koeficijent korelacije međusobne povezanosti.

Tabela 1. Ocenjivanje organizacionih sposobnosti

R.br.	Vrsta sposobnosti	Izuzetna	Srednja	Neodgovarajuća
1.	Organizacijska orijentacija (identifikacija ciljeva i vrednosti)			
2.	Predviđanje organizacije (predviđanja, adaptiranja)			
3.	Kontrola organizovanja (pridržavanje ciljeva i plana)			
4.	Organizacijska kreativnost (razrada alternativa)			
5.	Odlučivanje (poslovni duh u izboru alternativa)			
6.	Fleksibilnost (prilagođavanje uslovima i interesima)			
7.	Funkcionalna sposobnost (uspešnost i stabilnost)			
8.	Inicijativnost (vlastite ideje, akcije i sprovođenje)			
9.	Sposobnost vođenja (sposobnost zračenja na druge)			
10.	Organizovanost (animiranje i angažovanje saradnika)			
11.	Usmereno komuniciranje (rečitost, pridobijanje)			
12.	Pisano komuniciranje (veština izražavanja, efekti)			

2.3. OCENJIVANJE KARAKTERISTIČNIH CRTA LIČNOSTI

Primarne mentalne i primarne tehničke sposobnosti pokazuju šta osoba može raditi, ali ne govore šta će i gde će raditi, pa ni kako bi neko obavljao posao. Šta će i gde će neko

raditi zavisi od niza okolnosti vezanih za prilike, mogućnosti, ponudu i tražnju, a na koji način i kako će obavljati posao, zavisi od njegove ličnosti. To se može utvrditi na osnovu standardizovanog intervjua, npr. da li je neko uporan, stalan, marljiv, kooperativan, lojalan, ambiciozan, zreo i stabilan.

1) Standardizovani intervjui osiguravaju informacije o opštom kvalitetu kandidata i pogodnosti za ogovarajući posao odnosno funkciju. Intervju, iako treba biti neformilan, prislan i indirektan, usmerava ocenjivanja u željenom pravcu. Pored ocene sadašnjeg stanja u razvoju ličnosti, valja izučiti i prošlost da se upoznaju događaji koji objašnjavaju *ličnost čoveka* i njegov *temperament*. Naime, postoje neke pojave kod ljudi, koje oni ponavljaju, iako znaju da to ne valja, čiji je koren u frustracijama i mentalnim opterećenjima iz ranog detinjstva. One se izražavaju u osećaju: krivice, neprijateljstva, inferiornosti, nevoljenosti i neželjenosti.

Sve te pojave temperamenta mogu pospešivati unutrašnje napetosti i dolaze do izražaja prilikom umora i rešavanja težih problema, što se neminovno odražava na rezultate posla koji takve osobe obavljaju. Ocenjivanjem crta ličnosti može se na vreme otkriti postojanje nekih većih mana i sprečiti da dođe do neželjenih posledica za takve ljude i za preduzeće njihovim izborom na odgovornu funkciju.

2) Često postoji sklonost da se ljudi grupišu u razne tipove samo po jednoj osobini, iako je *ljudski karakter rezultanta mnogih faktora*, zavisnih od situacije i genetike ličnosti. Ta individualnost uslovljena je prema **dr Raymond B. Cattellu** "izvornim crtama ličnosti", što je revolucionisalo teoriju ličnosti. Svojim eksperimentima **dr Cattell** je brojku od 400 termina koji opisuju osobine ličnosti sveo na 160, ali je istovremeno i dodao 11 novih za označavanje psihičkih aspekata ličnosti. Zatim je taj 171 termin sveo na 62 grupe ličnosti.

Grupisanja omogućuju da se više termina zameni jednim odgovarajućim koji odražava ličnost (za razliku od segmentarnih koji su tek delić). Nekoliko takvih grupisanih termina, su npr. *dominantan* (samouveren), što se ispoljava: siguran u sebe, hvalisavac, uobražen, okrutan, okrivljuje druge, za razliku od termina *submisivan* (pokoran) odnosno podložan, skroman, samokritičan. Drugu grupu čine suprotnosti: *jaka volja* (istrajan, pedantan, savestan) i *slaba volja* (neustrajan, površan, nesvestan).

Ustvari, radi se o elementarnim psihičkim kvalitetima, koji se mogu oceniti i po izrazu lica i ponašanju. Grupe termina su potom redukovane na 12 izvornih crta ličnosti (u rasponu) pomoću faktorske analize. Ocena crta ličnosti nezaobilazna je metoda prilikom odabiranja kadrova za posao, odnosno funkciju.

Tabela 2. Test primarnih crta ličnosti

R.br.	Polarizovane crte ličnosti	
1.	Angažovan	Povučen
2.	Oštrouman	Tup
3.	Zreo	Detinjast
4.	Dominantan	Submisivan
5.	Entuzijast	Melanholik
6.	Osetljiv	Uravnotežen
7.	Socijalizovan	Primitivan
8.	Nezavisan	Zavisan
9.	Odvažan	Strašljiv
10.	Trom	Živahan
11.	Razdražljiv	Flegmatičan
12.	Lakoveran	Sumnjičiv

Svaka ličnost može se svrstati ne samo u odgovarajući polarizovan termin, već i između njih. Na primer, poslednji (12) par, u grupi pod terminom *lakoveran* treba ubrajati: veseo, ljubazan, poverljiv, sentimentalno, zahvalan, a termin *sumnjičav* poblizje označavaju: nesrećan, osetljiv, podozriv, nezahvalan, kiseo. Uostalom, ovaj test treba da sprovedu profesionalci (psiholozi), a oni izvanredno poznaju crte ličnosti čoveka. Samo još treba napomenuti da su prema istraživanjima značajne sledeće crte ličnosti označene kao povoljne: angažovan, oštrouman, zreo, entuzijast, uravnotežen, socijalizovan, nezavisan, odvažan i lakoveran. Neke osobine nisu povoljne za menadžere, a to su dominantan i submisivan.

3. UMETO ZAKLJUČKA

Glavna pokretačka snaga proizvodnje jesu kadrovi sa svojim znanjem i iskustvima u funkciji nosilaca i izvršilaca, odnosno organizatora i upravljača. S toga je osiguranje adekvatnih kadrova sa kontinuiranim sistematskim osposobljavanjem podjednako važno kao i uvođenje nove tehnike. Tehnički progres, naime, i adekvatno profilisanje kadrova dva su bitna uslova za razvoj proizvodnih snaga. Kadrovi i sredstva za proizvodnju nedeljivo su jedinstvo u pokretanju ekonomskog razvoja. Sredstva sama po sebi ne mogu postići rezultate bez čoveka, niti čovek može obavljati proizvodne delatnosti bez sredstava za rad. Oni su, dakle, dva bitna nedeljiva elementa i činioca proizvodnje i proizvodnih snaga.

Samo optimalna i proporcionalna investiranja u materijalne i kadrovske potencijale donose efikasne rezultate poslovanja i afirmaciju radnom čoveku. Značajnu ulogu u tome imaju politika dugoročnog razvoja i osmišljena kadrovska politika u međusobnom prožimanju i usaglašavanju.

REFERENCE

1. Bogičević B., (2007.), *Menadžment ljudskih resursa*, Beograd, Ekonomski fakultet,
2. Bojadžioski D., (2009.), *Menadžment na čovečkite resursi*, Skoplje, Ekonomski fakultet
3. Čerović S., (2011.), *Upravljanje ljudskim resursima u hotelijerstvu*, Beograd, Singidunum,
4. Dessler G., (2006.), *A Framework for Human Resource Management*, London
5. Gligorijević Ž., (2011.), *Ekonomika industrije*, Niš, SVEN,
6. Gligorijević Ž., Bošković G., (2008.), *Industrijski menadžment*, Niš, Ekonomski fakultet
7. Ilić M. et al., (2000.), *Industrijski menadžment*, Kragujevac, Ekonomski fakultet,
8. Jovanović M., Kulić Ž., (2008.), *Menadžment ljudskih resursa*, Beograd, Megatrend,
9. Jovanović P., Pokrajac S., (1998.), *Industrijski menadžment*, Beograd, Grafoslog,
10. Marušić S., (2001.), *Upravljanje ljudskim potencijalima*, Zagreb, Ekonomski

institut

11. Pržulj Ž., (2007.), *Menadžment ljudskih resursa*, Beograd, BK Univerzitet
12. Rahimić Z., (2010.), *Menadžment ljudskih resursa*, Sarajevo, Ekonomski fakultet,
13. Sajfert Z., Urošević, S., (2012.), *Menadžment ljudskih resursa*, Beograd, DonVas,
14. Stefanović V., (2008.), *Menadžment ljudskih resursa u uslovima globalizacije*, Niš, PMF,
15. Stefanović V., Vojnović B., (2013.), *Ekonomska efektivnost upravljanja ljudskih resursa*, Beograd, Institut za ekonomiku poljoprivrede,
16. Torrington D., (2002.), *Human Resource Management*, London
17. Vujić D., (2000.), *Menadžment ljudskih resursa i kvalitet*, Beograd, Centar za psihologiju
18. Vujić V., (2005.), *Menadžment ljudskog kapitala*, Opatija, Fakultet za turistički i hotelski menadžment

ULOGA TOP MENADŽMENTA U UPRAVLJANJU PROJEKTIMA IMPLEMENTACIJE ERP SISTEMA

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Apstrakt: Model istraživanja ovog rada je razvijen kroz multidisciplinarni pristup kombinatorike, teorije odlučivanja i upravljanja projektima. U ovom studiozno istraživačkom radu na reprezentativnom uzorku preduzeća u Srbiji istražen je, i analiziran proces usvajanja i korišćenja ERP sistema, sa identifikacijom razloga za implementaciju SAP ERP rešenja u preduzećima u Srbiji kroz: iscrpni sistematski pregled relevantne literature i komparativni prikaz preliminarnih rezultata odgovora uzorkovanih preduzeća, pregled mogućih izmena prilikom ponovljenog uvođenja ERP-a, studiji uloge i posvećenosti top menadžmenta u upravljanju projektu implementacije ERP rešenja u Srbiji.

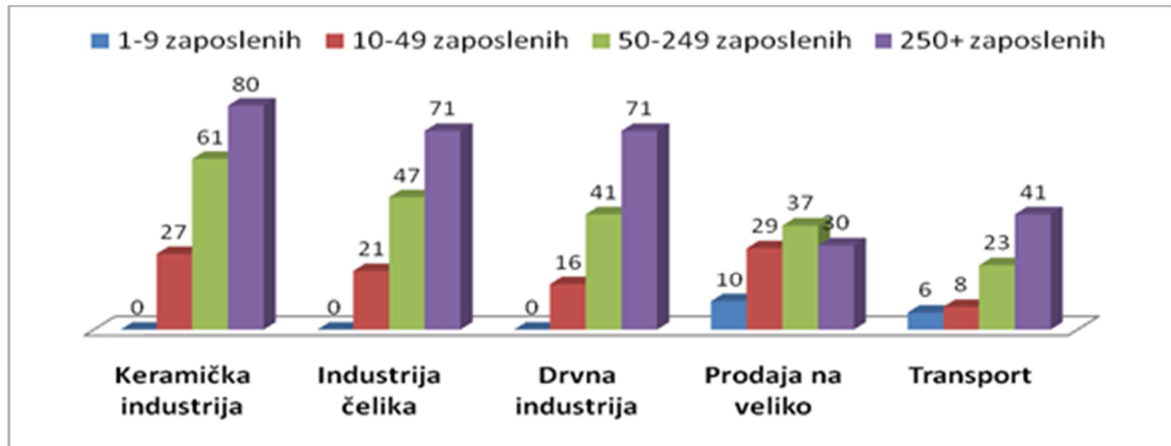
Keywords: Critical success factors (CSF), ERP, ranking, implementation project.

1. UVOD

U ovom radu na osnovu studije relevantne stručne literature i konkretnim istraživanjima u preduzećima u Srbiji, koja su različita po vrsti delatnosti, vlasničkoj strukturi na reprezentativnom uzorku metodom anketnog upitnika, predstavljeni metodološki aspekti uloge top menadžmenta u upravljanju projektima implementacije ERP sistema. Poznati autori Motiwalla, L.F. & Thompson, J. (2009) definišu ERP kao prvu generaciju poslovnih rešenja (ES) čiji je cilj da spoji informacije i podršku za sve glavne funkcije organizacije (računovodstvo i finansije, marketing i zahtevi planiranja proizvodnje). [16] ERP rešenja daju podršku za kritične funkcije u poslovnom okruženju i na taj način definišu kritična rešenja (engl. *mission-critical*). Oni zamenjuju nekoliko postojećih IS, koji obično postoje u organizacijama (npr. transportni sistem, planiranje resursa, menadžerski IS, itd.). Spajanje odeljenja i funkcija unutar organizacije u jedinstvenu infrastrukturu koja služi potrebama svih odeljenja. Pored toga, obezbeđuje se pristup zaposlenima, klijentima, partnerima, dobavljačima, u bilo koje vreme i sa bilo kog mesta putem Web klijenta.

2. ISTRAŽIVANJA USPEŠNOSTI ERP IMPLEMENTACIJA

Uspeh projekta implementacije ERP sistema direktno utiče na performanse i opstanak preduzeća i poslovnih sistema. Na sledećoj slici 1. predstavljen je procenat preduzeća sa utvrđenim ERP rešenja po sektorima i veličini za 2007 godinu. Istraživanje organizacija AMR Research, koja je obuhvatila preko 550 organizacija, otkrila je da samo 27% malih organizacija (manje od 500 zaposlenih) koristi ERP rešenje, 57% od srednjih organizacija (između 500 i 2499 zaposlenih) i 70% velikih organizacija (2.500 ili više zaposlenih). [4]



Legenda : Osnovu (100%) predstavljaju kompanije iz sedam država članica EU (Nemačka, Francuska, Italija, Španija, Poljska, Švedska, Velika Britanija) od 811 kompanija iz hemijske industrije, 349 preduzeća iz industrije čelika, 661 kompanija u industriji nameštaja, 1026 kompanija iz maloprodaje i transportnih aktivnosti 997 kompanija.

Slika 1. Procenat preduzeća sa utvrđenim ERP rešenja po sektorima i veličini za 2007 [11]

ERP (eng. Enterprise Resource Planning) je skup više aplikacija - modula koji čine okvir za obradu podataka u oblasti finansija, proizvodnje i distribucije, ljudskih resursa i administrativnih funkcija i operacija podrške na operativnom nivou.[15] Prednost ERP rešenja je ne samo pružanje informacija u realnom vremenu, već omogućavanje organizacijama da poboljšaju svoje poslovne procese. ERP rešenja su dizajnirana po principu najbolje prakse, što znači da provajderi ERP rešenja pronalaze najbolje organizacione poslovne modele u industriji i implementiraju ih u poslovne modele svog ERP-a.[20] Definicija problema koji smo naglasili je uvođenje ERP strateškog projekta u okviru organizacije. Neuspešan uvod i upotreba ERP u organizaciji može imati fatalan uticaj.[12] Pošto organizacije obično ne znaju da je neophodno da se uvođenje završi u kratkim rokovima, projekat uvođenja ERP rešenja se smatra složenim i veoma rizičnim. Rizik se ogleda u vremenu, obimu i ceni lansiranja projekta. U većini slučajeva, to je najveći projekat IS, koji je ikad uveden u organizaciji.[1] Istraživanje organizacije Standiš Grupe je pokazalo da 90% od ERP implementacija nisu uvedene u predviđenom roku ili procenjenog budžeta.[21] Uticaj uvođenja ERP rešenja u malim i srednjim preduzećima (u daljem tekstu: MSP) ima mnogo veći uticaj nego u velikim organizacijama. Ovaj uticaj se odnosi na činjenicu da je često uspeh u MSP organizacijama više zavisi od znanja i iskustva svojih zaposlenih kao i od formalnih procedura.[12]

Tabela 1. Preduzeća koja su učestvovala u Anketi[22]

Ime kompanije	Delatnost kompanije	Godine poslovanja	Broj zaposlenih	Web sajt
Srpska fabrika stakla A.D.	Staklarska industrija	105	870	www.srpskafabrikastakla.com
Swisslion Takovo	Proizvodnja konditorskih proizvoda	17	2762	www.swisslion-takovo.com
Holcim Srbija	Proizvodnja cementa, agregata i gotovog betona	135	334	www.holcim.rs
JP PTT Srbija	Poštanske usluge, usluge e-poslovanja, Internet	174	15336	www.posta.rs
Dijamant Zrenjenin	Prehrambrena industrija	76	585	www.dijamant.rs

U prethodnoj tabeli 1. predstavljena su preduzeća koja su bila predmet istraživanja ovog rada dok je u sledećoj tabeli 2. predstavljen pregled razloga za implementaciju SAP ERP rešenja u preduzećima u Srbiji.

Tabela 2. Razlozi za implementaciju SAP ERP rešenja u preduzećima u Srbiji[22]

	Razlozi za implementaciju SAP ERP rešenja u preduzećima
Srpska fabrika stakla A.D	Poboljšanje poslovanja, povećanje vrednosti kompanije.
Swisslion Takovo	Veća efikasnost i produktivnost poslovanja.
Holcim Srbija	U okviru svoje korporacije poseduju SAP ERP.
JP PTT Srbija	Postojeći sistem je neorganizovao podatke. SAP ERP pruža najniži poslovni rizik.
Dijamant Zrenjenin	Efikasno upravljanje poslovanjem kao i zamena postojećeg informacionog sistema.

3.PROCES IMPLEMENTACIJE ERP SISTEMA

Enterprise Resource Planning (ERP) sistemi su trenutno veoma traženi u preduzećima u Srbiji i okruženju, posebno u preduzećima u proizvodnji i uslugama na bazi industrijske proizvodnje, jer obezbeđuju efikasan sistem upravljanja koji vodi do značajnih poboljšanja u produktivnosti. U ovom radu je urađena ,sveobuhvatna sistematska studija da identifikuje kritične faktore uspeha i ključne prednosti ERP rešenja korišćenjem odgovora iz konkretnih preduzeća. Značaj ovih faktora je ispitivan u preduzećima u Srbiji metodom anketnog upitnika . Rezultati ove studije pružaju praktična uputstva za vlasnike preduzeća, menadžment i ERP konsultante da budu efikasniji u upravljanju implementacijom ERP rešenja sa svojim ograničenim resursima. U tabeli 3. su prikazani odgovori ispitanih preduzeća. Možemo primetiti postojanje odstupanja u definisanom planu realizacije ERP projekta i realizacije implementacije. Njihov odnos je 60% uspešna realizacija implementacije u skladu sa predviđenim planom, dok 40% su odstupanja u odnosu na prvobitni plan. U preduzećima se najčešće odlučuju za pristup „potpunog prelaska“ zatim slede „paralelni pristup“ i „fazni pristup“. Dakle 60% preduzeća menjaju tok implementacije. Preduzeća u Srbiji između izbora promene poslovnih procesa ili promene softverskog koda, isključivo se odlučuju za promene poslovnih procesa .

Tabela 3. Uporedni prikaz rezultata odgovora uzorkovanih kompanija [22]

Ime kompanije	Srpska fabrika stakla A.D	Swisslion Takovo	Holcim Srbija	JP PTT Srbija	Dijamant Zrenjenin
Definisani plan ERP projekta	6 meseci	26 meseci	9 meseci	12 meseci	9 meseci
Realizacija implementacije	6 meseci	26 meseci	9 meseci	18 meseci	12 meseci
Korišćeni pristup	Paralelni pristup	Veliki prelazak	Veliki prelazak	Fazni pristup	Veliki prelazak
Promena toka implementacije	Ne	Ne	Ne	Da	Da
Promena poslovnih procesa	Da	Da	Da	Da	Da
Uključenost krajnjih korisnika u dizajniranju poslovnih procesa	Da	Da	Ne	Ne	Da
Povezivanje sa procesnim informacionim sistemima	Ne	Ne	Ne	Ne	Ne
Urađen BPR	Da	Da	Da	Da	Da
Promena softverskog koda	Ne	Ne	Ne	Ne	Ne

Kritični faktori uspeha u sprovođenju ERP u primeru istraživanja su zasnovani na skali od 5 poena sa unapred određenim mogućnostima reagovanja. Prema ovim odgovorima iz istraživanja, preko polovine kompanija je rangirala CSFs, kao što je prikazano u sledećoj tabeli 5.

Table 5: Distribution of importance [19]

CSF		Very important (5 points)	Important (4 points)	Neutral (3 points)	Unimportant (2 points)	Very unimportant (1 point)	Irrelevant (0 points)
Top management support	Frequency	8	36	24	11	5	0
	Percentage %	9.52	42.86	28.57	13.10	5.95	0.00
The effective project management	Frequency	9	20	28	15	9	3
	Percentage %	10.71	23.81	33.33	17.86	10.71	3.57
Business process reengineering	Frequency	11	13	30	17	10	3
	Percentage %	13.10	15.48	35.71	20.24	11.90	3.57
The Suitability of Software and Hardware	Frequency	9	34	30	7	4	0
	Percentage %	10.71	40.48	35.71	8.33	4.76	0.00
Education and Training	Frequency	9	17	32	19	5	2
	Percentage %	10.71	20.24	38.10	22.62	5.95	2.38
User Involvement	Frequency	8	26	30	13	6	1
	Percentage %	9.52	30.95	35.71	15.48	7.14	1.19

Problemi koji se mogu javiti u uspostavljanju ili obnavljanju IT projekata mogu da budu (anketa Thayera, Pystera i Wooda u): [4]

- loša procena i planiranje IT projekata,
- nedostatak standarda za proveru kvaliteta,
- nedostatak uputstva o tome kako načinu donošenja odluka,
- nedostatak tehnike praćenja napredka projekta,
- slabo definisane uloge u okviru projektnog tima (ko šta radi)
- netačnu identifikaciju faktora uspeha.

O'Leary (2000) navodi da je posle neuspešne ERP implementacije nemoguće da se vrati na stari IS. [17] U tom smislu veoma je važna podrška top menadžmenta koja znači podršku projektu u smislu delegiranja resursa na projektu, koji su potrebni za uspešnu implementaciju ERP rešenja. Upravo zato je važno shvatanje menadžmenta o važnosti projekta i njegovog uspeha. Podjednako je važno da članovi najvišeg rukovodstva aktivno učestvuju na projektu implementacije ERP rešenja. Studije su pokazale da je menadžment u delu istraživanih preduzeća podržao uvođenje novog sistema, a da nijedan od rukovodilaca nije aktivno učestvovao u projektima. [10] U tim preduzećima maksimalna

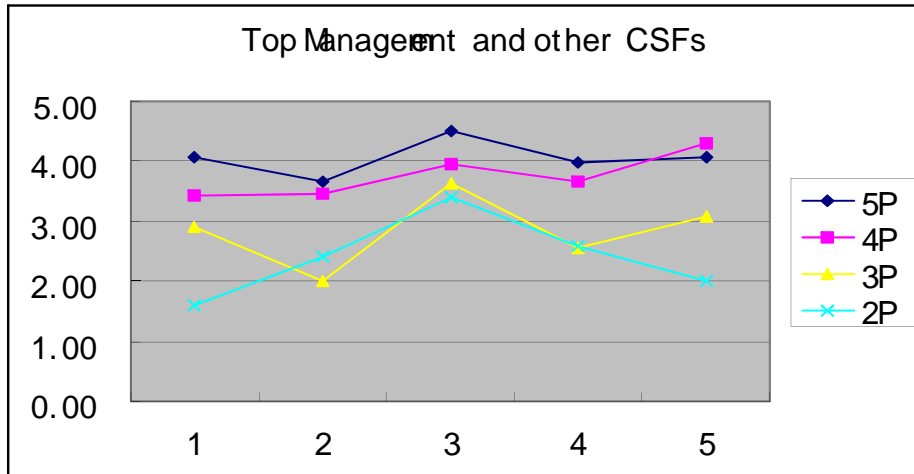
samoinicijativa osoba zaduženih za informatiku je vodila projekt od strane naručioca. Ta osoba opet nije imala ovlašćenje delegiranja odgovornosti na pojedince, tako da pojedincima nisu bile dodeljene odgovornosti. Menadžment je imao “dvojna“ merila. Pred zaposlenima je davalo negativan utisak o savetodavcima- konsultantima i obrnuto pred konsultantima su se negativno izražavali o zaposlenima. Hteli su time da se ne zamere nijednoj strani. Top menadžment je podržao projekat obnove starog informacionog sistema. Od strane naručioca su imali sedmične sastanke članovi projektnog tima i najvišeg menadžmenta, gde su razmatrali tok procesa obnove informacionog sistema. Sastanku su još prisistvovali direktor preduzeća kao i predstavnici sektora za informacione tehnologije za celu organizaciju. Takođe dan pre prelazka, stigli su svi rukovodioci u istraženom preduzeću, gde su razmatrali na osnovu porudžbenica i pregleda stanja na projektu promene, da li da se ide sledećeg dana sa novim sistemom ili se ostaje na starom sistemu.

Table 6: There is a relationship between “Top management support” and other CSFs [23]

Top management support	5P	4P	3P	2P
The effective project management	4.06	3.42	2.91	1.60
Business process reengineering	3.67	3.46	2.00	2.40
The Suitability of Software and Hardware	4.50	3.96	3.64	3.40
Education and Training	3.97	3.67	2.55	2.60
User Involvement	4.06	4.29	3.09	2.00
P-value	0.004	0.010	0.204	0.516

Menadžment je u drugim istraživanim preduzećima odlučio i odobrio određena sredstva za kupovinu ERP rešenja. U početku je bio oformnjen projektni tim, koji je bio sastavljen od strane ponuđača od dva konsultanta i od strane naručioca od troje ljudi, i još jedne osobe koja će biti vođa projektne grupe od strane naručioca kao i dve osobe od kojih jedna brine o računovodstvu i nabavnom delu, dok druga brine o koordinaciji rada povezivanja aplikacija za podršku produkciji. Osoba koja je bila imenovana kao vođa projektne grupe od strane naručioca nije nimalo učestvovala na projektu kao i u razgovoru o stanju projekta. Ključni korisnici tako nisu bili dovoljno motivisani, jedino su bili puno zapošljeni sa drugim poslovima, tako da se nisu uključivali u projektu. Rok za uvođenje informacionog sistema je postavljen za 01.01.2014.godine. Projekt se do dana današnjeg nije realizovao. Vremenski okviri su bili prekoračeni iz razloga kao što su:

- menjanje ljudi u projektnoj ekipi,
- nezainteresovanost korisnika za stavljanje u pogon novog informacionog sistema,
- korisnici se konstantno izgovaraju da su prezauzeti izradom izveštaja namenjenih stranim klijentima,
- nepreciznost određene potreba i zahteva za potrebom povezivanja sa aplikacijom za podršku produkciji,
- zbog vremenskih zaostataka kao i neodgovarajućeg vođenja radovi se izvode polako i po zakonu inercije.



Slika 2. Odnosi između top menadžmenta i ostalih CSF [23]

U poslednje vreme, Enterprise Resource Planning (ERP sistemi) su postali jedan od najvažnijih faktora i događaja u korporativnom korišćenju informacionih tehnologija. [8] Projekti ERP implementacije su obično kompleksni, veliki i složeni projekti, koji uključuju velike grupe ljudi i drugih resursa, koji obično rade zajedno pod vremenskim pritiskom i koji se suočavaju sa mnogim nepredviđenim situacijama. Da bi preduzeća i poslovni sistemi mogli da se takmiče u oblasti integrisanih ERP sistema, zaposleni moraju da obezbede efikasnu, efektivnu, i visoko pouzdanu informacionu infrastrukturu. Uprkos prednostima koje se mogu postići sa uspešnim implementacijama ERP sistema, postoje brojni dokazi o velikom broju neuspeha u projektima implementacije ERP sistema. Previše često su ključni faktori uspeha implementacije ERP sistema iz prakse razvoja ovih rešenja su ignorisani, dok blagovremene pokazatelje koji su na vreme upozoravali na mogući neuspeh projekta inženjeri nisu razumeli. [9] Identifikacija uspešnih projekata i faktore neuspeha i njihovih posledica, po mogućstvu što je ranije moguće, može da pruži zlatu vredne informacije i da pomogne rukovodiocima projekata da poboljšaju svoje šanse za uspeh. Jedan od ciljeva ovog istraživačkog rada je da baci svetlo na ove faktore i da se obezbedi alat koji menadžeri projekata mogu da koriste i da im pomogne da bolje upravljaju ovakvim projektima razvoja softvera. Takođe jedan od ciljeva ove studije je da se shvati koliko su se CSFs promenili u poslednjoj deceniji i razmotriti njegove buduće pravce razvoja. Tako su CSFs ERP sistema kategorisani u tri grupe prema njihovom stepenu promene. Prva kategorija se sastoji od 12 faktora koji su u velikoj meri smanjuju tokom vremena kao što je prikazano na slici (3.1); Druga kategorija se sastoji od 7 faktora koji su neznatno smanjuju kao što je prikazano na slici (3.2); i treća kategorija pokazuje 3 faktora koji se povećavaju kao što je prikazano na slici (3.3). Sve u svemu, istraživačke studije CSFs u ERP sistemima su smanjene. Na slici (3.1) procenat citata CSFs ERP sistema kroz periode 2001-2011 se konstantno smanjuje približno u proseku za 25 odsto u prvoj polovini perioda u odnosu na drugu polovinu. Ovo upravo potvrđuju i istraživanja koja su sprovodili autori R.Bjarne & K.Pernille u periodu 2000-2009. [3]

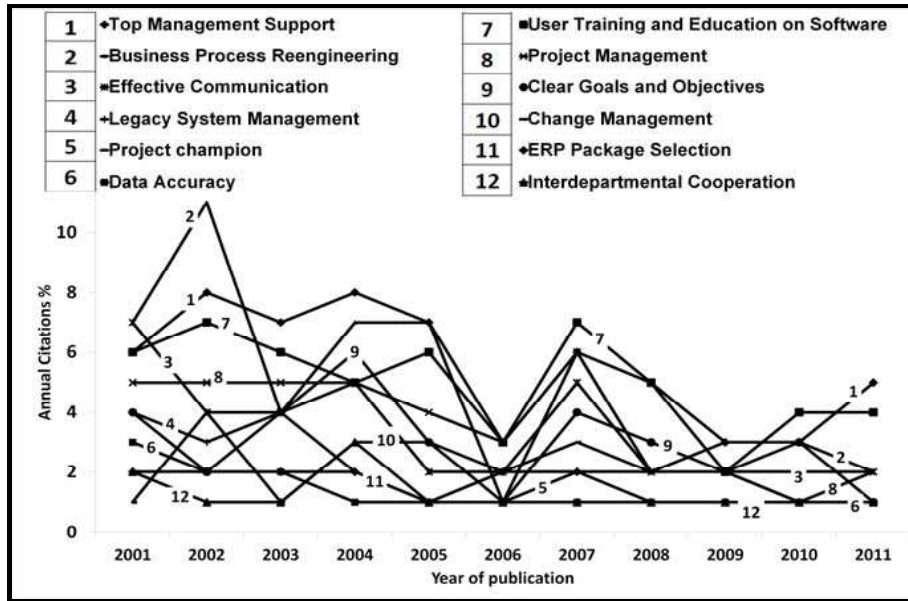


Fig. 1. Factors have decreased over time.

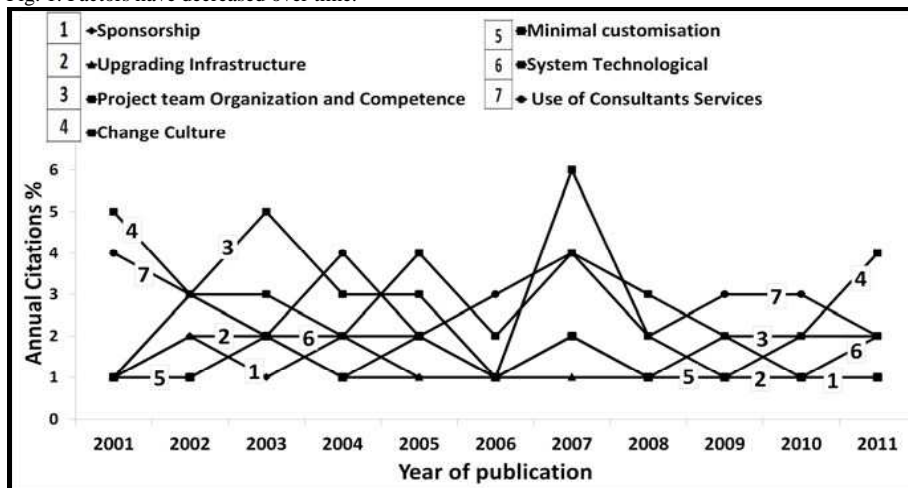


Fig. 2. Factors have declined over time.

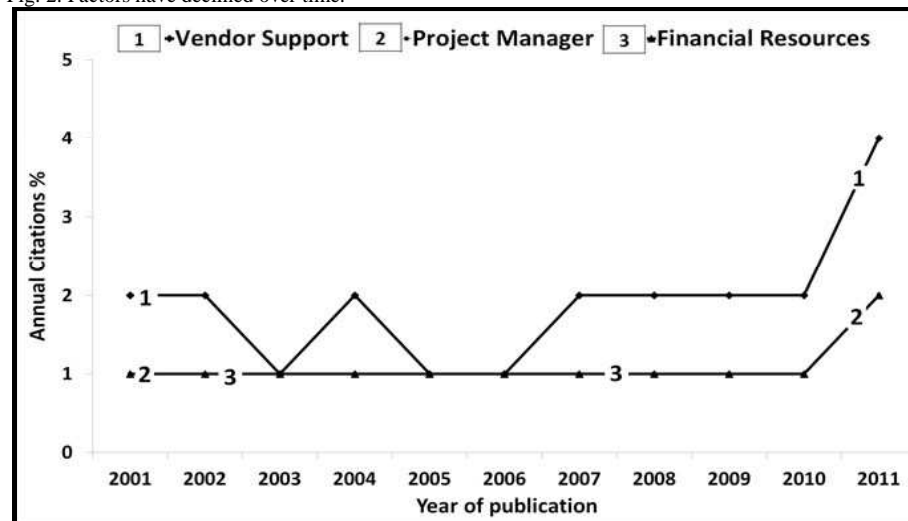
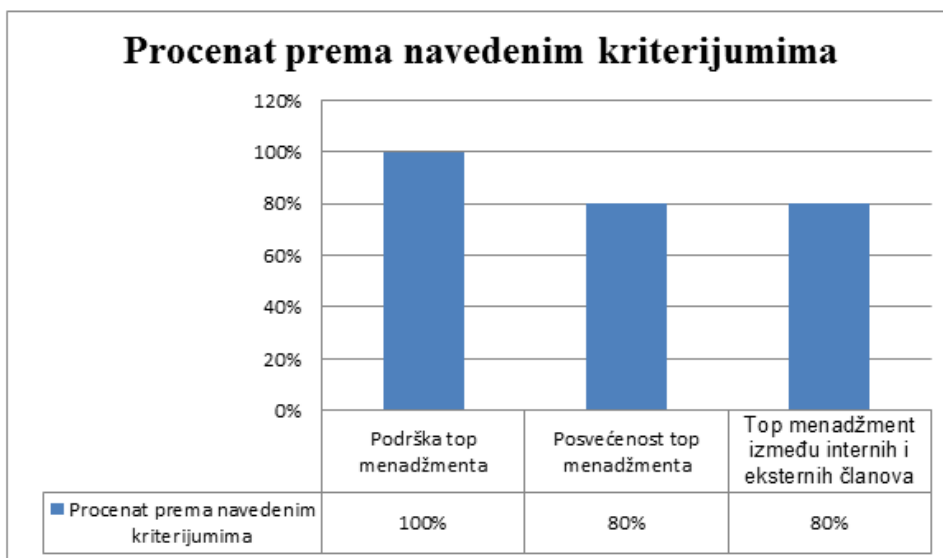


Fig. 3. Factors increased over time.

Slika 3. (1,2,3)Uticajni faktori[23]

Top menadžment i njegova uloga su važni faktori uspeha primene SAP ERP rešenja. [6]Značaj se ogleda u posvećenosti projektu kao i učestvovanju u konfliktnim situacijama. Na slici 4. je prikazano procentualno učešće top menadžmenta u Srbiji što se odlikava velikim procentom uticaja i učešća. Dakle, u današnjem vremenu, ulaganje u informacioni sistem predstavlja imperativ top menadžmenta kompanije ukoliko želi da održi postojeću poziciju na tržištu. Samim tim, top menadžment i vlasnici imaju velike koristi od dugoročnog korišćenja ERP sistema. Top menadžment aktivno participira na projektu i stimuliše pridržavanje progresivne metodologije tokom implementacije. [7]



Slika 4. Procenat posvećenosti top menadžmenta projektu implementacije ERP rešenja u Srbiji [22]

Podrška top menadžmna upravljanju projektima uvođenja ERP sistema je rangirana kao 3 najvažniji CSFs među 13 koji su identifikovani u istraživanju o uspehu implementacije Information Systems (IS) (Jiang et al., 1996). [14] Međutim, poznati autori Somers i Nelson, (2001) u svojim istraživanjima CSFs kroz faze ERP implementacije, top podršku menadžmna upravljanju projektima rangiraju kao najvažniji od 22 faktora.[19] Istraživanje ovog rada je takođe potvrdilo ove rezultate. Podršku top menadžmenta upravljanju autori Slevin i Pinto (1987) definišu kao spremnost top menadžmenta da pruži potrebne resurse, i autoritet za uspeh projekta.[18] Spremnost da se pruži potrebna sredstva je važan pokazatelj posvećenosti top menadžmenta ka uspešnoj implementaciji ERP projekata. Realizacija može imati ozbiljne nedostake ako neki od kritičnih resursa kao što su ljudi, sredstava, oprema i slično nisu dostupni (Zhang, Lee, Zhang, i Banerjee, 2002). [24] Takođe, podrška top menadžmenta upravljanju projektima uvođenja ERP sistema mora pratiti potpunu implementaciju ERP sistema. Oni bi trebalo da kontinuirano prate napredak projekta i da pruže sve potrebne instrukcije članovima tima za ERP implementaciju. (Bingi et al., 1999) [2]

4. ZAKLJUČAK

Sobzirom da su ERP sistemi novijeg datuma i da relevantna stručna REFERENCE o implementaciji ERP sistema postoji samo u razvijenijim zemljama, i da države u razvoju i zemlje trećeg sveta nemaju potrebna saznanja i iskustva iz oblasti ERP sistema ovaj rad

daje upravo skromni doprinos u funkciji unapređenja istraživanja ove aktuelne tematike. Ovaj istraživački rad je predstavljen kao veoma važna analiza koja može pomoći u upravljanju projektima implementacije ERP sistema u preduzećima, i da im pomogne da identifikuju i izdvoje strateške resurse za uspešnu implementaciju sistema. U ovom istraživačkom radu prikazana je studija uloge top menadžmenta u funkciji upravljanja projektom usvajanja i korišćenja ERP sistema, gde je naročita pažnja posvećena pitanjima: koji faktori i u kojoj meri utiču na usvajanje i korišćenje ERP rešenja od strane korisnika u preduzećima. [5] Istraživanje je pokazalo da je projekat implementacije u prvoj grupi istraživanih preduzeća pratilo to da su nedostajale podrške vrhovnog menadžmenta. Ogromnu energiju i rad je bilo potrebno uložiti u motivaciju korisnika, da prikupljaju potrebne podatke, da učestvuju pri sakupljanju informacija o njihovom trenutnom radu sa starim informacionim sistemom. Veliki posao, koji su morali odraditi korisnici, su odradivali sami konsultanti ili uz pomoć informatičara, koji su pored svog mukotrpnog, redovnog posla, našli vremena da pripreme podatke i ostale aktivnosti na projektu. Tako da je radni dan obično bio duži od 12 sati. Nasuprot tome lako je govoriti o podršci nadređenih pri projektu obnove informacionog sistema u drugoj grupi preduzeća. Ključni korisnici su bili dodatno motivisani u radu na projektu. Najviši nivo menadžmenta, vođe projektnih timova i vođe odeljenja, su imali radne sastanke, na kojima su raspravljali o napredku projekta kao i o problemima i načinima njihovo rešavanja. Iz napred navedenih primera mogli bi na prvo mesto kao ključni faktor uspešnog izvođenja implementacije novog ERP rešenja ili obnove informacionog sistema svakako staviti aktivnu podršku najvišeg vodstva preduzeća. To potvrđuje svakako primer savremenog ERP rešenja u preduzećima koja su bila predmet istraživanja ovog rada. Usprkos izuzetno kratkom vremenu izvođenja projekta (tri meseca) i složenosti projekta, isti je realizovan u predviđenom roku. Korisnici su ipak uvedeno ERP rešenje na kraju dobro usvojili. Kao pravac daljeg razvoja i trendova ERP sistema može se koristiti adekvatna metodologija analitički hijerarhijskog procesa (AHP) koja može da se koristi za određivanje težine ključnih faktora uspeha implementacije ERP sistema, umesto kao do sada broja citata ključnih faktora uspeha koja se koristi od strane pojedinih autora. Takođe Hestermann sa koautorima (2009) ističe da u poslednjih nekoliko godina sledeći trendovi utiču na ERP sisteme (a posebno za srednja preduzeća): [13]

vertikalizacija sistema,
modernizacija kroz korišćenje servisno orijentisanih arhitektura (SOA),
globalizacija, koja je ne samo karakteristika velikih kompanija,
konsolidacija tržišta sa velikim brojem spajanja i akvizicija ERP proizvođača.

REFERENCE

- [1] Al-Sehali, S. (2002). The factors that affect the implementation of enterprise resource planning (ERP) the international Arab gulf states and United states organizations with special emphasis on SAP software: dissertation. University of Northern Iowa.
- [2] Bingi, P., Sharma, M. K., & Godla, J. K. (1999). Critical issues affecting an erp implementation. *Information Systems Management*, 16(3), 7–14.

- [3] Bjarne Rerup Schlichter, Pernille Kraemmergaard, (2010) "A comprehensive literature review of the ERP research field over a decade", *Journal of Enterprise Information Management*, Vol. 23 Iss: 4, pp.486 – 520.
- [4] Caruso,D.(2005).Process, productivity, and profit: the smb executive's framework for ERP investment. *AMR Research*. pristupljeno 10.januara 2014. na web stranici http://download.microsoft.com/download/C/0/D/C0D60823-23D9-43EE-9280-4FB236A19ACD/AMR_Research_Report.pdf.
- [5] Cotterell,M.&Hughes,B.(1995).*Software project management*. London etc.: International Thomas Computer Press.
- [6] Denić, N.:Menadžment informacioni sistemi, VTŠSS Uroševac, 2010.godine
- [7] Denic,N. Dasic,B. Maslovara,J.: Profitability of the investment project of introducing modern business information systems, *TTEM - Technics Technologies Education Management*, Impact Factor: 0.414 (ISI Journal Citation Reports 2012), Vol. 8, No. 1, (2013) 367–372.
- [8] Denic, N. Moracanin,V. Milic,M. Nešić, Z...: Risks the project management of information systems, *Tehnički vjesnik*, br. 6, 2014.
- [9] Denic, N. Zivic, N. Siljkovic, B.:Management of the information systems implementation project, *Annals of the Oradea University, Fascicle of Management and Technological Engineering*, Vol. XXII (XII),Issue #2, September (2013) 32–35.
- [10] Denic, N. Zivic, N. Dasic,B.: Analysis of factors of implementing ERP solutions in the enterprise, *Annals of the Oradea University, Fascicle of Management and Technological Engineering*, Vol. XXII (XII), Issue #2, September (2013) 27–31.
- [11] E-businessW@tch.(2006).The Europeane-Business Report 2005 edition-A portrait of e-business i 10 sectors of the EU economy, 4th Synthesis Reportofthee-BusinessW@tch.Luxembourg: Office for Official Publications of the European Communities. pristupljeno 12.marta 2014 na web stranici [http:// www. ebusiness-watch.org](http://www.ebusiness-watch.org).
- [12] Edwards,H.M.&Humphries,L.P.(2005).Change management of people& technology i an ERP implementation. *Journal of cases on information technology*, 7(4), 144-160.
- [13] Hestermann,C.,Anderson,R.P.&Pang,C.(2009). Magic Quadrant for Midmarket and Tier 2- Oriented ERP for Product-Centric Companies.Gartner.Nađeno17. februara 2010 na web stranici <http://www.gartner.com/>.
- [14] Jiang, J.J.; Klein, G.; Balloun, J. (1996): "Ranking of System Implementation Success Factors", *Project Management Journal*, vol.27, n.4: 50-55.
- [15] Kalakota,R.&Robinson,M.(2001).*E business 2.0: road map for success*.USA etc.: Addison-Wesley.
- [16] Motiwalla,L.F.&Thompson,J.(2009).*Enterprise systems for management*. Uper Saddle River: Pearson Prentice Hall..
- [17] O'Leary,D.E.(2000).*Enterprise resource planning system: systems, life cycle, electronic commerce and risk*. USA:Cambridge university press.
- [18] Slevin D.P. and Pinto J.K. (1987) "Balancing Strategy and Tactics in Project Implementation", *Sloan Management Review*, Fall, pp 33-44.
- [19] Somers, T. M., & Nelson, K. (2001). The impact of critical success factors across the stages of enterprise resource planning implementations.IEEE Proceedings of The 34th Hawaii International Conference On System Science, January, 3 – 6.

- [20] Sternad,S.&Bobek,S.(2004). ERP solution implementation critical success factors: what does matter and what does not. V Lasker (ur.), *Acta systemica*. International Institute for Advanced Studies Systems Reserch and Cybernetics. Ont.,Can.:G.E Windsor.
- [21] Umble,E.J.,Haft,R.R.&UmbleM.M.(2002). Enterprise resource planning: implementation procedures and CSF. *European journal of operational research*, 146(2),241-257.
- [22] Istraživanje implementacije ERP-a u preduzećima u Srbiji , 2014.godine
- [23] Yingjie, J. (2005). Critical Success Factors in ERP Implementation in Finland. Swedish School of Economics and Business Administration.
- [24] Zhang, L., Lee, M., & Banerjee, P. (2002). Critical success factors of enterprise resource planning systems implementation success in cChina. IEEE Proceedings of the 36th Hawaii International Conference on System Sciences, 1–10.

ANALYSIS OF EXPERIENCE IN IMPLEMENTATION OF SIX SIGMA METHODOLOGY

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Abstract: Six Sigma methodology in the last twenty years is even more accepted by industry and non-profit organizations. Results of its use can be found in the public statements of organizations that have successfully implemented it. In this study, results of the implementation of Six Sigma methodology in business organizations in the world, as well as in the Republic of Serbia, will be discussed.

Keywords: Result, Implementation, Six Sigma methodology

ANALIZA ISKUSTAVA U PRIMENI ŠEST SIGMA METODOLOGIJE

Saša Spasojević

Apstrakt: Šest Sigma metodologija je u poslednjih dvadeset godina sve prihvaćenija od strane industrijskih i neprofitnih organizacija. Rezultati njene upotrebe se mogu naći u javnim saopštenjima organizacija koje su je uspešno primenile. U radu će biti razmatrani rezultati implementacije Šest Sigma metodologije u poslovnim organizacijama u svetu, kao i u Republici Srbiji.

Ključne reči: Rezultat, Implementacija, Šest sigma metodologija

1.UVOD

U protekle dve decenije Šest Sigma metodologija je široko prihvaćena od strane industrije i neprofitnih organizacija širom sveta. Veliki broj kompanija koje su primenile Šest Sigma koncept u svom poslovanju su i javno obelodanile rezultate svojih poboljšanja. U mnoštvu publikacija, štampanih i elektronskih, moguće je pronaći rezultate uspešnosti primene koncepta. Od samog nastanka metodologije, u Motoroli (USA), njena primena se u početku odnosila na američke firme, da bi se kasnije proširila na ceo svet.

2. ANALIZA INOSTRANIH ISKUSTAVA U OBLASTI PRIMENE ŠEST SIGMA

S obzirom da se u početku svoje primene Šest Sigma pojavila u proizvodnom sektoru i da se njena primena nije zadržala samo u toj oblasti, već se proširila i na druge, kao što su finansijska, zdravstvo, projektovanje, građevina i inženjerstvo, rad lokalnih samouprava i dr. u daljem tekstu će biti razmotreni neki primeri primene po sektorima.

Proizvodni sektor

Motorola je prva organizacija koja je počela da koristi Šest Sigma metodologiju u svom poslovanju 1980, kao deo programa za unapređenje kvaliteta svoje proizvodnje i rada. Od tog vremena, Šest Sigma je uspešno primenjena i u mnoge druge proizvodne organizacije. Tabela broj 1 sumira organizacije, projekte, benefite, poboljšanja i uštede nakon implementacije Šest Sigma metodologije.

Tabela 1: Prijavljene uštede i koristi od Šest Sigme u proizvodnom sektoru [2,3,4,5,6]:

Kompanija/projekat	Mere poboljšanja	Benefiti/Ušteda
Motorola (1992)	Nivo defekata u proizvodnom procesu	Smanjenje od 150 puta
Raytheon/aircraft integration systems	Vreme održavanja	Smanjenje od 88% mereno u danima
GE/Railcar leasing business	Vreme zadržavanja i održavanja	Smanjenje od 62%
Allied signal (Honeywell) / Laminates plant in South Carolina	Kapacitet, Vreme ciklusa, Zalihe, Vreme isporuke	Povećan do 50%, smanjeno 50%, smanjene do 50%, smanjeno 100%
Allied signal (Honeywell) / bendix IQ brake pads	Trajanje ciklusa od ideje do isporuke gotovog proizvoda	Smanjenje sa 18 meseci na 8 meseci
Hughes aircraft's missiles systems group / wave soldering operations	Kvalitet/produktivnost	Poboljšanja od 1000% / Poboljšanja od 500%
General electric	Finansije	2 milijarde US dolara u 1999.
Motorola (1999)	Finansije	15 milijardi US dolara tokom 11 godina
Dow chemical/rail delivery project	Finansije	Ušteda od 2,45 miliona US dolara
DuPont/Yerkes plant in New York (2000)	Finansije	Ušteda veća od 25 miliona US dolara
Telefonica de Espana (2001)	Finansije	Ušteda i povećanje prihoda od 30 miliona evra u prvih 10 meseci
Texas instruments	Finansije	600 miliona US dolara
Johnson and Johnson	Finansije	500 miliona US dolara
Honeywell	Finansije	1,2 milijarde US dolara

Samsung beleži smanjenje defekata u proizvodnji i uštedu vremena, a takođe je počeo da dobija i novčane nagrade. U periodu od četiri godine, Šest Sigma program je uštedeo kompaniji 2,2 milijarde US dolara [7]. Uspeh kompanije u primeni Šest Sigma metodologije je krunisan dobijanjem Malkolm Baldrige Nacionalne nagrade za kvalitet.

Unimicorn Technology Corporation (Tajvan) je implementaciju Šest Sigma realizovala u 1998.godini, da bi doživela snažan rast prihoda počev od 0,18 milijardi US dolara u 1999.godini na 7,1 milijardi US dolara u 2004.godini. U istom periodu, profit je povećan, počev od 120 miliona US dolara u 1999.godini na 710 miliona US dolara u 2004.godini. Rejting kompanije, u svetskim razmerama, sa 35.mesta u 1999. godini porastao je na 2.mesto u 2006.godini. [8]

Kompanija *Allied Signal* je počela da koncept Šest Sigma primenjuje početkom devedesetih. Kasnije je javnim saopštenjem ukazala na efekat od 800 miliona US dolara, ostvarenim od 1995. do 1997.godine na račun usavršavanja po principima Šest Sigma. [8]

Kompanija *General Elektrik (GE)* je, u trećem kvartalu 1997.godine, ostvarila efekat od oko 600 miliona US dolara (povećanje sa 13,8 % na 14,5 %), isključivo zahvaljujući inicijativi Šest Sigma. Informacije koje je kompanija saopštila, pokazuju da je metod Šest Sigma, kompaniji *GE*, u 1999.godini, obezbedio efekat više od 2 milijarde US dolara u odnosu na 1999.god, odnosno, rast profita od 2,4 milijarde US \$ u 2000.god. u odnosu na 1999.god. [8]

Finansijski sektor

U poslednjih nekoliko godina finansijska i kreditna odeljenja banaka su pod pritiskom da smanje vreme trajanja novčanih ciklusa i varijacija u performansama poslovanja, a sve u funkciji veće konkurentnosti. Tipičan Šest Sigma projekat u finansijskim institucijama uključuje poboljšanja u okviru: tačnosti alokacije novca, smanjenju troškova banke, automatskih uplata, tačnosti izveštavanja, kao i smanjenja varijacije u performansama [9].

Bank of America (BOA) je jedan od pionira u usvajanju i sprovođenju Šest Sigma koncepta u oblasti finansija. Zahvaljujući implemetaciji koncepta prvi su osmislili i realizovali projekte za unapređenje operacije „ privući i zadržati kupce“ i stvaranje konkurentnosti preko kreditnih sindikata. Realizovali su veliki broj Šest Sigma projekata (nekoliko stotina) u oblasti: unakrsne prodaje, depozita, kao i rešavanja problema u poslovanju. *BOA* je u svojim javnim saopštenjima prijavila 10,4% povećanja u kategoriji zadovoljstva kupaca i 24% smanjenje problema kod kupaca posle primene Šest Sigma koncepta [10].

American Ekpress primenjuje Šest Sigma metodologiju za poboljšanje procesa spoljašnje prodaje i eliminisanje neprimljenih zahteva za obnavljanje kreditnih kartica. Rezultat je pokazao poboljšanje sigma nivoa od 0,3 u svakom slučaju [11]. Druge finansijske institucije, uključujući *GE Capital Corp*, *JP Morgan Čejs*. *Suntrust Bank* koriste Šest Sigma za fokusiranje na poboljšanje zadovoljstva korisnika, kao i za ispunjenje njihovih zahteva [10].

Zdravstveni sektor

Implementacija Šest Sigma koncepta u zdravstvu je takođe veoma moguća i uspešna. Kao pozitivan primer može se navesti Biblioteka radiološkog filma na Univerzitetu u Teksasu (*University of Texas MD Anderson Cancer Center*) u kojoj su značajno poboljšane uslužne delatnosti [12]. Takođe je, u istoj instituciji, u ambulanti CT laboratorije, vreme pripreme pacijenta za snimanje, smanjeno sa 45 min na manje od 5 min. U istoj laboratoriji, nakon uvođenja koncepta, nastupilo je povećanje broja ispitivanja do 45% bez dodatnih radnih sati i nabavke novih aparata [13].

Inženjerski i građevinski sektor

Bechtel Corporation, jedna od najvećih inženjering i građevinskih kompanija u svetu, 2002.godine objavila je da je uštedela 200 miliona US dolara zahvaljujući uspešnoj implementaciji i primeni Šest Sigma metodologije. Takođe je objavila da je u projekat usvajanja koncepta investirala 30 miliona US dolara. Kompanija je u sve svoje poslovne procese implementirala Šest Sigma. Program obuhvata rano otkrivanje, sprečavanje i korekciju grešaka i nedostataka od projektovanja i dizajna pa do izgradnje, uključujući i pravovremenu isplatu zarada zaposlenim [14].

Lokalne samouprave

Vrlo su značajne i implementacije Šest Sigma u rad gradskih (lokalnih samouprava). Pozitivni primeri se mogu naći u raznim gradovima USA. Jedan od njih je, i grad *Indijanapolis*, koji je manjak sredstava u budžetu pokušao da nadomesti efikasnijim upravljanjem, koje se zasnivalo na osnovim principima Šest Sigma. Gradski menadžer je doneo odluku da, umesto da traži novac iz gradskog budžeta, pokuša isti da uštedi. Sa svojih 13 menadžera (vlasnici crnog pojasa) vrši obuku zaposlenih u gradskim upravama i pokušava da ostvari zacrtani cilj da se predviđeni manjak budžeta u gradskoj kasi za 2013.god. od 15 miliona dolara anulira efikasnijim radom gradskih službi. Pokušaće se, takođe, da se od projektovanog manjka u gradskoj kasi za 2014. godinu od 27 miliona dolara, primenom alata i tehnika Šest Sigma metodologije, ostvare što veće uštede [15].

Fort Vejn, grad u Indijani (USA), uspeo je da za sedam godina, nakon uvođenja Šest Sigma metodologije u rad gradskih institucija (2000.godine), uštedi 20 miliona dolara. Gradski zvaničnici su kasnije saopštili da su nakon uvođenja Lean Six Sigma metodologije (2008.godine) uspeli da u kasi uštede sedam miliona US dolara [15].

Svi do sada navedeni podaci se zasnivaju na javnim saopštenjima kompanija i kao takvi nisu predmet diskusije. Međutim, evidentno je prema svim pokazateljima, da su rezultati poslovanja kao i sama efikasnost poslovanja, dignuti na viši nivo nakon implementacije Šest Sigma metodologije u preduzeća. Iz datih podataka je vidljivo da se vreme potrebno za odvijanje pojedinih procesa skratilo, troškovi koji nastaju u tim procesima takođe se smanjuju, što govori u prilog uspešnosti Šest Sigma metodologije.

3. ANALIZA DOMAĆIH ISKUSTAVA U OBLASTI PRIMENE ŠEST SIGMA

Domaća preduzeća se već godinama unazad nalaze u teškim uslovima poslovanja. Neuspele privatizacije, prevremena liberalizacija tržišta, loši uslovi privređivanja, recesija, nedefinisanost zakonskih regulativa, postojanje monopolskog poslovanja, politička nestabilnost, nepovoljni uslovi kreditiranja privrede, nestimulativna poreska politika, trgovinski i platni deficit, velika inflacija, nestabilan devizni kurs i nizak bruto domaći proizvod sa jedne strane, a sa druge svetska ekonomska kriza faktori su koji direktno utiču na njihovo poslovanje.

I pored navedenih teškoća u kojima se domaća preduzeća nalaze, značajan broj njih uspeva da se nosi sa problemima i unapredi svoje poslovanje. Jedan od načina za prevazilaženje problema je prilagođavanje rada organizacije svetskim trendovima unapređenja poslovanja kroz implementaciju raznih savremenih standarda, metodologija, koncepta i metoda.

Primena raznih standarda u preduzećima je dobar osnov za uspješnije poslovanje, bilo da oni pripadaju ISO grupi standarda ili nekoj drugoj. Mnoga domaća preduzeća su uspjela da sertifikuju određene standarde. Tu se najpre misli na grupe standarda iz serije ISO 9000, ISO 14000, ISO 22000, zatim OHSAS 18001, HACCP. Takođe, mnoga od preduzeća poseduju integrisane menadžment sisteme. Posjedovanje sertifikovanih sistema u preduzećima predstavlja dobru osnovu za dalja poboljšanja poslovanja kao i za njihovu nadogradnju. Moguća poboljšanja poslovnih procesa su, između ostalih, i kroz primenu Šest Sigma, Lean Šest Sigma, Fit Sigma metodologije i dr.

Imajući u vidu pozitivna iskustva mnogih svetskih preduzeća u rezultatima primene Šest Sigma metodologije, za očekivati je da se i domaća preduzeća počnu interesovati za njenu primenu. Za potrebe ovog rada, od dostupnih podataka do kojih se moglo doći, uglavnom su to neka štura saopštenja u formi da se određena obuka iz Šest Sigma metodologije sprovodi u određenom broju domaćih firmi. Takođe, postoji nekoliko domaćih konsultantskih firmi koje nude obuku preduzećima iz navedene oblasti.

Iz svega navedenog, jako je teško izvršiti analizu i izvesti neke zaključke o rezultatima primene Šest Sigma metodologije u našim preduzećima, jer je do njih praktično nemoguće doći, za razliku od iskustava stranih kompanija, koje svoje rezultate javno objavljuju. Na osnovu saznanja autora ovih redova, do kojih se moglo doći prilikom istraživanja za potrebe izrade ovog rada, dolazi se do zaključka da veoma mali broj naših preduzeća radi na implementaciji Šest Sigma metodologije i da mnoga nisu raspoložena za davanje bilo kakvih podataka o svom poslovanju. Dokumentovana je upotreba Šest Sigma metodologije u kompaniji „Metalac“ Gornji Milanovac, pogon za izradu emajliranog posuđa [16]. „Teknoxgroup“ Vrščin je diler za *Caterpillar* za region zapadnog Balkana, sa implementacijom Šest Sigme su počeli 2006.godine [17]. „Hemofarm“ Vršac, koji posluje u sastavu Nemačke kompanije *Stada*, počela je obuku zaposlenih o Šest Sigma metodologiji početkom 2011.godine [18]. Većina navedenih kompanija su informacije o svojim aktivnostima u vezi Šest Sigma saopštile na svojim web sajtovima. Uglavnom se te informacije odnose na obuku zaposlenih i šta žele da postignu sa njom. Nema podataka o rezultatima implementacije.

Na osnovu informacija do kojih se došlo tokom istraživanja, obuka iz Šest Sigma metodologije se sprovodi u još nekoliko kompanija kao što su: „Messer“ AD Beograd i „Raiffeisen bank“ Beograd. U većini slučajeva je reč o velikim svetskim kompanijama koje imaju svoje ispostave i predstavništva u našoj zemlji.

Zanimljivo je napomenuti i da je Pokrajinski sekretarijat za međuregionalnu saradnju i lokalnu samoupravu AP Vojvodine i USAID-ov „Projekat održivog lokalnog razvoja“ organizovao u Novom Sadu „Konferenciju o novim mehanizmima unapređenja rada lokalne samouprave“. Tokom konferencije, kojoj su prisustvovali predstavnici 32 vojvođanske opštine (uključujući deset partnerskih opština iz međuopštinskih partnerstava predvođenih Suboticom, Novim Sadom i Zrenjaninom), predstavljena je „Lean Six Sigma“ metodologija za unapređenje rada lokalne samouprave koja je kreirana sa ciljem smanjivanja operativnih troškova putem povećavanja efikasnosti i efektivnosti svih aktivnosti lokalne samouprave. Ovaj mehanizam je usmeren ka optimizaciji procesa i postupaka zajedno sa racionalnijom upotrebom ljudskih i budžetskih resursa, kako bi se poboljšale usluge koje se pružaju građanima i privredi [19].

4. ZAKLJUČAK

Šest sigma, kao metodologija/koncept koji omogućava da preduzeća uspešnije posluju i postižu što bolje poslovne rezultate, bi trebalo da predstavlja pomoć ka ostvarenju tog cilja. Uspešno implementiranje Šest Sigma bi trebalo da svakoj organizaciji bude razlog za većom transparentnošću rezultatima svog poslovanja.

REFERENCE

1. S. Spasojević, Model primene Šest Sigma (6σ) metodologije u funkciji unapređenja procesa industrijskog preduzeća, Doktorska disertacija, Fakultet tehničkih nauka Novi Sad, 2013, pp. 168-173.
2. M. Weiner, Six sigma, Communication World 21 (1), 2004, pp. 26–29.
3. J. de Feo, Z. Bar-El, Creating strategic change more efficiently with a new design for six sigma process, Journal of Change Management 3 (1), 2002, pp. 60–80.
4. J. Antony, R. Banuelas, Key ingredients for the effective implementation of six sigma program, Measuring Business Excellence 6 (4), 2002, pp. 20–27.
5. P. Buss, N. Ivey, Dow Chemical Design for Six Sigma Rail Delivery Project, Proceedings of the 2001 Winter Simulation Conference 2001, 2001, pp. 1248–1251.
6. R. McClusky, The Rise, fall, and revival of six sigma, Measuring Business Excellence 4 (2), 2000, pp. 6–17.
7. M. Harry, R. Schroeder, Six Sigma the Breakthrough Management Strategy Revolutionizing the World's Top Corporations Doubleday, Random house, New York, 2000.
8. http://cdn.intechopen.com/pdfs/11581/InTech-Six_sigma.pdf
9. C. Doran, Using six sigma in the credit department, Credit Management Dec, 2003, pp. 32–34.
10. C.M. Roberts, Six sigma signals, Credit Union Magazine 70 (1), 2004, pp.40–43.
11. C. Bolt, E. Keim, S. Kim, L. Palser, Service Quality Six Sigma Case Studies, ASQ's 54th Annual Quality Congress Proceedings 2000, 2000, pp. 225–231.
12. A.R. Benedetto, Adapting manufacturing-based six sigma methodology to the service environment of a radiology film library, Journal of Healthcare Management 48 (4), 2003, pp. 263–280.
13. R.B. Elsberry, Six sigma: applying a corporate model to radiology, Decisions in Imaging Economics 13 (7), 2000, pp.56–66.
14. <http://www.bechtel.com/sixsigma.htm>
15. <http://asq.org/qualitynews/qnt/execute/displaySetup?newsID=14616>
16. V. Majstorović, T. Šibalija M. Soković, D. Pavletić, Šest sigma model i primena, Tempus projekat br. IB_JEP-41120-2006, FTN Novi Sad, Novi Sad, 2009.
17. <http://www.teknoxgroup.com/rs/o-nama/6-sigma>
18. <http://www.hemofarm.rs/docs/hfnews/HFnewsnovembar2011.pdf>
19. http://www.lokalnirazvoj.rs/srpski.html?vesti_start=6

METODOLOŠKA ANALIZA RIZIKA U UPRAVLJANJU ERP PROJEKTIMA

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Abstract: U ovom studiozno-istraživačkom radu na osnovu studije relevantne stručne literature i konkretnim istraživanjima u preduzećima u Srbiji, koja su različita po vrsti delatnosti, procesu proizvodnje, i vlasničkoj strukturi na reprezentativnom uzorku predstavljeni su metodološki aspekti analize rizika u upravljanju projektima implementacije ERP sistema, razlozima za implementaciju ERP rešenja u preduzećima u Srbiji. Istražen je i analiziran pregled svojstava nakon implementacije ERP rešenja, proces usvajanja i korišćenja ERP sistema u preduzećima, kao i značaj kritičnih faktora uspeha kroz ASAP faze uvođenja.

Keywords: ERP system, implementacija, informacioni system, preduzeće

1. UVOD

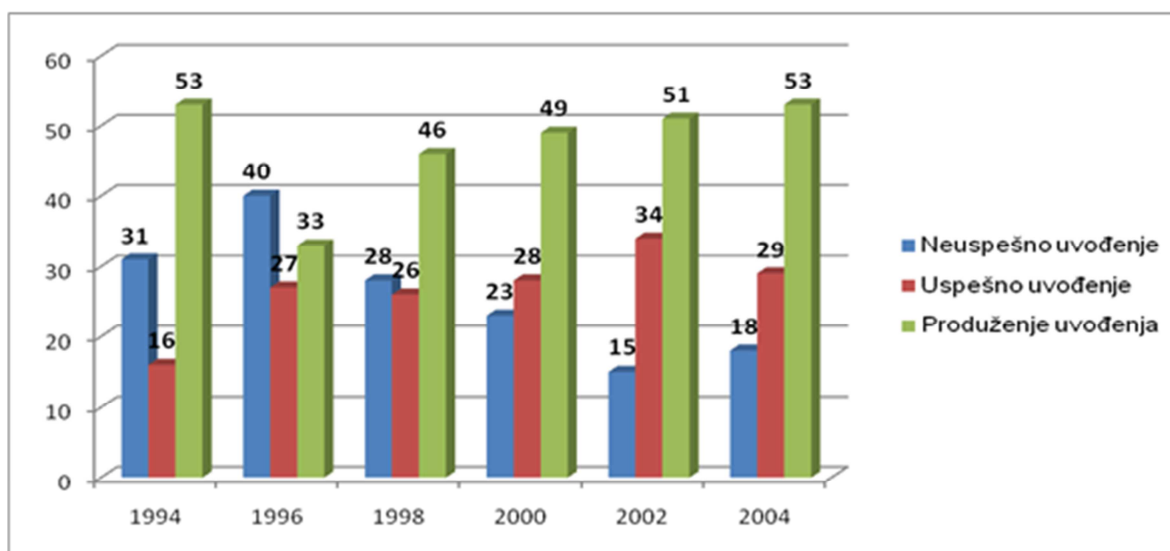
Veliki broj neuspešnih implementacija ERP rešenja inicirao je ovo istraživanje uvođenja ERP rešenja u preduzećima. Poznati autori Andereg, T., definiše ERP kao integraciju organizacionih i poslovnih softverskih rešenja. Ona se sastoje od softverskih modula, kao što su: marketing i prodaja, planiranje proizvodnje i razvoja, proizvodnje i kontrole zaliha, nabavke, distribucije, kvaliteta, ljudskih resursa, finansija i računovodstva, informacionih usluga, itd. Pri tome, integracija modula se postiže bez dupliranja podataka.[3] Takođe eminentni autori Wallace, T.F. & Kremzar, M.H.(2001).opisuju ERP kao korporativni set menadžerskih alata koji pomaže u regulaciji ponude i potražnje i povezivanja kupaca i dobavljača u lancu vrednosti. [23] Pored toga, realizacija za osnovu ima dokazane poslovne procese, obezbeđujući visok stepen funkcionalnosti kroz integraciju više poslovnih funkcija, što omogućava veću produktivnost zaposlenih koja se ogleda u visokom nivou pružanja usluga kupcima i smanjenju troškova i zaliha, što pruža osnov za efikasnu E-trgovinu (engl.*e-business*).[21]

2. ISTRAŽIVANJA USPEŠNOSTI IMPLEMENTACIJE ERP SISTEMA

Ako treba opisati ERP rešenje sa stanovišta korisnika, to se: [13]
definiše način izrade svakog proizvoda i usluga,
postave zahtevi pojedinih proizvoda ili specifični zahtevi potrošača ,
definišu realni poslovni planovi i tačno vreme isporuke proizvoda i usluga,
koristi raspored kako bi se koordinirale aktivnosti u lancu snabdevanja i
omogućiti tačan obračun troškova proizvoda pružajući korisne informacije za menadžere.

Istraživanja pokazuju da se veliki procenat projekata bilo da se radi o uvođenju novih IS ili nadogradnji postojećih ne završi u propisanom roku ili su procenjeni troškovi uvećani. Organizacija Standiš Group International Inc. je uradila studiju koja je došla do zaključka da je 28% od svih korporativnih projekata razvoja IT napušteno pre završetka, 46% nije završeno u predviđenom roku, uz procenjeni trošak ili očekivani obim. [15]

Pošto organizacije obično ne znaju da je neophodno da se uvođenje završi u kratkim rokovima, projekat uvođenja ERP rešenja se smatra složenim i veoma rizičnim. [22] Rizik se ogleda u vremenu, obimu i ceni lansiranja projekta. U većini slučajeva, to je najveći projekat IS, koji je ikad uveden u organizaciji. [1] Istraživanje organizacije Standiš Grupe je pokazalo da 90% od ERP implementacija nisu uvedene u predviđenom roku ili procenjenog budžeta. [21] Čak i sa uvođenjem ERP rešenja pojavljuje se veliki procenat propusta u ERP implementacijama (35%) ili uvođenje ERP projekta nije završeno u predviđenom roku, uvećani su procenjeni troškovi ili procenjeno vreme (55%). Iz istog izvora se vidi da je samo 10% projekata implementacije ERP uspešno uvedeno. [4] Istraživanje Standiš Grupe je naglasilo da je u proseku samo oko 25% uspešnih ERP implementacija, a da je planirano vreme implementacije, u proseku, produženo za 202%, uz prekoračenje procenjenog budžeta u proseku za 214%. [22] Slika 1. pokazuje procenat neuspelih uvođenja, uspešnih uvođenja i produženih rokova u periodu od deset godina.



Slika 1. Uspeh ERP implementacije [31]

U pogledu završetka projekta, snimljeno u pogledu očekivanog datuma završetka protiv stvarnog datuma završetka, mnogi od ovih projekata su uspešno završeni u vremenskom roku i proceni troškova, uglavnom zbog toga što su se organizacije odlučile da implementiraju sistem vanile. Relativan uspeh ovih projekata, mereno na vreme, on - budžet završetku, može se pripisati činjenici da je obim projekata bio razuman u odnosu na višegodišnje, više milionske projekte koje su imale velike multi-nacionalne korporacije. ERP projekti u okviru ovih MSP su završeni u roku od godinu dana do 18 meseci. Od osam projekata, četiri su završeni na vreme. Dodatnih dva projekta je kasnilo 12 meseci zbog nedostatka efikasnog projekta vođstva i slično.

Table 1. Summary of Case Study Site Characteristics [16]

Company	Industry	Revenue In \$millions	Project Cost \$	ERP Vendor	Project Start Date	Project Duration	Project Completion (Time)
A	Manufacturing	253		SAP	Feb-05	8 months	On-time
B	Construction	456	500,000	CMIC	Jul-05	6 months	On-time
C	Construction	209		Viewpoint	Jan-06	12 months	On-time
D	Construction	75	15% over budget	Timberline		Not provided	Not provided
E	Construction	275	197,000	Viewpoint	Jul-99	6 months	On-time
F	Manufacturing	432		SAP	1993	36 months	12 months' over
G	Manufacturing	85		J.D. Edwards	Mar-08	24 months	Not complete
H	Manufacturing	25	130,000	MZK	1993	24 months	12 months' over est.

U prethodnoj tabeli 1. prikazana je analiza ERP rešenja. ERP sistemi obezbeđuju mnoge prednosti za organizacije svih veličina, ali i uvođenje može biti rizično za bilo koju veličinu preduzeća, ako nije pravilno implementirana. Rizici u velikim organizacijama uključuju posebno otpor zaposlenih i globalni poremećaj u lancu snabdevanja, dok kod MSV organizaciona ograničenja su IT budžeti koji su više pogođeni u slučaju prekoračenja troškova sa uvođenjem ERP.[9] MSV preduzeća imaju, u proseku, samo 20% zaposlenih koji su uključeni u projektovanje, što dovodi do većeg rizika uvođenja [18]. U sledećoj tabeli 2. prikazana su preduzeća koja su učestvovala u istraživanju.

Tabela 2. Preduzeća koja su učestvovala u Anketi[27]

Ime kompanije	Delatnost kompanije	Godine poslovanja	Broj zaposlenih	Web sajt
Srpska fabrika stakla A.D.	Staklarska industrija	105	870	www.srpskafabrikastakla.com
Swisslion Takovo	Proizvodnja konditorskih proizvoda	17	2762	www.swisslion-takovo.com
Holcim Srbija	Proizvodnja cementa, agregata i gotovog betona	135	334	www.holcim.rs
JP PTT Srbija	Poštanske usluge, usluge e-poslovanja, Internet	174	15336	www.posta.rs
Dijamant Zrenjenin	Prehrambrena industrija	76	585	www.dijamant.rs

U sledećoj tabeli 3. je prikazan rezime i rezultati istraživanja ERP implementacije za mala i srednje velika i velika preduzeća.

Tabela 3. Pregled istraživanja implementacije u malim i srednje velikim i velikim preduzećima [19]

	MSV preduzeća	Velika preduzeća
Vreme uvođenja (umesecima)	18,8	25,2
Troškovi angažovanja	\$3.073.232	\$24.069.582
Trošak / prihod	10,5%	4,9%
Očekivan ili predviđen budžet(5%) proračuna	40,5%	35,9%
Prekoračenje proračuna od 5% do 100%	59,5%	64,1%
Broj uključenih spoljnih konsultanata	14	74
Stepen prilagođenja	Niska	Visoka

3. KRITIČNI FAKTORI USPEHA U PRIKAZU FAZA UVOĐENJA

Na osnovu sistematskog istraživanja stručne literature sa područja kritičnih faktora uspeha uvođenja ERP rešenja možemo pretpostaviti, da nisu svi kritični faktori uspeha jednako značajni u svim fazama uvođenja rešenja ERP, neku su značajni kroz sve faze implementacije ERP rešenja, drugi su više značajniji u početnim fazama uvođenja ERP rešenja, treći u kasnijim fazama implementacije ERP rešenja. U tabeli 4. nalazi se pregled razloga za implementaciju SAP ERP rešenja u preduzećima u Srbiji.

Tabela 4. Razlozi za implementaciju SAP ERP rešenja u preduzećima u Srbiji [27]

	Razlozi za implementaciju SAP ERP rešenja u preduzećima
Srpska fabrika stakla A.D	Poboljšanje poslovanja, povećanje vrednosti kompanije.
Swisslion Takovo	Veća efikasnost i produktivnost poslovanja.
Holcim Srbija	U okviru svoje korporacije poseduju SAP ERP.
JP PTT Srbija	Postojeći sistem je neorganizovao podatke. SAP ERP pruža najniži poslovni rizik.
Dijamant Zrenjenin	Efikasno upravljanje poslovanjem kao i zamena postojećeg informacionog sistema.

U tabeli 5. su na osnovu iscrpnog sistematskog pregleda stručne literature prikazani značajni kritični faktori uspešnosti u zavisnosti od pojedinih faza implementacije rešenja ERP. Projekat implementacije ERP-a ,se može podeliti u sledeće faze: [10]

1. faza: Izbor ERP rešenja,
2. faza: analiza poslovnih procesa,
3. faza: konfigurisanje ERP rešenja,
4. faza: testiranje ERP rešenja,
5. faza. uvođenje ERP rešenja
6. faza: stabilizacija rada.

Odabrani naučni članci su predložili šezdeset osam kritičnih faktora uspešne (Tabela 5). Međutim važno je napomenuti da je veoma teško da se uradi univerzalno rangiranje CSF, zbog različitih stvari koje su od uticaja na važnost CSFs u različitim projektima, jer svaki projekat ima svoju specifičnost što ga i razlikuje od drugih projekata .

Table 5: Critical Successful Factors of ERP Implementation

Authors	Critical Successful Factors
Davenport [7]	(1) Careful deliberation (2) Top management directly involved in planning and implementing
Holland and Light [14]	(1) Strategic Factors (Legacy systems, Business vision, ERP strategy, Top management support, Project schedule and plans) (2) Tactical Factors (Client consultation, Personnel, BPC and software configuration, Client acceptance, Monitoring and feedback, Communication, Trouble Shooting)
Bingi et al. [5]	(1) Top management commitment (2) Reengineering (3) Integration (4) ERP consultants (5) Implementation time (6) Implementation costs (7) ERP vendors (8) Selecting the right employees (9) Training employees (10) Employee Morale
Willcocks [26]	(1) Senior-level sponsor ship, championship, support and participation (2) Business themes, new business model and reengineering rives technology choice (3) Multifunctional teams, time box philosophy, regular business benefits (4) CIO as strategic business partner (5) Nine core IT capabilities retained/being developed in-house (6) Inhouse and insourcing of technical expertise preferred (7) Supplier partnering (strong relationships and part of team) (8) ERP perceived as business investment in R&D and business innovation rather than primarily as a cost-efficiency issue.
Weston [25]	(1) Top management and cross-functional support (2) Project proposal (3) Clear deliverables (4) Clear assessment of business risk (5) Strong project manager and sound project plan (6) Awareness of the dangers of scope creep (7) Change management process (8) Training
Umble and Umble [21]	(1) Strong leadership provided by an executive management planning committee (2) The implementation is viewed as an ongoing process (3) Implementation teams are composed o the company' s best workers representing all functions (4) Mid-level management is totally involved in the implementation (5) Excellent project management techniques are used (6) The old systems are eliminated (7) Proper measurements are implemented and closely monitored (8) An aggressive but achievable implementation schedule is established (9) Successful change management techniques are applied (10) Extensive education and training is provided.
Akkermans and van Helden [2]	(1) Top management support (2) Project team competence (3) Interdepartmental co-operation (4) Clear goals and objectives (5) Project management (6) Interdepartmental communication (7) Management of expectations (8) Project champion (9) Vendor support (10) Careful package selection.
Motwani et al. [17]	(1) Incremental, bureaucratic, strategy led cautious implementation process (2) Cultural readiness (3) Inter-organizational linkages (with the vendor) (4) Careful change management
Scott and Vessey [20]	(1) Organizational culture (2) Project management (3) Excellent business vision (4) Strong leadership (5) Stand the company in good stead

Opšte mišljenje je da su sve faze uvođenja rešenja ERP značajne kao i kritični faktori uspeha: jasni cilj, strategija i obim usvajanja, uključenost i podrška upravljanja i menadžment promenama.[8] U fazi izbora ERP-a, preduzeće se odlučuje da zameni postojeći informacioni sistem sa novim ERP rešenjem. Dakle kompanija mora ustanoviti

prednosti i slabosti između ERP rešenja.[11] Znači potrebno je odlučiti se za najprikladnije rešenje koje odgovara specifičnosti samog preduzeća U ovoj fazi je potrebno da preduzeće ima dobro definisane ciljeve, strategiju i obim uvođenja. Pored toga, neophodno je da u prvoj fazi uvođenja informacionog sistema preduzeće promeni tekuće poslovne procese i zatim mora da reguliše promene koje će nastati uvođenjem ERP-a. U fazi analize poslovnih procesa neophodno je proučiti na osnovu postojećih poslovnih procesa i poslovnih procesa izabranog ERP rešenja i ako je moguće prilagoditi svoje poslovne procese procesima ERP rešenju, odnosno na konceptualnom nivou plana. Pored faktora koji su značajni u svim fazama uvođenja u ovoj fazi posebno se ističu sledeći faktori: organizacija projektnog tima i nadležnosti, primenjujući principe projektnog menadžmenta, komunikacija unutar projektnog tima, komunikacija između projektnog tima i ostalih organizacionih jedinica, reinžinjerinng poslovnih procesa kao i prilagođavanje ERP rešenja specifičnostima organizacije.[12] U fazi konfigurisanja ERP rešenja potrebno je prilagoditi izabrano ERP rešenje, kako bi se postigla očekivana funkcionalnost ERP rešenja. Značajnosti ključnih faktora uspešnosti su: aktivna uloga sponzora projekta, organizacija projektnog tima i njegove nadležnosti, upotreba principa upravljanja projektom, komunikacija unutrašnjeg projektnog tima, uključivanje konsultanata, reinžinjerinng poslovnih procesa kao i što manje prilagođavanje ERP rešenja specifičnostima preduzeća. U fazi testiranja ERP rešenja potrebno je na testu proveriti funkcionalnost prilagođenog rešenja. U ovoj fazi su važne sledeće osobine ključnih faktora uspešnosti: aktivna uloga sponzora projekta, organizacija projektnog tima i njegove kompetencije, upotreba principa upravljanja projektima, komunikacija unutar projektnog tima, komunikacija između projektnog tima i ostalih u organizaciji, uključivanje i saradnja korisnika kao i prenos podataka iz starog rešenja u novo ERP rešenje. U fazi uvođenja ERP rešenja pripremamo produkcijsko stanje, izvode se završna testiranja, prenos prečišćenih podataka u produkciju, sprovodi se edukacija i pripremaju svi potrebni koraci za rad uživo. Važni faktori ove faze su: aktivna uloga sponzora projekta, organizacija projektnog tima i njegove kompetencije, upotreba principa upravljanja projektima, komunikacija unutar projektnog tima, komunikacija između projektnog tima i ostalih u preduzeću, uključivanje konsultanata, uključivanje i saradnja korisnika, obrazovanje ključnih korisnika i prenos podataka iz starog rešenja u novo ERP rešenje. Nakon pokretanja produkcijske faze sledi faza stabilizacije rada, za koju je potrebno dodatno obrazovanje krajnjih korisnika, za bolje korišćenje kapaciteta implementiranog ERP rešenja. U tabeli 6. su prikazani kritični faktori uspeha prema ASAP metodologiji uvođenja ,prema pojedinačim fazama metodologije ASAP. Ocenjivost je na skali od 1 do 10, najmanji značaj ima 1, dok najveći značaj ima 10.

Tabela 6. Značaj kritičnih faktora uspeha kroz ASAP faze uvođenja [27]

		Kritični faktori uspeha	1.faza	2.faza	3.faza	4.faza	5.faza	6.faza
Organizacijski pogled	Strateški pogled	Podrška uprave	8	5	5	6	8	9
		Promene menadžmenta	6	9	6	5	6	7
		Obim menadžmenta	5	4	4	5	5	7
		Organizacija projektnog tima i njegove nadležnosti	5	4	4	4	4	4
		Reinžinjering poslovnih procesa	4	7	4	4	5	5
		Projektni menadžer	10	10	9	10	10	10
		Učešće krajnjih korisnika	5	8	10	7	5	10
		Poverenje između partnera	5	8	10	7	5	8
	Taktički pogled	Posvećenost zaposlenih i konsultanata	5	5	4	5	6	9
		Unutrašnja i spoljna komunikacija	7	7	5	6	8	10
		Projektni plan	9	7	7	7	5	5
		Program obrazovanja	5	5	5	7	4	5
		Traženje i rešavanje problema	4	4	7	9	7	7
		Konsultanti	5	4	4	4	4	5
Brze odluke		3	5	5	5	4	4	
Tehnološki pogled	Strateški pogled	Jasni ciljevi, strategija i obim usvajanja rešenja ERP	5	4	4	4	4	4
		Izbegavanje prilagodavanja	4	4	4	4	4	4
		Različita ERP rešenja	4	4	4	4	4	4
	Tehnološki pogled	Prilagodavanje programske opreme	5	6	10	6	6	6
		Prenos podataka između rešenja ERP i postojećeg informacionog sistema	3	4	4	4	4	4

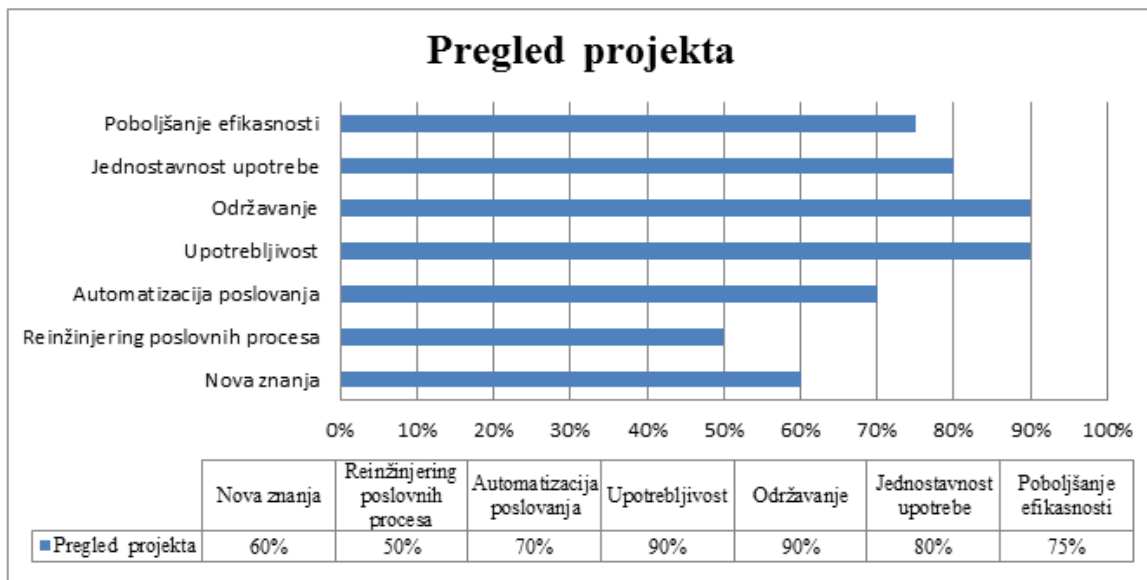
Istraživanje ima za cilj da ispita značaj ključnih faktora uspeha u zavisnosti od faze implementacije u preduzećima u Srbiji koje su uvele SAP ERP rešenje. Vrednost IT projekata je da preduzeće bude još konkurentnije, povećanje zadovoljstva kupaca i efikasniji rad. Ovi strateški prioriteti su često zapostavljeni jer nisu merljivi. Cost-benefit analiza treba da ispita troškove tokom celog životnog ciklusa projekta. Troškovi životnog ciklusa su približno četiri puta veći od troškova razvoja za većinu projekata IS [18].

Tabela 8. Evaluacija uspeha IS [6]

Mera	Opis
Kvalitet sistema	Pouzdanost, karakteristike i funkcionalnost, vreme odziva
Kvalitet informacija	Jasnost, potpunost, korisnost i tačnost informacija
Upotreba informacija	Pravilnost korišćenja, broj upita, vreme korišćenja, učestalost zahteva za izveštavanje
Korisničko zadovoljstvo	Generalno zadovoljstvo, zadovoljstvo, ne postoje razlike između informacija koje su im potrebne i koje su dobijene, zadovoljstvo korišćenja softvera
Uticaj na pojedinca	Identifikacija problema, ispravna odluka odluka - efikasnost, potrebno vreme za donošenje odluke, poboljšana lična produktivnost
Uticaj na organizaciju	Doprinos ostvarivanja ciljeva, procena troškova i koristi, ROI i efikasnost usluga

Program upravljanja IT projektima treba da proceni troškove i koristi od strateškog uticaja, rizik i trošak životnog ciklusa za sve svoje projekte [18]. Zbog teškoća formalnih metoda razvijene su druge metode procene, koje uključuju i širok spektar faktora. Na

primer, Doerti sa koautorima su pripremili spisak mera za merenje uspeha, koji uključuje i troškove i koristi što je prikazano u prethodnoj tabeli 8. [6] Na sledećoj slici 6. je predstavljen procentualni pregled svojstava nakon implementacije SAP ERP rešenja u preduzećima u Srbiji.



Slika 6. Pregled SAP ERP projekta nakon implementacije u Srbiji [27]

Najrizičniji problem je optimizacija procesa. Tehnologija sama po sebi, ne može pomoći preduzeću u ostvarivanju poslovnih ciljeva ukoliko isti nisu predhodno pažljivo usklađeni. Poslovni procesi se moraju uskladiti, i odlučiti koje menjati, koje možda isključiti, a tek onda primeniti IT.[24] Potrebno je uvesti efikasnu i obaveznu komunikaciju u elektronskoj i papirnoj formi. Skoro svi problemi su na poslovnoj strani, dok je tehnologija uglavnom manji problem. U sledećoj tabeli 9. dat je pregled mogućih izmena prilikom uvođenja ERP.

Tabela 9. Pregled mogućih izmena prilikom ponovljenog uvođenja SAP ERP-a[27]

Na pitanje ispitanika šta bi promenili prilikom ponovljenog uvođenja SAP EPR-a?	
%	Opis problema
80%	Više pažnje optimizaciji procesa
65%	Implementacija skladna ciljevima kompanije
60%	Više pažnje kooperaciji poslovnih segmenata
55%	Izbor relevantnijih nosilaca modula
45%	Intezivnija obuka
35%	Hrabriji pristup promenama
20%	Izbegavanje velikog prelaska

4. ZAKLJUČAK

U današnjim uslovima svetske ekonomske krize, sve organizacije su u potrazi za optimalnim poslovnim rešenjima u cilju povećanja efikasnosti i kompetitivnosti u odnosu na konkurenciju. Kao jednom od ključnih resursa preduzeća koji obezbeđuje tu prednost u

efikasnosti, preduzeća snažno investiraju u nova poslovna rešenja, informacione tehnologije i integrisana ERP rešenja. Implementacija ERP sistema u organizacijama je izuzetno složen poduhvat. To je projekat visokog rizika kojim treba da se upravlja na odgovarajući način i planski, jer to može uticati na gotovo svaki aspekt organizacionih performansi i funkcionisanje preduzeća dok neuspešno uvođenje nečesto može dovesti i do propasti samih preduzeća. Stoga razvojne tehnike i pristupe za upravljanje rizikom projekta implementacije ERP rešenja svakako treba poboljšati Enterprise Resource Planning (ERP) sistemi su sistemi koji zbog njihove integracije, automatizuju sve poslovne procese preduzeća. Oni su brzo postali de fakto industrijski standard za zamenu postojećih sistema. Informacioni sistem je deo infrastrukture preduzeća ili organizacije, zato je strateški važan za preživljavanje i uspeh preduzeća. ERP rešenje i informacioni sistem preduzeća uvode se sa zadatkom povećanja produktivnosti nikako ne obratno. Niz pitanja i odgovora se postavlja, kada se odlučimo za kupovinu novog poslovnog sistema za potrebe podrške rada svog preduzeća ili organizacije. U procesu primanja takvog poslovnog rizika izazivajući od menadžera postavljanje pitanja, na koja mnogi ne znaju odgovoriti iz jednostavnog razloga, jer to nije njihovo područje. Često se dešava, da se pri odlučivanju o tome, šta kupiti, i koja je ponuda najbolja odlučuje brzo, zato se donose odluke koje se ne oslanjaju na stručna znanja. Najčešće je cena jedini element, koji odlučuje o dobavljaču programske opreme, što je u osnovi pogrešna osnova. Upravo zato se postavlja pitanje kakvo ERP rešenje kupiti, da li su to domaća rešenja, ili su bolja strana rešenja, čija ponuda je danas veoma velika. Menadžment preduzeća i osoblje, koje donosi odluke, u većini slučajeva nisu upoznati sa tim, šta je to ERP rešenje, koja su vertikalna rešenja i kakav je njihov zadatak. Pre nabavke bilo kojeg ERP rešenja potrebno je dobro definisati poslovne procese, organizaciju i odrediti unutrašnji tim, sastavljen od glavnih menadžera kompanije koji imaju viziju i žele da uvedu ERP.

REFERENCE

- [1] Al-Sehali,S.(2002).The factors that affect the implementation of enterprise resource planning (ERP)i the international Arabgulfstatesand United states organizations with special emphasis on SAP software:dissertation.University of Northern Iowa.
- [2] Akkermans, H. and K. van Helden, Vicious and Virtuous Cycles in ERP Implementation: A Case Study of Interrelations Between Critical Successful Factors, European Journal of Information Systems , Vol.11, (2002), pp.35-46.
- [3] Anderegg,T.,CFPIM,CIRM&CIERP.(2000).*ERP:AZimplementer's guide for success* .Eau Claire(WI):Resource publishing.
- [4] Bajwa,D.S.,Garcia,J.E.&Mooney,T.(2004).An integrative framework for the assimilation of enterprise resource planning systems: phases,antecedents, and outcomes. *The journal of computer information systems*,44(3),81-90.
- [5] Bingi, P. et al., Critical Issues Affecting an ERP Implementation, Information Systems Management, Vol.16, No.3, (1999), pp. 7-14.
- [6] Boddy,D, Boonstra,A. &Kennedy,G. (2008). *Managing information systems–strategy and organization*.England etc.:Prentice Hall.
- [7] Davenport, T. H., Putting the Enterprise into the Enterprise System, Harvard Business Review, (July-August 1998), pp.121-131.
- [8] Denić, N.:Menadžment informacioni sistemi, VTŠSS Uroševac, 2010.godine

- [9] Denic, N. Dasic, B. Maslovara, J.: Profitability of the investment project of introducing modern business information systems, TTEM - Technics Technologies Education Management, Impact Factor: 0.414 (ISI Journal Citation Reports 2012), Vol. 8, No. 1, (2013) 367–372.
- [10] Denic, N. Moracanin, V. Milic, M. Nešić, Z.: Risks the project management of information systems, Tehnički vjesnik, br. 6, 2014.
- [11] Denic, N. Zivic, N. Siljkovic, B.: Management of the information systems implementation project, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Vol. XXII (XII), Issue #2, September (2013) 32–35.
- [12] Denic, N. Zivic, N. Dasic, B.: Analysis of factors of implementing ERP solutions in the enterprise, Annals of the Oradea University, Fascicle of Management and Technological Engineering, Vol. XXII (XII), Issue #2, September (2013) 27–31.
- [13] Hamilton, S. (2002). *Maximizing your ERP system—a practical guide for managers*. New York [etc.]: Mc Graw-Hill.
- [14] Holland, C. P. and B. Light, A Critical Success Factors Model for ERP Implementation, IEEE Software, Vol. 16, No. 3, (1999), pp. 30-36.
- [15] Laudon, K. C. & Laudon J. P. (2000). *Management information systems: organization and technology in the networked enterprise (6th ed.)*. London etc.: Prentice-Hall.
- [16] Mary R. Sumner, Joseph Bradley, CSF's for Implementing ERP within SME's *Americas Conference on Information Systems (AMCIS) AMCIS 2009 Proceedings*
- [17] Motwani, J. et al., Successful Implementation of ERP Projects: Evidence from Two Case Studies, International Journal of Production Economics, Vol. 75, No. 1-2, (2002), pp. 83-96.
- [18] Olson, D. L. (2004). *Managerial issue of enterprise resource planning systems*. Boston etd.: McGraw-Hill Irwin.
- [19] Panorama Consulting Group. (2008c). 2008 ERP Report—part III—ERP implementation at SMB versus large organizations. pristupljeno 20. marta 2014 na web stranici <http://www.panorama-consulting.com>.
- [20] Scott, J. E. and I. Vessey, Managing Risks in Enterprise Systems Implementations, Communications of the ACM, Vol. 45, No. 4, (2002), pp. 74-81.
- [21] Umble, E. J. and M. M. Umble, Avoiding ERP Implementation Failure, Industrial Management, Vol. 44, No. 1, (2002), pp. 25-33.
- [22] Umble, E. J., Haft, R. R. & Umble M. M. (2002). Enterprise resource planning: implementation procedures and CSF. *European journal of operational research*, 146(2), 241-257.
- [23] Wallace, T. F. & Kremzar, M. H. (2001). *ERP: making it happen—the implementer's guide to success with enterprise resource planning*. New York etc.: John Wiley & Sons.
- [24] Warner, N. (2009). Microsoft Dynamics Sure Step—Implementation Methodology. Europe-Academic Preconference (28.10.2009). pristupljeno 12. aprila 2014 na web stranici <https://www.facultyresourcecenter.com/curriculum/pfv.aspx?ID=8373>.
- [25] Weston, F. C., ERP Implementation and Project Management, Production and Inventory Management Journal, Vol. 42, No. 3/4, (2001), pp. 75-80.
- [26] Willcocks, L. P., The Role of the CIO and IT Function in ERP, Communications of the ACM, Vol. 43, No. 4, (2000), pp. 32-38.
- [27] Istraživanje implementacije ERP rešenja u preduzećima u Srbiji, 2014. godine

THE ROLE OF MANAGEMENT IN DESIGNING ORGANIZATIONAL STRUCTURE AT THE EXAMPLE OF COMPANY “METALAC”

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Abstract: The organizational structure is one of the most important elements of organization. It is a formally defined system of relations between individuals and groups in which their interaction are determine with schedule of tasks, responsibilities and authority. Designing an appropriate structure is a major challenge for managers, wherein each form of design has its advantages and disadvantages. The organizational structure is designed with the aim that tasks, technologies and people used most effectively in achieving the organization's mission. This process includes: identification and division of work, delegation of authority and the establishment of a range of control. The task of manager in the process of designing a structure is to estimate how much the potentials of a model are appropriate to the situation in which the organization is, to maximize the benefits and minimize the disadvantages. The company “Metalac” produces many different products in different geographic areas using different technologies, that requires application of divisional organizational structure. Due to the application of this model of organizational structure “Metalac” very effectively meets the tastes of local consumers, local customs and different laws.

Keywords: organizational structure, organizational design

ULOGA MENADŽMENTA U DIZAJNIRANJU ORGANIZACIONE STRUKTURE NA PRIMERU KOMPANIJE “METALAC” A.D.

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Apstrakt: Organizaciona struktura je jedan od najvažnijih elemenata organizacije. Ona predstavlja formalno utvrđeni sistem odnosa između pojedinaca i grupa u kome su njihove međusobne veze određene rasporedom zadataka, odgovornosti i autoriteta. Dizajniranje odgovarajuće strukture predstavlja veliki izazov za menadžere, pri čemu svaki oblik dizajna ima svoje prednosti i nedostatke. Organizaciona struktura se dizajnira sa ciljem da se zadaci, tehnologije i ljudi koriste na najefikasniji način prilikom ostvarivanja misije organizacije. Ovaj proces obuhvata: utvrđivanje i podelu posla, departmanizaciju, delegiranje autoriteta i uspostavljanje raspona kontrole. Zadatak menadžera je da u procesu dizajniranja strukture proceni koliko su potencijali određenog modela adekvatni situaciji u kojoj se organizacija nalazi da bi se maksimalno iskoristile prednosti a minimizirali nedostaci. Kompanija „Metalac” A.D. proizvodi veći broj raznovrsnih proizvoda pomoću različitih tehnologija i na različitim geografskim područjima, što podrazumeva primenu divizione organizacione strukture. Zahvaljujući primeni ovog modela organizacione

strukture „Metalac” A.D. vrlo efikasno izlazi u susret ukusu lokalnih potrošača, lokalnim običajima i različitim zakonima.

Ključne reči: Organizaciona struktura, organizacioni dizajn

1. UVOD

Danas se nijedna uspešna organizacija ne može zamisliti bez menadžmenta, koji pored upravljanja, planiranja, rukovođenja, odlučivanja i kontrolisanja mora vršiti i značajnu funkciju predviđanja, kako bi usmeravao ljudske aktivnosti a time doprineo celokupnom ravoju organizacije. Jedna od najvažnijih odluka koju donosi menadžment kompanije je odluka o dizajnu organizacije, odnosno izbor organizacione strukture koja odgovara strategiji organizacije i okruženju u kome će članovi organizacije realizovati odgovarajuću strategiju. Na taj način dizajn organizacije, odnosno njegovo kreiranje postavlja menadžere u poziciju u kojoj moraju istovremeno pratiti šta se događa unutar i izvan organizacije. Put do dobre organizacione šeme vodi preko organizacionog dizajna.

Organizaciona struktura predstavlja formalno utvrđeni sistem odnosa između pojedinaca i grupa, u kome su njihove međusobne veze određene rasporedom zadataka, odgovornosti i autoriteta. Koncept organizacione strukture je apstraktan koncept, koji na osnovu pretpostavljenih situacija u kojima se organizacije mogu naći, kreira različite modele. Organizaciona struktura je zasnovana na sistemu povezanih uloga u kome su njihovi međusobni odnosi definisani određenim ponašanjem u obavljanju zadataka, tako da uloge mogu jedna drugu blokirati ukoliko se ne poštuje propisano ponašanje u obavljanju zadataka.

Model organizacione strukture se grafički predstavlja organizacionom šemom ili organogramom. Na osnovu organizacione šeme možemo praviti analizu modela strukture, tako što ćemo analizirati kriterijume na osnovu kojih su grupisani poslovi u organizacione delove, i na osnovu linija autoriteta zaključivati da li se radi o centralizovanom ili decentralizovanom sistemu odlučivanja. Ovu analizu neophodno je upotpuniti analizom konkretnih uslova, kao što su: delatnost organizacije, starost i veličina, karakteristike zaposlenih, tržišna pozicija i sl.

2. ORGANIZACIONA STRUKTURA PREDUZEĆA

Struktura je sastavni deo svakog organizma, organizacije i institucije. Ukoliko nije struktuisana organizacija predstavlja gomilu ili grupu ljudi. Organizaciona struktura preduzeća pokazuje kako su pojedinci i grupe organizovani u odnosu na zadatke koje obavljaju. Ona predstavlja dinamičku komponentu organizacije i menja se pod dejstvom spoljnih i unutrašnjih faktora. Neki autori organizacionu strukturu posmatraju kao odnos između nivoa upravljanja funkcionalnih područja koji omogućava uspešno ostvarivanje ciljeva. Organizaciona struktura se može posmatrati i kao ustrojstvo tj. svrshodan raspored organizacionih komponenta i resursa. U svakom slučaju, strukturu treba posmatrati kao dinamičku kategoriju u okviru koje se uspostavljaju odnosi između pojedinih komponenti, ljudi i aktivnosti u preduzeću (1).

Organizaciona struktura je zasnovana na sistemu povezanih uloga u kome su njihovi međusobni odnosi definisani određenim ponašanjem u obavljanju zadataka. Suštinu

koncepta organizacione strukture čine dve kategorije individualnih organizacionih uloga ili pozicija: izvršne, koje se grupišu i povezuju u uže organizacione delove, subjedinice ili departmane; i upravljačke pozicije, kojima se dodeljuje autoritet za koordinaciju i kontrolu rada zaposlenih u ovim jedinicama. Subjedinice predstavljaju uže organizacione delove ili departmane u jednoj organizaciji u okviru kojih su grupisane organizacione uloge (2).

Organizaciona struktura može biti formalna i neformalna. Formalna organizaciona struktura je formalno utvrđena od strane menadžmenta preduzeća, definisana statutom i pratećim aktima i formalno predstavljena organizacionom šemom. Neformalna organizaciona struktura predstavlja neformalne odnose između pojedinaca i grupa, koji se ne mogu predstaviti šemom, ali objektivno postoje u organizaciji. Ona nastaje u procesu neformalnog komuniciranja između pojedinaca iz različitih organizacionih jedinica i pomaže članovima organizacije da lakše obave posao za koji su zaduženi, ili da lakše ostvare neke individualne ili grupne ciljeve u kojima ih ograničava formalna organizacija.

Sve organizacione strukture mogu se klasifikovati u dve grupe:

1. klasične, tradicionalne ili birokratske strukture u koje spadaju funkcionalna i divizionarna organizaciona struktura
2. organske ili adaptivne strukture u koje spadaju matična, inovativna, mrežna i projektna organizaciona struktura (3).

3. DIZAJNIRANJE ORGANIZACIONE STRUKTURE

Dizajniranje organizacije predstavlja proces oblikovanja formi i modela koji odslikavaju komponente organizacije, njihov izgled, oblik i interakcije. Organizacioni dizajn izražava „anatomiju“ (broj elemenata) i „fiziologiju“ (oblik interakcija) organizacije preduzeća, tj. izgled i osobine organizacione strukture. Kao model dizajn organizacije se može različito iskazati: opisom komponenti, šemom, slikom i dr (1).

Proces dizajniranja organizacione strukture obuhvata:

- utvrđivanje i podelu posla,
- departmanizaciju,
- delegiranje autoriteta i
- uspostavljanje raspona kontrole.

Utvrdjivanje poslova predstavlja proces koji obuhvata: raščlanjavanje ukupnog zadatka organizacije na više nivoa složenosti (počev od poslovnih funkcija na pr. nabavka, finansije, proizvodnja, ljudski resursi, prodaja itd., pa sve do radnih postupaka kao najjednostavnijih delova ukupnog zadatka) i proces formiranja pojedinačnih radnih zadataka. Podela posla (rada) predstavlja aktivnost putem koje su delovi ukupnog zadatka, raščlanjeni na pojedinačne zadatke i alocirani na pojedince (izvršioce posla). Svrha podele posla jeste stvaranje pretpostavki za efektivno i efikasno obavljanje svakog pojedinačnog posla, odnosno zadatka. Podela posla podstiče njegovu specijalizaciju (4).

Departmanizacija predstavlja proces grupisanja poslova i zadataka kome je svrha uspostavljanje organizacionih pretpostavki efikasnog funkcionisanja odnosno poslovanja kako delova (departmana) tako i organizacije u celini. Pri tome postoje različiti pristupi i metodi departmanizacije:

-vertikalno funkcionalni pristup, koji promovise departmanizaciju zasnovanu na grupisanju srodnih, odnosno sličnih poslova

- divizionalni pristup, koji promovise departmanizaciju putem formiranja relativno samostalnih organizacionih jedinica (diviziona)
- horizontalno matrični pristup, koji predstavlja pristup koji podrazumeva svojevrsno kombinovanje funkcionalnog i divizionalnog pristupa
- timski pristup, koji promovise grupisanje poslova i zadataka na principima timskog rada, odnosno timske organizacije i
- mrežni pristup, koji proces departmanizacije zasniva na dizajniranju organizacije koje podrazumeva umrežavanje organizacionih jedinica primenom relevantnih dostignuća u razvoju informacionih tehnologija i tehnika (5).

4. ORGANIZACIONI DIZAJN

Dizajniranje strukture koja odgovara organizaciji predstavlja veliki izazov za menadžere. Svaki oblik dizajna ima svoje prednosti i nedostatke. Za diferenciranje dizajna na mehanički i organski model najzaslužniji su istraživači Berns i Stalker sa Tavistock instituta, koji su uveli ove pojmove da bi diferencirali organizacije na one koje su fleksibilne, koje imaju potencijal za prilagođavanje okruženju (organske) i one koje ga nemaju (mehaničke). Na bazi istraživanja prakse dvadeset industrijskih organizacija u Velikoj Britaniji, utvrdili su da postoji međuzavisnost između menadžerskih aktivnosti i spoljašnjeg okruženja. Ustanovili su da postoje organizacije koje posluju u krajnje stabilnom, nepromenljivom okruženju, i organizacije čije je okruženje krajnje nestabilno ili turbulentno. U stabilnom okruženju, zahtevi okruženja su krajnje predvidivi, tako da organizacije niz godina obavljaju iste aktivnosti na uobičajeni način, sa jasnim organizacionim ulogama pojedinaca i ustaljenim linijama autoriteta i odgovornosti. Zaključak je da u stabilnim uslovima organizacije imaju osobine mehaničkog sistema. Suprotno tome, u nestabilnim uslovima, u kojima se situacija menja iz dana u dan, poslovi se menjaju tako da nije moguće kreirati čvrstu organizacionu strukturu. Nestabilni uslovi zahtevaju fleksibilnu organizaciju koja će imati osobine organskog sistema. Ovi koncepti su naišli na opšte prihvatanje od strane mnogih autora, naročito onih koji su zagovarali situacioni pristup dizajnu. Zastupajući stanovište da i mehanički i organski dizajn, u zavisnosti od situacije, mogu biti pravo rešenje, ovi autori su razradili koncepte mehaničkog i organskog dizajna do nivoa da su postali standard za menadžerske odluke (6).

Prema konceptu mehaničkog dizajna organizacija posluje u stabilnim uslovima, u kojima može da predviđa i planira svoje aktivnosti, da formalizuje i standardizuje svoje ponašanje. U stabilnom okruženju organizacija može da se ponaša kao stabilan sistem sa strogo formalizovanim pravilima. Struktura takve organizacije ima obeležja mehaničkog sistema: visoka specijalizacija, visoka formalizacija i visoka centralizacija. Mehanički dizajn usmerava zaposlene da se ponašaju u skladu sa svojim organizacionim ulogama. Odnos između zaposlenog (uloge) i zadatka je „jedan na jedan“. Znači, svaki pojedinac je specijalizovan da obavlja samo svoj zadatak, koji je jasno definisan i za koji je odgovoran.

Zadatak menadžera je da u procesu dizajniranja ocenjuju koliko su potencijali modela adekvatni situaciji u kojoj se organizacija nalazi da bi se maksimalno iskoristile prednosti a minimizirali nedostaci. S obzirom na to da u praksi nema čistih modela, izbor između mehaničkog ili organskog dizajna svodi se na odluku menadžera o tome da li će model strukture imati više mehaničkih ili više organskih osobina. Većina organizacija predstavlja njihovu kombinaciju. Po pravilu, najuspešnije su baš one organizacije koje balansiraju između mehaničkog i organskog modela. One su istovremeno i mehaničke i organske, što

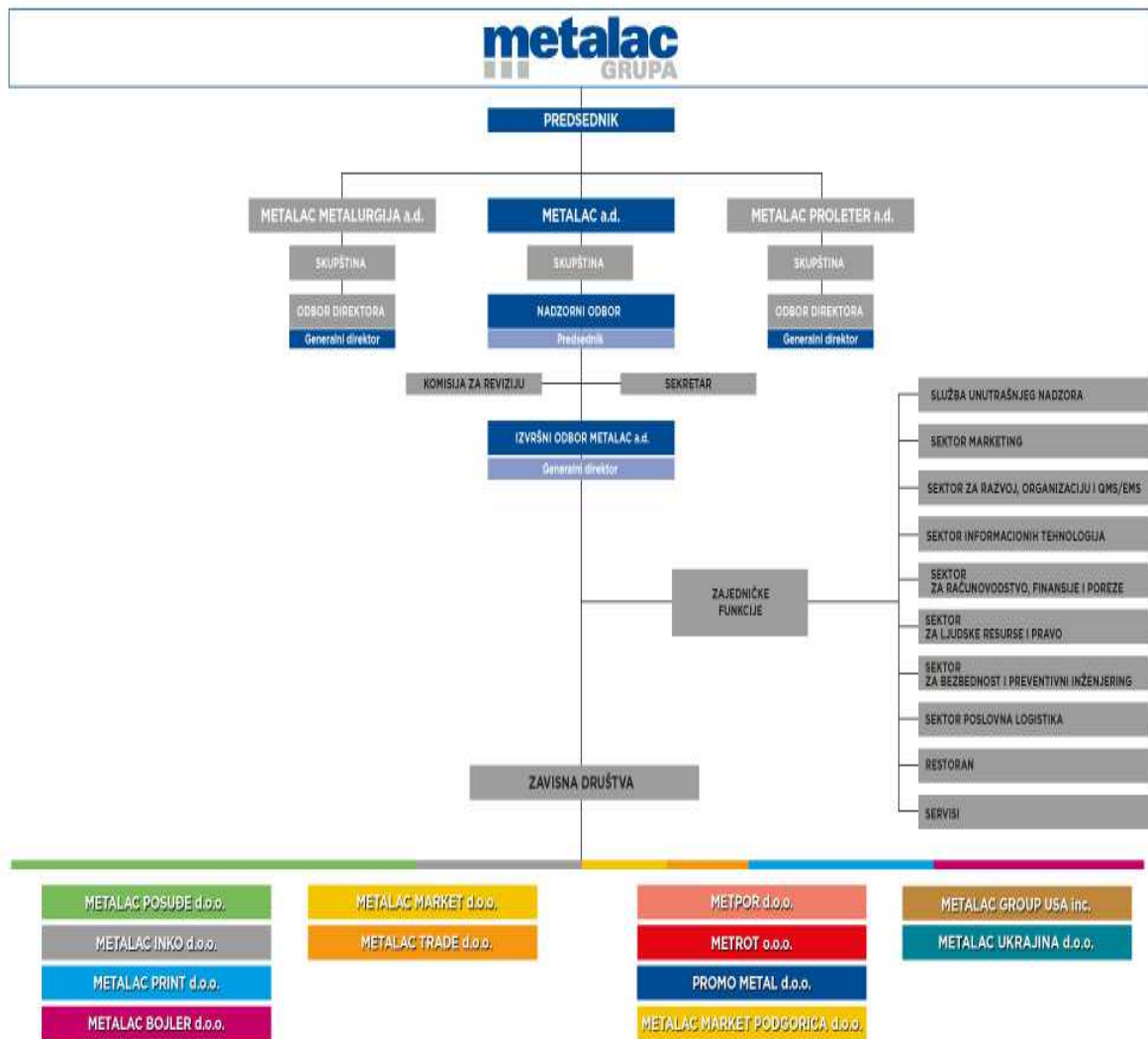
je dobro jer su istovremeno i stabilne i dinamične, osposobljene da deluju u oba smera, postižu i efikasnost i efektivnost. Neki poslovi će se organizovati prema mehaničkom dizajnu, na primer računovodstvo, dok će drugi imati organsku strukturu, na primer marketing ili istraživanje.

U osnovi, dizajn savremene organizacije kreiraju faktori odnosno uslovi koji stalno narušavaju ravnotežu između organizacije i njene interne i eksterne sredine, zbog čega organizacije moraju da se prilagođavaju tako što menjaju svoju strategiju i ciljeve a zatim i organizacionu strukturu. Situacioni model dizajna je u trendu. Istraživanja pokazuju da se danas većina menadžera u dizajniranju organizacije ponaša u skladu sa zahtevima situacije. Ne postoji najbolji dizajn, sve zavisi od situacije. Zaključak je da u dizajniranju efikasne organizacije menadžeri moraju uzeti u obzir mnoge faktore. Među njima najvažniji su: starost i veličina organizacije, tehnologija koju organizacija koristi, okruženje u kojem obavlja svoju delatnost, strategija koju primenjuje u realizaciji svojih ciljeva, stil liderstva i organizaciona kultura, i dr (7).

5. MODEL ORGANIZACIONE STRUKTURE KOMPANIJE „METALAC“ A.D.

Kompanija „Metalac“ a.d., osnovana 1959. godine sa sedištem u Gornjem Milanovcu, proizvođač je emajliranog, inox i tefloniziranog posuđa u širokom spektru formi, boja i dekora. Duga tradicija, moderna tehnologija i strogo kontrolisan kvalitet svrstavaju preduzeće među najbolje proizvođače posuđa u Evropi. U proizvodnji emajliranog posuđa Metalac ima preko pedeset godina iskustva. Zahvaljujući izuzetnom kvalitetu stečeno je poverenje više od četiri miliona kupaca u najrazvijenijim zemljama sveta.

Preduzeće Metalac posluje sa veoma jasnom vizijom i misijom. Najveći resursi ovog preduzeća su pre svega zaposleni tj. kadrovi, visokoobrazovani, posvećeni firmi u kojoj rade. Poslovna kultura ovog preduzeća je usmerena na integritet i uspeh svakog zaposlenog. Porodica Metalac proširila se tokom proteklih deset godina osnivanjem četiri nova preduzeća i kupovinom većinskog paketa akcija dva preduzeća na Beogradskoj berzi. Metalac tako prerasta u akcionarsko društvo Metalac a.d. organizovano u holding sa svojih 12 zavisnih društava i to: Metalac Posuđe d.o.o., Metalac Inko d.o.o., Metalac Bojler d.o.o., Metalac Print d.o.o., Metalac Market d.o.o., Metalac-Trade d.o.o. i Proleter a.d. iz Gornjeg Milanovca, 22 Metalac-Metalurgija a.d. iz Novog Sada, Metpor d.o.o. iz Beograda, Metrot d.o.o. iz Moskve, Metalac Market Podgorica d.o.o. iz Podgorice, Promo-Metal d.o.o. iz Zagreba (8).



Slika 1. Organizaciona struktura kompanije „Metalac” A.D.

Struktura u kojoj se podela rada, grupisanje i povezivanje srodnih poslova i osnivanje organizacionih jedinica vrši prema geografskim područjima ili teritorijalnom principu predstavlja divizionu teritorijalnu organizacionu strukturu. Upravo se ovaj model strukture primenjuje u kompaniji „Metalac” A.D., koja posluje na širem geografskom području, što je i jedna od osnovnih karakteristika ove strukture. Zahvaljujući primeni ove organizacione strukture „Metalac” A.D. lakše savladava različite zakone, lokalne običaje i ukus lokalnih potrošača.

Operativne odluke koje spadaju u nadležnost divizionálnih menadžera preduzeća „Metalac” A.D. su sve one odluke kojima se reguliše svakodnevno poslovanje preduzeća. Uobičajeno je da divizije samostalno donose odluke u sledećim oblastima: cene proizvoda, izbor kanala distribucije proizvoda, logistika (transport i skladištenje), izvori snabdevanja sirovinama i materijalom, manja investiciona ulaganja u proizvodnji, prijem i otpuštanje zaposlenih, nagrađivanje i kažnjavanje zaposlenih, organizacija divizije i proces rada u njoj. Time je prevaziđen problem „zagušenja na vrhu” koji se pojavljuje u svim velikim centralizovanim organizacijama, a koji nastaje usled

nedovoljnog kapaciteta rukovodilaca na vrhu preduzeća da donose sve odluke i rešavaju sve probleme složenih preduzeća. Delegiranjem autoriteta divizije su dobile samostalnost tako da one funkcionišu kao autonomne organizacione celine. Izvršena je svojevrsna podela rada, odnosno nadležnosti i

odgovornosti između rukovodilaca koja je omogućila rukovodstvu preduzeća da se koncentriše na razvojna i strateška pitanja dok se rukovodioci divizija bave operativnim poslovanjem.

Kontrola rada divizija ostvaruje se merenjem stepena ostvarenja biznis planova. Njima se predviđaju rezultati u vrednosnom izrazu, koje divizija treba da ostvari u predviđenom periodu. Za ostvarenje biznis planova divizija odgovorni su divizionálni menadžeri. U oblasti finansijske kontrole divizije su kontrolisane preko sledećih veličina: ukupan prihod, ukupni troškovi, neto profit, neto prinos na uloženi kapital, neto gotovinski tok itd. Sistem planiranja i kontrole performansi divizija počiva na strateškom i biznis planiranju, koji, po pravilu, u divizionálnom modelu preduzeća moraju biti veoma razvijeni, standardizovani i formalizovani. Strateško planiranje se obavlja na vrhu kompanije i kao rezultat daju strateške planove preduzeća u celini. Strateški planovi su okvir u kome se moraju kretati svi biznis planovi divizija zato što se u njima definišu osnovni pravci razvoja i razvojna strategija koju kompanija koristi u svojim divizijama. U koordinaciji, u ovom modelu, koristi se pored standardizacije rezultate i direktna rukovodilačka kontrola od strane top menadžmenta. Kao dodatni koordinacioni mehanizmi koriste se i standardizacija nekih radnih procesa i korporativna kultura. Ona predstavlja „lepak“ koji drži sve divizije i sve zaposlene u njima na istom kursu čak i kada se oni nalaze na udaljenim lokacijama. Ona deluje iznutra, u čemu leži njena efikasnost. Prema tome nema potrebe da neko spolja kontroliše ljude kada oni veruju u iste vrednosti i norme.

6. PREDNOSTI I NEDOSTACI DIVIZIONALNOG MODELA ORGANIZACIONE STRUKTURE KOMPANIJE „METALAC” A.D.

Divizioni model preduzeća „Metalac” A.D. ima niz pozitivnih implikacija na poslovanje preduzeća:

- strateška fleksibilnost - divizionálni model omogućava preduzeću da se relativno jednostavno prilagođava promenama na tržištu.
- operativna fleksibilnost - divizije su manje organizacione celine i kao takve one su same po sebi fleksibilnije. Na drugoj strani, one su potpuno posvećene određenom tržišnom segmentu i unapređenju pozicije preduzeća na njemu kroz kreiranje vrednosti za potrošače.
- razvoj menadžera - divizioni model preduzeća omogućava razvoj divizionálnih menadžera zbog toga što oni u ovom modelu imaju ulogu generalnog, a ne funkcionalnog rukovodioca. Divizionálni menadžeri su kičma čitavog sistema.

Negativne posledice i rizici primene divizionálnog modela preduzeća „Metalac” A.D. su

takođe značajne:

- nemogućnost korišćenja ekonomije obima - divizionalni model deli preduzeće na više organizacionih celina i time onemogućava da se proizvodnja koncentriše na jednom mestu. Tako se onemogućava postizanje ekonomije obima tj. snižavanja troškova po jedinici proizvoda prilikom povećanja obima prodaje.
- dupliranje resursa - divizionalni model zahteva da se mnogi resursi paralelno nalaze u svim divizijama. Poseban je problem što se broj rukovodioca značajno povećava.
- oportunističko ponašanje divizija - divizionalni menadžeri nastoje da optimiziraju ciljeve svojih divizija i u skladu sa time se i ponašaju. Oni će uvek preduzimati akcije kako bi realizovali biznis planove svoje divizije čak i ako to ide na štetu ostalih divizija i celine preduzeća.
- nedostatak kontakta strateškog vrha i operativne osnove - strateški vrh preduzeća može biti izolovan od operativne osnove preduzeća u divizijama usled čega može donositi pogrešne odluke. Izolujući se na vrhu, top menadžment ima tendenciju da donosi odluke samo na osnovu brojki i uz sofisticirane analitičke metode.

7. ZAKLJUČAK

Organizaciona struktura predstavlja jedan od najvažnijih elemenata organizacije. Organizaciona struktura se izrađuje sa ciljem da se zadaci, tehnologije i ljudi koriste na najefikasniji način u cilju ostvarenja misije organizacije. Izbor odgovarajuće vrste organizacione strukture, predstavlja jednu od najvažnijih odluka organizacije, jer ukoliko se usvoji organizaciona struktura koja ne odgovara situaciji u kojoj se organizacija nalazi, ona će usporiti ili zakočiti sposobnosti upravljačkog sistema. Na izgradnju organizacione strukture jednog preduzeća utiče veliki broj faktora, koji imaju različit uticaj na organizacionu strukturu.

Preduzeće kao što je „Metalac” A.D. Gornji Milanovac proizvodi veći broj raznovrsnih proizvoda sa različitim tehnologijama, pri čemu se njihovi proizvodi proizvode na različitim geografskim područjima, što podrazumeva primenu divizione organizacione strukture. Preduzeće „Metalac” A.D. Gornji Milanovac posluje na zasićenom tržištu u vreme velikih turbulencija i dinamičnosti, i njegov uspeh poslovanja u mnogome zavisi od načina na koji se preduzeće prilagođava nastaloj situaciji, odnosno velikom broju promena koje nameće današnje vreme. Najvažniji faktor koji uslovljava izgradnju i uspešnost divizionalnog organizacionog modela u preduzeću „Metalac” A.D. jeste menadžment i strategija. Na osnovu svega iznetog možemo zaključiti da je divizionalni model superioran u odnosu na ostale modele i njegova primena je nezamenljiva u ovom slučaju, to jest u uspešnom funkcionisanju preduzeća „Metalac” A.D.

REFERENCE

1. M. Jovanović, M. Živković, T. Cvetkovski, Organizaciono ponašanje, Megatrend univerzitet, Beograd, 2003, p. 198.
2. B. Bogdanović, Menadžment, Ekonomski fakultet, Beograd, 2009, p.83

3. D. Mihajlović, Menadžment ljudskih resursa, Megatrend univerzitet, Zaječar, 2008, p.63
4. S. Cvetković, Organizaciono ponašanje, Viša poslovna škola, Beograd, 2006, p. 37
5. A. Veljović, M. Radojičić, J. Vesić, Menadžment razvojem preduzeća, Tehnički fakultet, Čačak, 2009, p.61
6. N. Živković, Menadžment, Fabus, Sremska Kamenica, 2011, p.67
7. N. Janićijević, Organizaciono ponašanje, Ekonomski fakultet, Beograd, 2008, p.533-534.
8. http://www.metalac.com/pgs/sr/o_kompaniji/kompanija_danas (09.05.2014)

QUANTITATIVE APPROACH IN RISK ANALYSIS ON THE PROJECT “CONSTRUCTION OF THE FIBER OPTIC CABLES NETWORK FOR THE MSAN DEVICE CONNECTION”

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Abstract: This study analysis the quantitative approach in risk analysis on specific projects. Risk analysis was done using the PMI methodology, that risks are managed through four subphases: risk identification; analysis and risk assessment; planning response to risk; control the application of the risk. This project registered 14 potential risk events, which are analyzed in detail. A detailed analysis of the impact of risk events on the project objectives, and proposed are appropriate strategies to minimize and/or overcome. In this way was achieved a continuous risk management process, which provides efficient protection against the possible risk-recorded events. The aim of the present study is to highlight the importance of risk management, and and how a systematic approach can affect the project quality.

Keywords: Risk, risk analysis, risk matrix, project management.

KVANTITATIVNI PRISTUP U ANALIZI RIZIKA NA REALIZACIJI PROJEKTA „IZGRADNJA MREŽE OPTIČKIH KABLOVA ZA POVEZIVANJE MSAN UREĐAJA”

Ivan Jovanović

Apstrakt: U ovom radu se razmatra kvantitativni pristup u analizi rizika na konkretnom projektu. Analiza rizika je urađena primenom PMI metodologije, po kojoj se rizicima upravlja kroz četiri podfaze: identifikacija rizika; analiza i procena rizika; planiranje reakcija na rizik; i kontrola primene reakcije na rizik. Na ovom projektu je evidentirano 14 potencijalnih rizičnih događaja, koji su detaljno analizirani. Izvršena je detaljna analiza uticaja rizičnih događaja na postavljene ciljeve projekta, i predložene su odgovarajuće strategije za njihovo minimiziranje i/ili prevazilaženje. Na ovaj način je postignut kontinuirani proces upravljanja rizikom čime je obezbeđena efikasna zaštita od mogućih evidentiranih rizičnih događaja. Cilj autora ovog rada je da se ukaže na značaj procesa upravljanja rizikom, i kako se sistemskim pristupom može uticati na kvalitet realizacije projekta.

Ključne reči: Rizik, analiza rizika, matrica rizika, upravljanje projektom.

1. UVOD

Svaki *projekat* je jedinstveni proces, sastavljen iz niza aktivnosti definisanih početkom i krajem, kao i ljudskim, finansijskim i drugim resursima, koji ispunjava određene uslove, i ima za cilj zadovoljenje ukupnih potreba korisnika. Uopšteno, svaki poduhvat koji ima cilj, rok i raspoložive resurse može se posmatrati kao projekat [1]. Projekti se planiraju u sadašnjosti a njihova realizacija i posledice donetih odluka dešavaju se u bližoj ili daljoj budućnosti, koja je po svojoj prirodi neizvesna [2]. Kao mera *neizvesnosti* javlja se verovatnoća pojave nekog od mogućih ishoda odnosno „niz verovatnoća dodeljuje se nizu mogućih ishoda“ [3]. Ukoliko je neki mogući ishod nepovoljan onda je reč o *riziku*. Dakle, rizik ne postoji bez neizvesnosti, dok svaka neizvesnost ne znači da postoji rizik [4]. Da bi rizik postojao mora postojati mogućnost nastanka štete, odnosno gubitka [5], a to implicira da postojanje neizvesnosti koja ne uključuje mogućnost nastanka štete isključuje postojanje rizika [6]. Prilikom predviđanja, planiranja i same realizacije projekata rizik je u većoj ili manjoj meri uvek prisutan. Zbog toga je glavni zadatak smanjiti rizik, a ukoliko je moguće i potpuno ga izbeći, kako bi se izbegle ili makar smanjile moguće neželjene posledice [7]. Rizik je kombinacija verovatnoće nekog događaja i njegove posledice [8].

Savremeni uslovi poslovanja i brz tehnološki razvoj povećavaju neizvesnost za učesnike u poslovnom procesu koji sa sobom donosi rizike. Zbog toga je *upravljanje rizicima* postalo od kritičnog značaja, i posvećuje mu se sve veća pažnja [9]. Upravljanje rizikom je složen proces kroz koji se potvrđuje poslovna opravdanost odabira sigurnosnih rešenja i kontrola koja će obezbediti dovoljan nivo sigurnosti [10]. Najvažniji, najosetljiviji i vremenski najzahtevniji deo procesa upravljanja rizikom je postupak procene, odnosno *analize rizika* [10]. Analiza rizika postavlja okvir ili plan za upravljanje različitim identifikovanim rizicima koji mogu uticati na rezultat projekta. Smatra se da je potrebno imati subjektivni pristup riziku sa objektivnom metodologijom [11].

U mnogim radovima je obrađivana tema upravljanje rizicima. Opis raznih metodologija za rangiranje rizika na projektu obradili su autori Baccarini i Archer u radu [12]. Odgovor na pitanje zašto je upravljanje rizikom ključni deo najbolje prakse upravljanja projektom dali su autori Chapman i Ward u radu [13]. Autori Bakker, Boonstra i Wortmann su se u svom radu [14] bavili pitanjem da li analiza rizika može da doprinese uspehu projekta. Faktori rizika koji utiču na stavove izvođača pri realizaciji projekata razmatrali su autori Wang i Yuan u radu [15]. Upravljanjem rizikom po principu dodeljivanja „nepredviđenih projektnih troškova“ bavio se autor Mills u radu [16], kao i autor Baccarini u radu [17]. Određivanjem visine nepredviđenih troškova bavili su se mnogi autori koji preporučuju razne metode, kao što su: Monte Karlo simulacija [18], veštačke neuronske mreže (ANN-Artificial Neural Network) [19], linearna regresija [20], fazi ekspertni sistem [21].

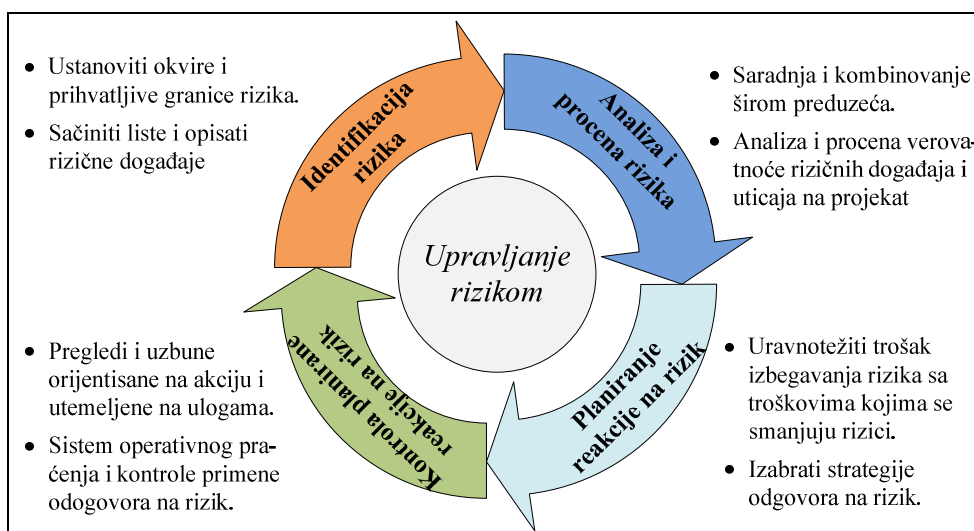
U ovom radu je, primenom kvantitativnog postupka, razmatrana analiza rizika na realizaciji projekta „Izgradnja mreže optičkih kablova za povezivanje MSAN uređaja“. Kao alat, za analizu rizika, korišćena je matrica rizika.

2. METODOLOGIJA UPRAVLJANJA RIZIKOM

S obzirom na činjenicu da svaki projekat u sebi sadrži određenu količinu rizika, stejkholderi na projektu ne treba da očekuju da će njihovi projekti biti oslobođeni rizika. Rukovodilac projekta zajedno sa projektnim timom i svim korisnicima projekta bi trebalo da izvrši procenu rizika. Prilikom procene rizika može se uvideti da su rizici mali, međutim, ovakva praksa će takođe upozoriti na bilo koje srednje ili velike rizike koji mogu uzrokovati problem negde u budućnosti [22].

U teoriji i praksi se predlažu mnogobrojne metodologije za upravljanje rizikom. U ovom radu je primenjena PMI metodologija, koja je data u PMBOK i PMI standardu za upravljanje rizicima [23]. Po ovoj metodologiji, stanje *izvesnosti* se opisuje kao situacija u kojoj se tačno mogu odrediti sve potrebne veličine i sva moguća rešenja, tako da praktično nema rizika. Situacija u budućnosti kod koje se mogu pojaviti više alternativnih rešenja sa poznatom verovatnoćom pojavljivanja, opisuje se kao stanje *rizika*, a situacija u budućnosti kod koje se mogu pojaviti više alternativnih rešenja sa nepoznatim verovatnoćama pojavljivanja, kao stanje *neizvesnosti*. Oblast upravljanja rizikom se nalazi između stanja totalnog rizika i stanja gde rizik i ne postoji, jer tamo gde vlada totalni rizik ne postoji mogućnost upravljanja, a tamo gde nema rizika nema ni potrebe za upravljanjem [24,25].

Upravljanje rizikom je proces koji se definiše kao skup upravljačkih metoda i tehnika kojima se minimiziraju gubici i dovode u sklad troškovi kojima se smanjuje verovatnoća ostvarenja gubitka sa troškovima koji bi nastali od rizičnog događaja [26]. Proces upravljanja rizikom sadrži četiri glavna podprocesa, i to: identifikacija rizika; analiza i procena rizika; planiranje reakcija (odgovora) na rizik; i kontrola primene reakcije na rizik, kao što je prikazano na Slici 1.



Slika 1. Podprocesi procesa upravljanja rizikom

2.1. IDENTIFIKACIJA RIZIKA

U ovom podproces se identifikuju, dokumentuju, klasifikuju i rangiraju potencijalni pozitivni i negativni rizici, koji mogu uticati na projekat. Ova faza je veoma bitna za proces upravljanja rizikom, jer pogrešna identifikacija može da potpuno skrene planiranje reakcije sa pravog puta, što dovodi do potpune nespremnosti kada se rizični događaj desi [27]. Identifikacija rizika spada u grupu iterativnih procesa, jer kako projekat napreduje kroz faze životnog ciklusa tako se uočavaju novi rizici koji nisu identifikovani tokom planiranja. Da bi se identifikacija rizika kvalitetno obavila u njenu realizaciju se uključuju projektni menadžer, projektni tim, stručnjaci, korisnici, i ostali. Najčešći uzroci pojave rizika se javljaju kod izvora finansiranja; poštovanja vremenskih planova; raspodele ograničenih resursa; promene u obimu posla, projektnog plana ili tehničkog procesa.

Identifikacija i klasifikacija mogućih rizičnih događaja se može realizovati primenom *iskustvenog*, *statističkog* i *normativnog* metoda. Preporučuju se razne tehnike: *pregledanje dokumentacije* (planovi, pretpostavke, istorijske informacije, ...), *prikupljanje informacija*

(brejnstorming, delfi, intervju, anketiranje, tehnika uzroka i posledoca, SWOT analiza), *kontrolne liste* (izrađuju se na osnovu istorijskih informacija i prethodnog iskustva projektnog tima), *analiza pretpostavki* (dokazivanje tvrdnji i pretpostavki koje su identifikovane i dokumentovane u procesu planiranja projekta), *tehnika crtanja dijagrama* (uzročno-posledični dijagrami, dijagrami toka procesa, dijagrami uticaja). Kao rezultat podprocesa identifikacije rizika dobija se sastavljen jedinstven registar rizika.

2.2. ANALIZA I PROCENA RIZIKA

Nadovezuje se i prepliće sa podprocesom identifikacije rizika, jer kroz preliminarno grupisanje rizika analiza praktično već započinje [23]. Analiza rizika je složen postupak i tu se vrši: obrada svakog identifikovanog rizika; kvantifikuju rizici radi odabira najboljeg načina zaštite; analiziraju postojeće kontrolne mere u sistemu; procenjuje opravdanost uvođenja dodatnih protivmera. Kod određivanja veličine mogućeg uticaja identifikovanih rizika na projekat razlikuje se kvantitativna i kvalitativna analiza [24-26].

Kvantitativna analiza rizika podrazumeva korišćenje kvantitativnog metoda „*Procena verovatnoće ostvarenja i mogućih posledica*“, koji se sprovodi u dva koraka. Najpre se u prvom koraku vrši procena mogućeg uticaja rizičnih događaja na rezultate (ciljeve) projekta, tj. određuje se visina gubitka (*G*) ukoliko se desi rizični događaj. Skala kojom se prikazuje uticaj rizika na ciljeve projekta može imati manje precizniju podelu (trostepena skala) ili precizniju podelu (sedmostepena skala), što će rezultirati i manjim ili većim brojem nivoa ukupnog rizika. U ovom radu je korišćena petostepena skala za kvantifikaciju sa sledećim vrednostima: veoma visok (0,8); visok (0,4); umeren (0,2); mali (0,1); veoma mali (0,05), kao što je prikazano u Tabeli 1.

Tabela 1. Kvantifikacija uticaja rizika na zadate ciljeve [24-26]

<i>Ciljevi projekta</i>	<i>Uticaj na ciljeve projekta</i>				
	Veoma mali 0.05	Mali 0.1	Umeren 0.2	Visok 0.4	Veoma visok 0.8
Budžet	Beznačajno povećanje	Povećanje < 5%	Povećanje 5-10%	Povećanje 10-20%	Povećanje >20%
Vreme realizacije	Beznačajno prekoračenje	Prekoračenje < 5%	Prekoračenje 5-10%	Prekoračenje 10-20%	Prekoračenje >20%
Ugovoreni obim	Jedva primetno smanjenje	Na manjim celi-nama primetno	Primetno na glavnim celinama	Smanjen i neprihvatljiv za klijenta	Neupotrebljiv
Kvalitet	Jedva primetno smanjenje	Primetno smanjenje na veoma zaht. aplikacijama	Smanjen u meri da zahteva odobrenje od klijenta	Smanjen u meri da je neprihvatljiv za klijenta	Neupotrebljiv

U drugom koraku se određuju verovatnoće pojavljivanja evidentiranih rizičnih događaja (*VR*), koja se iskazuje na skali od 0 do 1. Nula znači da se određeni događaj sigurno neće ostvariti, a jedinica znači da će se događaj sigurno ostvariti.

Određivanje ukupnog rizika (*UR*), kao kombinacije veličine uticaja na ciljeve projekta i procenjene verovatnoće dešavanja, se određuje relacijom $UR=G \times VR$, Tabela 2.

Tabela 2. Matrica ukupnog rizika [28]

Verovatnoća pojavljivanja rizika	Uticaj na ciljeve projekta				
	Veoma mali 0.05	Mali 0.1	Umeren 0.2	Visok 0.4	Veoma visok 0.8
0.9	0.045	0.090	0.180	0.360	0.720
0.7	0.035	0.070	0.140	0.280	0.560
0.5	0.025	0.050	0.100	0.200	0.400
0.3	0.015	0.030	0.060	0.120	0.240
0.1	0.005	0.010	0.020	0.040	0.080

Način numerisanja pojedinih nivoa *UR* je proizvoljan i moguće ga je prilagoditi potrebama [23,28]. Na osnovu ovakve kvantifikacije, stepen ukupnog rizika (*UR*) se u ovom radu ocenjuje kroz pet nivoa, kao:

- *Veoma nizak* (zelena polja) – gde je $UR \leq 0,015$; nisu potrebne akcije i pripreme.
- *Nizak* (plava polja) – gde je $0,015 < UR \leq 0,040$; potrebne su određene akcije i pripreme.
- *Umeren* (žuta polja) – gde je $0,040 < UR \leq 0,150$; potrebno je pripremiti plan smanjenja rizika i otklanjanja posledica na projektu.
- *Visok* (narandžasta polja) – gde je $0,150 < UR \leq 0,500$; potreban je poseban plan smanjenja rizika i otklanjanja posledica na projektu.
- *Veoma visok* (crvena polja) – gde je $UR > 0,500$; zahteva se hitna reakcija, tj. redefinisane projekta. Razmatra se čak i mogućnost odustajanja od projekta ukoliko uklanjaju izvora i uzroka rizika nije moguć na drugi način.

Kao rezultat ovog podprocesa dobija se ažuriran registar rizika, a promene koje se u njega unose su: rangiranje identifikovanih rizika po prioritetu, grupisanje rizika po kategorijama, lista rizika koji ne zahtevaju reakcije, lista rizika koja zahteva dodatnu analizu, tendencije rezultata analize, itd.

2.3. PLANIRANJE REAKCIJE NA RIZIK

U ovom podproces se vrši odabir mera koje treba preduzeti, kako bi se otklonile pretnje i iskoristile šanse otkrivene u podprocesu analize rizika. Planovi za reakciju se uglavnom izrađuju za one rizične događaje koji imaju veliku verovatnoću dešavanja i značajan uticaj na projekat. To znači da planiranje reakcije (odgovora) na rizik predstavlja definisanje upravljačkih akcija kojima će se mogući gubici od nastajanja rizičnog događaja svesti na minimum. Strategije koje se najčešće preporučuju jesu [24-28]:

1. *Prihvatanje* je strategija kojom se prihvataju posledice u slučaju da se rizični događaj desi, i ne preduzimaju se akcije u cilju smanjenja rizičnih događaja bez obzira koliki bio.

2. *Ignorisanje (izbegavanje) rizika* obično označava takvu strategiju gde je rizični događaj uočen, ali se ne preduzimaju nikakve akcije. Smatra se da se rizični događaj neće ni desiti, tj. da je verovatnoća mala, ili da će ukoliko se i desi uticaj na ciljeve biti zanemarljiv.

3. *Smanjenje (ublažavanje) rizika* je strategija koja podrazumeva da je neophodno vršiti neke izmene na projektu kako bi se rizik smanjio/ublažio. Uglavnom su to akcije koje menjaju: vremenski plan, budžet projekta, specifikacije, obim projekta, itd. Takođe, prave se određene rezerve (vremenske, u resursima), pri čemu sve te promene ne smeju da utiču

na globalne ciljeve projekta. Ovom strategijom se pokušava smanjiti verovatnoća dešavanja rizičnog događaja, a samim tim i njegov uticaj se smanjuje na prihvatljiv nivo.

4. *Prebacivanje rizika* je takva strategija koja podrazumeva prebacivanje rizika, odnosno mogućih štetnih posledica, na drugi subjekt. To može da podrazumeva izmenu ugovora kojima se rizik prebacuje na osiguravajuće organizacije, ili ugovorom regulisanu podelu rizika sa izvođačima, podizvođačima i drugim učesnicima u projektu.

5. *Kontigencijsko (situaciono) planiranje* je takva strategija koja predviđa oprezno ponašanje i postepeno i racionalno odlučivanje radi prilagođavanja neizvesnim i rizičnim događajima. Strategija predviđa tačnu raspodelu nadležnosti i odgovornosti menadžerske strukture za postupanje u slučaju pojave rizičnog događaja. Ova strategija se predviđa za niske ukupne rizike ($UR \leq 0,040$) uz praćenje, a za srednje i visoke rizike ($UR \leq 0,500$) uz planiranje odgovarajućih mera. Strategija podrazumeva izradu različitih alternativa (scenarija) u slučaju da se rizični događaj ipak odigra. Obično se povezuje sa određenim rezervama, odnosno sredstvima koji se čuvaju kao sigurnosna mera u slučaju ostvarenja neizbežne pretnje koja može da ugrozi obim, trajanje i troškove projekta.

2.4. KONTROLA PRIMENE REAKCIJE NA RIZIK

Ovo je stalna aktivnost koja se realizuje kroz kontinuirana merenja, procenjivanja, dokumentovanja i izveštavanja od strane celog projektnog tima. Praćenje i kontrola reakcije na rizik se ne svodi samo na striktno praćenje primenjenih strategija nego i na njihovo dopunjavanje u zavisnosti od potreba. Te aktivnosti se obezbeđuju uglavnom kroz praćenje napredovanja u realizaciji aktivnosti po planiranim kontrolnim tačkama, a za srednji i visoko rangirani rizik i kroz stalno praćenje signala i indicija, uz redovno i vanredno dokumentovano izveštavanje. U određenim slučajevima neophodno je izmeniti strategiju odgovora kada postane neefikasna, tj. primeniti planiranu strategiju kontigencije, ili ukloniti rizični događaj sa liste kada potencijalna pretnja prestane da postoji.

Kontrola kao element upravljanja rizikom ne može se doslovno primeniti na rizik, jer da je rizik moguće kontrolisati onda ne bi ni bio rizik, nego se odnosi na uočavanje određenih rizičnih pojava, a kontroliše se realizacija planiranih mera protiv rizika. Nedovoljno praćenje problema koji nastaju tokom izvođenja projekta razlog je neuspeha kod većine projekata [29].

3. UPRAVLJANJE RIZIKOM NA KONKRETNOM PROJEKTU

3.1. OPIS PROJEKTA

Glavni projekat za izgradnju mreže optičkih kablova za povezivanje MSAN (*Multi-service Access Node*) uređaja na teritoriji opštine Čuprija (decentralizacija pristupne i komutacione mreže) obrađuje tehničko-ekonomske aspekte izgradnje kabla sa optičkim svetlovodovima. Na ovaj način se prvenstveno rešava problem povezivanja planiranih outdoor IP MSAN uređaja na ostatak paketski orijentisane telekomunikacione mreže "Telekom Srbija". Za ovu namenu izabrana je tehnologija prenosa po optičkom vlaknu koja danas predstavlja vrhunsku tehnologiju koja suštinski i dugoročno može podržati aktuelni trend u telekomunikacijama, u koji svakako spada stalni rast potražnje za propusnim opsegom. To je adekvatan odgovor na sve veći broj zahteva za različitim

savremenim servisima poput IP (Internet Protocol) televizije, videa na zahtev (video on demand), high speed data servisa.

Planirana mreža optičkih kablova sastoji se od sledećih kablovskih linija i deonica:

- Optički kabl na relaciji TK centar Čuprija – MSAN Cara Lazara;
- Privodni optički kabl za MSAN Bolnica
- Privodni optički kabl za MSAN Milice Cenić
- Optički kabl TK centar Čuprija – MSAN Kosančičeva
- Optički kabl TK centar Čuprija – MSAN Bulevar

3.2. GLAVNI CILJEVI PROJEKTA

Cilj 1. Uklapanje projekta u predviđeni budžet.

Cilj 2. Uklapanje projekta u planirani vremenski rok.

Cilj 3. Ostvarivanje predviđenog obima posla.

Cilj 4. Ostvarivanje propisanog kvaliteta izvedenih radova.

3.3. IDENTIFIKACIJA RIZIKA

Za identifikaciju i klasifikaciju rizičnih događaja bili su angažovani: projektni menadžer sa projektnim timom, interni i eksterni stejkholderi, i stručnjaci iz relevantnih oblasti. Predmet rizika je bio usmeren na ostvarivanju projektnih ciljeva. Korišćena je kombinacija iskustvenog, statističkog i normativnog metoda, uz primenu odgovarajućih tehnika: pregledanje dokumentacije, prikupljanje informacija, kontrolne liste i analiza pretpostavki. Evidentirana su 14 rizičnih događaja koji su grupisani po fazama realizacije projekta, i to:

I. Faza planiranja objekta

*R*₁: Nedostatak sredstava za izgradnju

II. Faza tehničke pripreme - inženjering

*R*₂: Greške u projektnoj dokumentaciji

*R*₃: Komplikovana i spora državna administracija

*R*₄: Nedobijanje potrebnih uslova, dozvola, saglasnosti

*R*₅: Neuspešan tender za izvođača radova

*R*₆: Neuspešan tender za dobavljača materijala

III. Faza izgradnje objekta

*R*₇: Greške prilikom naručivanja materijala

*R*₈: Kašnjenje u isporuci materijala

*R*₉: Greške prilikom izvođenja radova

*R*₁₀: Finansijska nelikvidnost izvođača

*R*₁₁: Kašnjenje projekta (izvođenja radova) usled loših vremenskih uslova

*R*₁₂: Elementarne nepogode

*R*₁₃: Povrede radnika

IV. Faza završnih radova

*R*₁₄: Komplikovana i spora državna administracija

Opis rizika

- R₁: U toku obezbeđivanja sredstava za izgradnju postoji mogućnost da nadležne instance ne odobre sredstva za realizaciju projekta bez obzira što su ona predviđena budžetom. Razlozi mogu biti preusmeravanje sredstava na druge projekte, nedostatak finansijskih sredstava, i ostalo.
- R₂: U toku izrade investiciono-tehničke dokumentacije moguće su personalne greške.
- R₃: U toku faze obezbeđivanja potrebnih uslova, saglasnosti, dozvola, kao i pribavljanja građevinske dozvole od strane nadležnih državnih organa, može doći do vremenskog zastoja i probijanja rokova.
- R₄: U fazi obezbeđivanja potrebnih uslova, saglasnosti, dozvola, može se desiti da određeno pravno ili fizičko lice ili nadležni državni organ ne izdaju na vreme potrebnu dokumentaciju iz određenih razloga.
- R₅: Postupak sprovođenja izbora za izvođača radova putem tenderske procedure može biti neuspešno okončan, što direktno utiče na vremensko kašnjenje i probijanje rokova.
- R₆: Postupak sprovođenja izbora za dobavljača materijala putem tenderske procedure može biti neuspešno okončan, što direktno utiče na vremensko kašnjenje i probijanje rokova.
- R₇: Prilikom naručivanja materijala moguće su greške koje bi uticale na kašnjenje u realizaciji projekta.
- R₈: Isporučeni materijal može biti slabijeg kvaliteta od dogovorenog. Materijal se vraća, doprema se materijal adekvatnog kvaliteta, što dovodi do vremenskog kašnjenja u realizaciji projekta.
- R₉: Postoji mogućnost da izvođač radova dovoljno dobro ne protumači zahteve investitora i tako načini grešku/e prilikom izvođenja radova, što može da dovede do prekoračenja vremenskih rokova i troškova.
- R₁₀: U toku faze izvođenja radova postoji mogućnost da izvođač postane finansijski nelikvidan i da obustavi dalje izvođenje radova.
- R₁₁: Izvođenje radova može kasniti ukoliko vremenski uslovi budu loši i spreče nesmetano odvijanje radova.
- R₁₂: Pojava elementarnih nepogoda može dovesti do kašnjenja projekta, ili čak i do privremene obustave realizacije projekta.
- R₁₃: Iako se planira primena adekvatnih mera zaštite radnika na gradilištu ipak može doći do njihovog povređivanja, a time i do prekoračenja vremenskih rokova i troškova.
- R₁₄: Aktivnost oko obezbeđivanja promena u katastarskoj evidenciji vodova može trajati duže od planirane.

3.4. ANALIZA I PROCENA RIZIKA

U ovom podprocesu je korišćen metod „*procene verovatnoće ostvarenja i mogućih posledica*“, koji se izvodi kroz dva koraka. U prvom koraku je izvršena procena mogućih uticaja svakog od identifikovanih rizičnih događaja na ciljeve projekta, odnosno utvrđena je visina gubitka (*G*), primenom alata koja je prikazan u Tabeli 1. U drugom koraku je izvršena procena verovatnoće pojavljivanja evidentiranih rizičnih događaja (*VR*). Ukupan

rizik (UR) je određen za svaki evidentirani rizik primenom relacije $UR=G \times VR$, i ocenjen kao što je prikazano u Tabeli 3.

Tabela 3. Matrica rizika na projektu „Izgradnja mreže optičkih kablova”

Rizik	1	2	3	4	5	Ukupan rizik			
	Budžet	Vreme realizacije	Ugovoreni obim	Kvalitet	Verovatnoća pojave rizika	1×5	2×5	3×5	4×5
R ₁	0,8	0,8	0,8	0,4	0,1	0,080	0,080	0,080	0,040
R ₂	0,4	0,4	0,2	0,2	0,1	0,040	0,040	0,020	0,020
R ₃	0,4	0,8	0,4	0,4	0,5	0,200	0,400	0,200	0,200
R ₄	0,2	0,8	0,4	0,4	0,1	0,020	0,080	0,040	0,040
R ₅	0,8	0,8	0,8	0,8	0,1	0,080	0,080	0,080	0,080
R ₆	0,4	0,8	0,8	0,8	0,1	0,040	0,080	0,080	0,080
R ₇	0,1	0,2	0,2	0,2	0,1	0,010	0,020	0,020	0,020
R ₈	0,1	0,4	0,2	0,2	0,3	0,030	0,120	0,060	0,060
R ₉	0,05	0,1	0,1	0,2	0,1	0,005	0,010	0,020	0,010
R ₁₀	0,8	0,8	0,4	0,4	0,1	0,080	0,080	0,080	0,040
R ₁₁	0,2	0,8	0,4	0,4	0,5	0,100	0,400	0,200	0,200
R ₁₂	0,8	0,8	0,8	0,8	0,1	0,080	0,080	0,080	0,080
R ₁₃	0,4	0,2	0,1	0,1	0,1	0,040	0,020	0,010	0,010
R ₁₄	0,05	0,1	0,1	0,05	0,3	0,015	0,030	0,030	0,015

3.5. PLAN REAKCIJE (ODGOVORA) NA RIZIK

Reakcija na rizik je urađena u skladu sa procenjenim stepenom rizika, koji su prikazani u Tabeli 3, i predloženih strategija kao odgovor na identifikovane rizike. Plan reakcije na rizične događaje prikazan je u Tabeli 4.

Tabela 4. Plan reakcije na rizične događaje

Rizik	Grupa rizika	Stepen rizika	Predložena strategija	Reakcija
R ₁	I	Umeren	Smanjenje rizika	Obezbediti vremensku rezervu; planirati drugi termin realizacije.
R ₂	I	Nizak	Prihvatanje rizika	Velika fleksibilnost projekta; mogućnost korekcije.
R ₃	E	Visok	Smanjenje rizika Kontingencijsko planiranje	Smanjenje rizika: obezbediti vremensku rezervu; Kontingencijsko planiranje: planirati drugi termin realizacije.
R ₄	E	Umeren	Smanjenje rizika Kontingencijsko planiranje	Smanjenje rizika: velika fleksibilnost projekta, mogućnost korekcije i prilagodavanja uslovima, vremenska rezerva. Kontingencijsko planiranje: predviđen drugi termin realizacije, periodična procena reagovanja.
R ₅	E	Umeren	Smanjenje rizika	Obezbediti vremensku rezervu; planirati drugi termin realizacije.
R ₆	E	Umeren	Smanjenje rizika	Obezbediti vremensku rezervu; planirati drugi termin realizacije.
R ₇	I	Nizak	Smanjenje rizika	Korekcija nabavke.
R ₈	E	Umeren	Prebacivanje rizika	Rizik prebaciti na drugi subjekt sastavljanjem adekvatnih ugovora.
R ₉	E	Veoma nizak	Smanjenje rizika	Korekcija radove, vremenska rezerva.
R ₁₀	E	Umeren	Prebacivanje rizika Kontingencijsko planiranje	Prebacivanje rizika: sastavljanje adekvatnih ugovora sa izvođačem. Kontingencijsko planiranje: ugovaranje sa drugim izvođačem.
R ₁₁	E	Visok	Smanjenje rizika Kontingencijsko planiranje	Smanjenje rizika: vremenska rezerva Kontingencijsko planiranje: predviđen drugi termin realizacije.
R ₁₂	E	Umeren	Smanjenje rizika	Vremenska rezerva, predviđen drugi termin realizacije.
R ₁₃	I	Nizak	Smanjenje rizika	Kontrola sprovođenja svih propisanih mera bezbednosti na radu.
R ₁₄	E	Nizak	Ignorisanje	Projekat je praktično završen.

3.6. KONTROLA PRIMENE REAKCIJE NA RIZIK

Kroz stalna merenja, procenjivanja, dokumentovanja i izveštavanja potrebno je kontinuirano pratiti i kontrolisati projektne rizike, odnosno ostvariti proces vrednovanja učinaka i efekata preduzetih mera. Ako se ukaže potreba mora se izvršiti i dopuna primenjenih mera kao odgovora na nastali rizični događaj. Takođe, ukoliko je primenjena mera dala slabe rezultate ili postane neefikasna potrebno je izmeniti strategiju odgovora. U slučajevima kada se na projektu javljaju rizični događaji koji nisu evidentirani, potrebno ih

je dodatno sagledati i primeniti odgovarajuće mere. Ukoliko je potencijalna pretnja prestala da postoji rizični događaj treba ukloniti sa liste.

Kontrola primene odgovora na rizik bi se obavljala kontinualno na dnevnom, nedeljnom, dvonedeljnom i/ili mesečnom nivou, u zavisnosti od vrste rizičnog događaja. Na početku realizacije projekta ceo projektni tim se angažuje za ove aktivnosti. Kako realizacija projekta napreduje tako se i smanjuje angažovanje pojedinih članova u ovom podprocesu. Rukovodilac projekta, neki članovi projektnog tima i pojedini stučnjaci bi bili angažovani na ovim poslovima tokom celog životnog veka projekta.

4. ZAKLJUČAK

U ovom radu je predstavljen koncept upravljanja rizikom na jednom realnom projektu, koji je po strukturi složen investicioni projekat, i čija realizacija sadrži faze planiranja, tehničke pripreme, realizacije, i primopredaje. Primenjena je PMI metodologija koja predviđa četiri podprocesa, gde njihova međusobna povezanost čini proces upravljanja rizikom.

Identifikacija i klasifikacija mogućih rizičnih događaja je urađena kombinacijom *iskustve-nog*, *statističkog* i *normativnog* metoda. Glavni razlog zbog čega je korišćena kombinacija ova tri metoda ogleda se prvenstveno u izbegavanju jako izraženog subjektivizma, koji bi se pojavio ukoliko bi se koristio samo iskustveni metod. Kako izvođač radova poseduje i bazu podataka o rizičnim događajima koji su evidentirani na ranije realizovanim sličnim projektima mogao se primeniti i statistički metod. Takođe, mogao se primeniti i normativni metod jer se on zasniva na izvršenim merenjima i egzaktnim proračunima koje je izvođač radova prethodno obavio. Na ovaj način su evidentirana 14 rizičnih događaja koji su grupisani po fazama realizacije projekta.

Anliza i procena identifikovanih rizika je urađena korišćenjem kvantitativnog metoda *procene verovatnoće ostvarenja i mogućih posledica*, kroz dva koraka. U prvom koraku je izvršena procena mogućih uticaja rizičnih događaja na ciljeve projekta, gde je korišćena petostepena skala za kvantifikaciju, koja je prikazana u Tabeli 1. U drugom koraku su procenjene verovatnoće pojavljivanja evidentiranih rizičnih događaja, koja je iskazana na skali od 0 do 1. Ukupni rizik je određen primenom relacije $UR=G \times VR$, a visina rizika, za svaki rizični događaj, je određena na osnovu klasifikacije koja je prikazana u Tabeli 2.

Planiranjem reakcije na rizik su definisane protivmere, tj. određeni su odgovori na rizične događaje primenom preporučenih strategija: *prihvatanje rizika*, *ignorisanje rizika*, *smanjenje rizika*, *prebacivanje rizika* i *kontingencijsko planiranje*.

Kontrola primene reakcije na rizik, je obavljena kontinuirano tokom realizacije projekta, kroz stalna merenja, procenjivanja, dokumentovanja i izveštavanja, na dnevnom, nedeljnom, dvonedeljnom i/ili mesečnom nivou, u zavisnosti od vrste rizičnog događaja. Za ovu aktivnost su uključeni rukovodilac projekta, članovi projektnog tima i pojedini stučnjaci.

Na ovaj način, primenjeni koncept podstiče rukovodioca projekta na intenzivnu saradnju sa projektnim timom, izvođačima radova i investitorom, što znači da se tokom realizacije projekta podsticao interaktivan rad na stalnom prilagođavanju planiranih aktivnosti u novonastalim uslovima, sa ciljem da se smanji verovatnoća nastajanja rizičnih događaja, kao i mogući gubici usled nastajanja i delovanja rizičnih događaja.

REFERENCE

- [1] L. Michael, P.E. Wiggins, *Risk Analysis*, The University of Oklahoma, Oklahoma, 1984.
- [2] E. Vaughan, T. Vaughan, *Essentials of Insurance: A Risk Management Perspective*, John Wiley and Sons, Inc., Canada, 1995.
- [3] D. Hubbard, *How to Measure Anything: Finding the Value of Intangibles in Business*, John Wiley & Sons, New York, 2007.
- [4] G. Fufek, Upravljanje rizikom u osiguranju, *Svet osiguranja*, 4 (2005) 1.
- [5] G.E. Rejda, *Principles of risk management*, 10th Edition, Addison Wesley, Boston, 2008.
- [6] T. Gustavson, *Risk Management and Insurance*, 10th Edition, South-Western College Publication, International Thompson Publishing, USA, 1998.
- [7] C. Chapman, S. Ward, *Project Risk Management: Processes, Techniques, and Insights*, Wiley, New York, 2003.
- [8] Australian-NewZeland Risk Management Standard (AS/NZS4360:2004), 2004.
- [9] S. Kirin, *Upravljanje rizikom u savremenim industrijskim sistemima*, doktorska teza, Fakultet tehničkih nauka Novi Sad, Univerzitet u Novom Sadu, 2011.
- [10] CARNet CERT & LSS, *Upravljanje sigurnosnim rizicima*, CARNet CERT, Hrvatska akademska i istraživačka mreža, 2003.
- [11] D.P. Kumar, Decision support system for risk management: a case study, *Management Decision* 39(8), (2001) 634–649.
- [12] D. Baccarini, R. Archer, The risk ranking of projects: a methodology, *International Journal of Project Management*, 19 (2001) 139-145.
- [13] Ch. Chapman, S. Ward, Why risk efficiency is a key aspect of best practice projects, *International Journal of Project Management* 22 (2004) 619-632.
- [14] K. Bakker, A. Boonstra, H. Wortmann, Does risk management contribute to IT project success? A meta-analysis of empirical evidence, *International Journal of Project Management*, 28 (2010) 493-503.
- [15] J. Wang, H. Yuan, Factors affecting contractors' risk attitudes in construction projects: Case study from China, *International Journal of Project Management*, 29 (2011) 209-219.
- [16] A. Mills, A systematic approach to risk management for construction, *Structural Survey*, 19 (2001) 245-252.
- [17] D. Baccarini, *The maturing concept of estimating project cost contingency*. Western Australia, Australia: Department of Construction Management, Curtin University of Technology, (2006).
- [18] J. F. Al-Bahar, *Risk management in construction project: A systematic analytical approach for contractors*, Civil Engineering Department, Doctor of Philosophy: University of California at Berkeley, (1988).
- [19] D. Chen, F. T. Hartman, *A neural network approach to risk assessment and contingency allocation*, AACE International Transactions, (2000).
- [20] R. Sonmez, A. Ergin, M. T. Birgonul, Quantitative methodology for determining of cost contingency in international project, *Journal of Management in Engineering*, 23 (2007) 35-39.

- [21] A. Idrus, M. F. Nuruddin, M. A. Rohman, Development of project cost contingency estimation model using risk analysis and fuzzy expert system. *Expert Systems with Applications*, 38 (2011) 1501-1508.
- [22] Grupa autora, *Priručnik za upravljanje projektima*, Ministarstvo finansija - Vlada Republike Srbije, 2008.
- [23] A Guide to the Project Management Body of Knowledge, 5th ed., PMBOK Guide, Project Management Institute, New York, USA, 2012.
- [24] A. Jovanović, *Upravljanje projektom - metode planiranja i kontrole*, autorizovana predavanja, TF Bor, Bor, 2005.
- [25] P. Jovanović, *Upravljanje projektom*, Grafoslog, Beograd, 2008.
- [26] A. Jovanović, I. Mihajlović: *Upravljanje projektima – zbirka zadataka*, Autorizovana predavanja, Tehnički fakultet u Boru, Bor, 2006.
- [27] R. Avlijaš, *Upravljanje projektom - Upravljanje rizikom na projektu*, Univerzitet Singidunum, Beograd, 2009.
- [28] I. Jovanović, P. Nikolić, Upravljanje rizikom na projektu na primeru izgradnje „Mini hladnjače“, VII Majska konferencija o strategijskom menadžmentu, 26-28.05. Zaječar, Srbija, 2011, 236-245.
- [29] B. Marić, *Upravljanje projektima*, FPM Novi Sad, 2000.

VERIFICATION OF LINEAR MODELS FOR PREDICTING THE MOVEMENT OF THE DOW JONES GLOBAL INDEX

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Abstract: This paper presents the verification of the linear model that provides the ability to predict the future movement of the Dow Jones (DJ) Global index. Macroeconomic parameters relevant to this model are: the price of gold, the price of Brent crude oil, the price of copper, the price of natural gas; exchange rates: USD to JPY, EUR to USD, EUR and JPY and stock market indices: S&P 500 Index, the Dow Jones Industrials index, the Euro Stoxx 50 Index, Nikkei 225 Index, Dow Jones Composite Index and the Dow Jones Global Index. Given the large number of parameters which are monitored simultaneously the correlation between the input values and the variation in the value of the Dow Jones (DJ) global index is examined with a systematic approach. These parameters were continuously monitored at two time periods. The first period is from 2 January 2012 to 29 September 2012, in which the data was collected and used for the formation of the basic linear model, while the second period is from October 1, 2012 to March 31, 2014, based on which the verification of the basic model, consideration of its successes and failures, i.e. acceptance or rejection of the model, was carried out.

Keywords: Verification of the model, systematic approach, the Dow Jones Global Index, linear model

DEVELOPMENT OF THE ALGORITHM FOR SELECTION OF APPROPRIATE NUMERICAL MODELING APPROACH

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Abstract: This paper is dealing with description of different modeling approaches, available in contemporary literature, and analyses of applicability of each approach on optimization of real technological processes. First part of the paper is presenting the scope of potential options of techniques available for complex systems modeling. Both analytical and statistical modeling approaches are described. The second part of the paper is dealing with analysis of applicability of each modeling approach, based on the structure of the system and the scope of input variables of the investigated process. Presented assumptions are than sustained with examples of numerical models of real technological systems and resulting conclusions are presented. As the examples of different modeling approaches

applicability, nonferrous and ferrous extractive metallurgy systems are used. As the result of the investigation, an algorithm was developed that can be used for selection of appropriate numerical modeling approach, for different technological systems, based on the structure of available input parameters.

Keywords: Optimization, technological process, modeling

ECONOMIC DEVELOPMENT IN LIBYA

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Abstract: Energy resources have formed the Arab world and its development course. Capable with the world's most important oil and natural gas reserves, countries in the Arab world have over the past decades produced and exported more oil than those of any other region, and hold reserves sufficient to supply world energy markets for more than hundred years at current rates of production. Its energy wealth has benefited the Arab world, despite significant differences across the region alongside differing national resources, and their management across governments. Significant challenges also derive from the Arab energy led development model, particularly patterns of domestic energy consumption, rising demand for energy across the region, and rising domestic investment needs. This work attempts to provide a very brief overview of the role energy has played in driving economic development in the Arab world, especially on Libyan economic development and its effects on development choices. The impacts of the latest conflicts on Libya's economy have significant influence on the country's economic reconstruction. The assumption in this paper is that Libya's oil infrastructure has emerged relatively intact from the conflict.

Keywords: Libya, Development, Resources, Energy

APPLICATION OF THE AHP METHOD IN MODELLING CRITERIA FOR RANKING AUDIT FIRMS IN SERBIA

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Abstract: This paper discusses the issue of ranking the leading audit firms in Serbia by applying modern methods of multicriteria decision making. The accent is placed on

multicriteria analysis methods used to rank audit firms, with a special emphasis on the AHP method.

Bearing in mind that this issue has not been sufficiently researched in our country, the main objective of the research was to explain the role and importance of multicriteria analysis methods, as well as to develop theoretical methods and multicriteria analysis models that can be successfully applied in practice to understand and fix problems occurring in audit firms business activities.

In the first part, the focus is on an audit firm as a business entity, operating principles, where the principles of liquidity, efficiency, profitability and capital adequacy are explained. Also, quality measurement of audit firms business performance expressed through financial indicators is also explained.

In the second part of the paper basic theoretical assumptions of decision-making are given, whereby the accent is placed on multicriteria decision making. The method of defining the problem and formulating mathematical models for multicriteria analysis are presented, as well as the concept and types of attributes, quantification of qualitative data and scales used to quantify relationships between alternative-criterion pairs.

The third part of the paper is devoted to the results of an empirical analysis of the possibility to apply one method of multicriteria analysis of the AHP method, acquired on an audit firms gathering. The final conclusions regarding the possibility of using this method for ranking are then presented.

Keywords: decision making, multicriteria analysis, AHP, audit, firms, ranking

CHALLENGES OF AGGREGATE PLANNING - EXAMPLE OF SERBIA

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Abstract: Aggregates geologically occur everywhere on earth's crust, yet not always where the market and society need them [1]. Low road distance transportation of preferably 30-35 km (actually 50 km in Europe [2]), land use planning, illegal quarrying, social rejection of quarrying, and access to resources are some issues associated with the extraction of aggregates. The main concern though, remains the lack of complete statistical databases on

production, and the lack of geological maps of aggregate resources and reserves. The need for sustainable aggregate resource management and planning in Europe, especially in countries like Serbia, Montenegro, Macedonia, Albania, Croatia, and Romania, is inevitable. So is the attempt to establish a comprehensive pan-European aggregates system of future demand-supply strategic plans to better respond to sudden economic and technological changes. Creation of geological maps and databases, optimized laws and regulations, implementation of LCA (life cycle assessment) methodology for natural and recycled aggregates, can extensively improve demand forecasts. Challenges of aggregate industry in Serbia combined with economic growth and intensity of use analysis are

discussed in this paper. Serbia consumed around 14 million in 2008 and around 10 million tonne aggregates in 2012 [3]. The average price for one tonne in Serbia is around 5-7 euro, almost 50% lower than in the developed eu countries (10-15 euro). One of the main issues for sustainable management and planning of aggregates is the lack of good statistical data, and particularly no data management. This study is an attempt to provide more insight into the complicated and yet not much looked at, world of aggregates. this paper is a result of: sustainable aggregates planning in south east Europe (www.snapsee.eu) project co-financed by the see transnational cooperation programme; oil76016 project financed by the ministry of education, science and technological development of the Republic of Serbia; and a dissertation research project about construction aggregates demand in europe, carried out at Montanuniversität in Leoben.

Keywords: construction aggregates, demand forecast, intensity of use, resource economics, mineral resources, mineral planning, land use planning, Serbia, Europe

References

1. William Langer, Managing and protecting aggregates resources, open- file report 02-415, 2002, p.1.
2. uepg, position paper, march 2nd, 2012, p.2.
3. Statistical yearbook of Serbia, 2012.

CONTEMPORARY STRATEGIES OF THE CONSTRUCTION INDUSTRY ON THE POLISH CONSTRUCTION EXAMPLE

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Abstract: The analysis of the construction industry clearly stated its strong relationships with general market situation. It's particularly concerns housing, which very clearly and strongly reacts to any fluctuations of the general economic situation. The market situation and its recession is reflected significantly in this industry, resulting in an immediate response, particularly among small enterprises, which are less able to survive even momentary breakdowns. In addition, the housing segment is very sensitive to any changes and difficulties in access to the capital.

Integration and consolidation of the construction industry enterprises in the region, as well as the increase of the construction companies innovation are most often indicated strategic assumptions for the small and medium-sized enterprises. The article presents the strategic analysis results for Polish construction industry, resulting in the indicated key strategies of companies including the most important strategic objectives of the analyzed industry.

Keywords: construction industry, strategic management

THE CONSTRUCTION ENTERPRISE IMAGE MANAGEMENT WITH INTERNET TECHNOLOGY APPLYING IN VISEGRAD COUNTRIES

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Abstract: Development of Internet technology and the rapidly growing number of Internet users caused the internet has been recognized as one of the most effective tools for creating the company image and thus the success of the business. In the current economy, the image has a strategic role and the brand being a part of its is the most important part of the company's intangible assets. Earlier, the brand creating process was identified mainly with elements such as a name, logo, or used symbolism. Nowadays, e - brand should be understood more broadly as creating value for customers in the form of the confidence in the deals and transactions, the proximity between the client and the company, positive emotions and experiences. Consciously image creating an image is one of the most important sources of competitive advantage that can be obtained on the market. The enterprise image management in Internet is therefore a necessity, and a lack of concern for the web image can result in the image destruction, even the built in years and outside the network.

Keywords: company image creation, e - brand

COMPETITION AND MARKET UNIVERSE

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Abstract: From the twilight of the industrial era, the companies have fought side by side with the competition, looking for sustainable, profitable growth, competitive advantage, differentiation and increased market share. However, if companies fail to connect innovation with utility, price and condition of the costs, then innovators in technology often lay eggs from which other companies hatched young. The development and implementation of the strategy of market universe were created in order that the business world to supply all of its resources focused on satisfying existing as well as projected needs of consumers.

Keywords: competition, market universe, satisfaction

STRATEGIC PLANNING ORGANIZATIONAL STRUCTURE MARKETING DEPARTMENT RAILWAYS

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Abstract: Traffic is considered the bloodstream each state a precondition for the pursuit of economic activities. The requirements relating to the carriage of goods and passengers were changing. Means of transport, the speed of transport, security and serviceability need of the day to meet the increasingly complex requirements of service users. Freight and passenger transport by rail, which is based on economic principles, technological advances and increased levels of quality travel is facing real competition from other modes of transport. The success of the competition, is based on the widely used organizational solutions in all areas of technological processes on the railway. Model for the improvement of the railway, should enable the railway operation and profitable business. It takes a high degree of coordination of basic business functions of marketing, research and development and quality in order to preserve the stability of the railway. The new model of the railway is based on market principles and involves the application of modern management techniques. The new organizational structure of the company to ensure protection of the interests of service users, but also the development of partnership and trust and responsibility towards the environment. The organizational structure should be designed in such a way to assist in the achievement of marketing objectives. The success of the implementation to a certain extent depends on how they made the division, organization and coordination of the activities of the organization or briefly the structure of the organization. The greater the possibility of marketing strategies organizations succeed where the structure corresponds to the strategy. This means that as the time change of the marketing strategy it is necessary to follow the changes in the structure. Railways of the management of the public railway infrastructure sector of public transport of passengers and goods and maintenance of rolling stock is organized by organizational units. Model for the improvement of the railway and the new organizational structure, should allow the railway operation and profitable business. However, to achieve this goal, the railways need support from the state, which, as its founder should apply the best form of transformation in the interest of all who work on the railways, in accordance with the specific conditions in which it operates railways and the state of society, because there is no universal model organization that is applicable to any railway company. Also, to the railway began to operate positively on sound science and that the benefits of the new organization came to the fore, it is necessary to state aid in the release of debts incurred in the previous period.

Keywords: strategy, organizational structure, marketing, railways

REGIONAL COMPETITIVENESS AND CLUSTER APPROACH

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Abstract: In today's globalizing economic and market conditions, the creation and development of clusters in the Bulgarian economy is increasingly becoming a determining factor for enhancement the effectiveness of business activity and the competitiveness of enterprises and regions as a whole. In this regard, the efforts of business organizations, regional and state authorities should be directed to the formation of prerequisites for successful emergence, growth and development of clusters in order to transform them into stable economic entities.

The purpose of this paper is to clarify why the cluster concept remains subject of debate and there is interest in cluster policies, although is not new. Cluster policies, related to regional policies, often focus on so called lagging regions that are facing industrial restructuring, or on peripheral geographic regions. In addition, some other initiatives are included in the regional dimension which emphasis on science and technology enterprise policy and the importance of the regions.

Keywords: competitiveness; clusters; innovation; development; enterprise

BUILDING CODE MYTH OR REALITY: EVIDENCE FROM THE WESTERN BALKANS

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Abstract: The importance of development of the energy sector is crucial in the socio-economic development of the countries until 2020. The challenge is bigger if we take into account the potential for energy savings in the building sector. Energy efficiency has the capacity to generate employment, improve the quality of citizens lives, decrease energy imports, and improve chances for EU accession and integration into the Euro zone.

The qualitative research of the energy efficiency practices and policies of Albania, Bosnia, Serbia, Montenegro and Macedonia help us understand the obstacles and challenges of the building sector in the wider region. This paper identifies that the non existence of building code as well as controlling and monitoring mechanisms in the countries of Western Balkans are hindering the efficient energy management processes. Accordingly recommendations for improvement were suggested when comparing it them to the EU practices. The research contributes to the successful implementation of EU directives in the field of energy efficiency.

Keywords: energy efficiency, buildings, policy, Western Balkans

THE NATURE OF BANKING MANAGEMENT

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Abstract: Banks do their business with money. For successful business banks need to maintain balance in money flow, this comes having in mind that the money that come into banks belong to someone else and the money that goes out of the banks are used to make profit. The management of the bank must make suitable climate of the bank's active and passive and in that way make profit. All this points to the fact that the bank management must make sure that the bank works safe and makes profit and at the same time has liquidity which means keep up with the daily demands in client redrawals. The profit from the bank's working has a certain risk to it. The risk in banking comes in two forms. The first risk form is brought by the market itself. The second risk form is the credit risk which involves the capability of loan owners to pay back their loans along with interest.

Keywords: bank, business, liquidity, money.

OTVORENE INOVACIJE KAO FAKTOR KONKURENTNOSTI

Katarina Lukić, Jelena Lukić

Abstract: Henry Chesbrough je bio prvi koji je pre više od decenije uveo pojam otvorenih inovacija podrazumevajući pod tim naizmeničnu razmenu znanja kako bi se ubrzao interni proces inoviranja, ali i uvećala upotrebna vrednost znanja izvan kompanije. Za razliku od tradicionalnog pristupa inoviranju gde su kompanije smatrale da samostalno treba da investiraju, bez uticaja drugih, otvorene inovacije ruše sve granice zahvaljujući razvoju informaciono-komunikacionih tehnologija koje su omogućile kolaboraciju brojnih učesnika. Cilj ovog rada je da sagleda sve specifičnosti i karakteristike modela otvorenih inovacija, prednosti, kao i brojne izazove koji se javljaju prilikom upravljanja otvorenim inovacijama.

Ključne reči: Otvorene inovacije, konkurentnost

THE INFLUENCE OF UNIT COSTS OF LABOUR ON CONCURRENT POSITION OF ECONOMY

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Abstract: A large number of economists (Timas , Meyer , Wealbroeck , Norvekar , Balassa et al .), in their works are paying great attention to the research and analysis of the factors that influence the comparative advantages and competitiveness. In accordance with the theory of foreign trade, a priori, one might expect that the prices, costs have the most significant impact on competitiveness. Most of the papers devoted to exploring the impact of price and cost competitiveness of exports of certain countries, all the inherent complexity of this kind of research. It stems from the fact that the prices contained in a certain way, and a number of other factors of competitiveness. Unfortunately, economic science has not yet managed to come to some methodological instruments that would satisfactorily quantify the impact of various factors on the price competitiveness. For these reasons , comparison of prices across countries, and the impact of the difference in price competitiveness of exports, will give adequate results and the problem of indicators of prices and their movements. It is known that there is a set of statistics that might come to mind: wholesale prices, export prices, export unit values, producer prices, consumer prices and the like. Each of which has certain advantages and disadvantages. It can be said that just as there are many indicators and criteria of international competitiveness, but one of the most popular is definitely the growth of relative labor costs.

Keywords: competitiveness of products, competitiveness of the economy, unit labor costs

UTICAJ JEDINIČNIH TROŠKOVA RADA NA KONKURENTNOST PRIVREDE

Ivan Marković

Apstrakt: Veliki broj ekonomista (Timas, Meyer, Wealbroeck, Norvekar, Balassa i dr.), u svojim radovima je veliku pažnju posvećivao istraživanju i analizi faktora koji uslovljavaju komparativne prednosti, odnosno konkurentnost. I u skladu sa teorijom spoljne trgovine a priori se moglo očekivati da cene, odnosno troškovi imaju najznačajniji uticaj na konkurentnost. Većini radova posvećenih istraživanju uticaja cena i troškova na konkurentnost izvoza pojedinih zemalja, imanentna je sva složenost istraživanja ovakve vrste. Ona proističe iz činjenice da su u ceni sadržani, na određen način, i niz ostalih faktora konkurentnosti. Na žalost, ekonomska nauka još uvek nije uspela da dođe do nekog metodološkog instrumentarija koji bi u zadovoljavajućoj meri kvantificirao uticaj raznih faktora konkurentnosti na cene. Iz tih razloga, poređenje cena po zemljama i uticaj razlika u cenama na konkurentnost izvoza, neće dati adekvatne rezultate i zbog problema izbora pokazatelja cena i njihovog kretanja. Poznato je da postoji niz statističkih pokazatelja koji

bi mogli doći u obzir: cene na veliko, izvozne cene, jedinične vrednosti izvoza, cene proizvođača, cene potrošača i sl., gde svaki od njih ima određene prednosti i nedostatke. Može se reći da podjednako postoje mnogo pokazatelja i kriterijuma međunarodne konkurentnosti, ali jedan od najpopularnijih je svakako rast relativnih troškova rada

Ključne reči: konkurentnost proizvoda, konkurentnost privrede, jedinični troškovi radne snage

1. UVOD

Pokazatelji međunarodne konkurentnosti jedne zemlje u odnosu na konkurentnost drugih nacionalnih privreda se često istražuju i koriste, naročito u medijima, državnim zvaničnim izveštajima, kao i diskusijama i razmatranjima ekonomske politike jedne zemlje. Ali uprkos tome, prilično je dragoceno imati definisan, i to pravilno ukoliko je to moguće pod određenim uslovima, koncept konkurentnosti zemlje. To se pre svega odnosi na sposobnost jedne zemlje da realizuje osnovne ciljeve ekonomske politike, posebno na rast izvoznih prihoda i zaposlenosti, bez nekih ozbiljnijih kretanja, odnosno poteškoća u platnom bilansu. Imajući sve ovo u vidu, odgovor na pitanje šta teorija međunarodne konkurentnosti mora da pokaže, je da postavi adekvatne veze između privrednog rasta i platnobilansnih kretanja u jednoj otvorenoj privredi, kao i izanalizira faktore koji utiču na ova kretanja.

2. KONKURENTNOST I JEDINIČNI TROŠKOVI RADA

Može se reći da podjednako postoje mnogo pokazatelja i kriterijuma međunarodne konkurentnosti, ali jedan od najpopularnijih je svakako rast relativnih troškova rada.³⁶ U pojedinim „malim” privredama Evropske Unije ovaj pokazatelj može biti toliko značajan za kreiranje ekonomske politike tih zemalja koliko i stabilnost monetarnih agregata u SAD-u i Velikoj Britaniji poslednjih godina. Ukoliko jedinični troškovi rada rastu brže nego u ostalim zemljama, to će smanjiti tržišno učešće preduzeća kako u zemlji tako i u inostranstvu, otežati ekonomski rast i povećati nezaposlenost. Međutim, postojeći empirijski podaci pokazuju da su mnoge razvijene zemlje zapada u posleratnom periodu, u isto vreme, pored visokih stopa rasta izvoza i GDP-a, imale i relativno visoke jedinične troškove rada. Ova činjenica se često u literaturi navodi kao Kaldorov paradoks koji će biti objašnjen na sledećim stranicama ovog rada.

Jedan od najpopularnijih pristupa problematici međunarodne konkurentnosti je onaj koji u fokus pažnje stavlja i posmatra relativne jedinične troškove rada i njihovo dejstvo na ekonomski rast u celini i tržišno učešće. Postavlja se pitanje koji su to teorijski argumenti koji idu u prilog napred navedenom? Kao prvo, može se reći da ovakav pristup nije u saglasnosti sa neoklasičnom teorijom ravnoteže. U savršenoj konkurenciji, cene i količine

³⁶ Jedinični troškovi rada u proizvodnji su plate i socijalni izdaci radnika u tekućim cenama podeljeni sa GDP-om u stalnim cenama. Relativni jedinični troškovi rada su jedinični troškovi rada izraženi u međunarodnim jedinicama (novcu) i podeljeni sa prosečnim jediničnim troškovima rada najvažnijih spoljnotrgovinskih partnera. Relativni jedinični troškovi rada mogu rasti zbog bržeg rasta plata i socijalnih davanja u jedinicama nacionalne valute u odnosu na druge zemlje, zbog pada produktivnosti u zemlji u odnosu na druge zemlje i dr.

će uvek biti usklađene, sredstva (faktori proizvodnje) uključujući i rad, biće potpuno iskorišćeni, i na taj način biće osigurana ravnoteža platnog bilansa. Oni ekonomisti koji brane hipotezu o štetnim efektima rasta relativnih jediničnih troškova rada na ukupan rast i tržišno učešće, mogu uvek da pretpostave neki stepen nesavršenosti konkurencije odnosno neravnoteže.

Na primer, pretpostavimo da svaka zemlja proizvodi jedan proizvod koji je nesavršen, nepotpun u odnosu na proizvode koje proizvode druge zemlje. Kao rezultat toga, svaka zemlja će se susresti sa veoma strmom (naniže) krivom tražnje, i to kako na domaćem tržištu, tako i na inostranom. Da bi smo uveli jedinične troškove rada u analizu, pretpostavimo da su cene determinisane jediničnim troškovima rada (troškove ostalih faktora proizvodnje zanemarimo), i da bi smo zatvorili model, takođe pretpostavimo postojanje uravnoteženog trgovinskog bilansa.

Simboli koji će biti korišćeni u modelu su sledeći:

Y---GDP(volumen)

X---Izvoz (volumen)

M---Uvoz (volumen)

W---Svetska tražnja (volumen)

P---Cena prema nacionalnom dohotku (u dolarima)

P_W--- Preovlađujuća (referentna) cena na svetskom tržištu (u dolarima)

U--- Jedinični troškovi rada u zemlji (u dolarima)

U_W---Jedinični troškovi rada u ostalim zemljama (u dolarima)

Koeficijenti **a** i **b** su koeficijenti cenovne elastičnosti tražnje na svetskom i domaćem tržištu respektivno, dok su **c** i **h** dohodovni elasticiteti tražnje korespondentno prethodnom:

$$X = A (P_w/P)^a W^c \quad \text{gde su } A, a, c \text{ konstante} \quad (1)$$

$$M = B (P/P_w)^b Y^h \quad \text{gde su } B, b, h \text{ konstante} \quad (2)$$

$$XP = MP_w \quad (\text{ograničenje ravnoteže trgovinskog bilansa}) \quad (3)$$

$$P_i = U_i (1+t) \quad \text{gde je } t\text{-konstanta, } i\text{- posmatrana zemlja} \quad (4)$$

Put kojim će se modelirati rast izvoza ili uvoza ima dugu tradiciju u međunarodnoj ekonomiji, a primeri se mogu naći u mnogim nacionalnim i međunarodnim makroekonomskim modelima, uključujući OECD-ov INTERLINK model (*Samuelson*, 1973). Relacije (1-3) prvi je postavio *Tirvol* (*Thirwall*, 1979), koje će poslužiti da se u nizu iteracija koje slede dođe do veoma važnih jednačina (5)-(6).

$$\frac{dY}{Y} = \frac{1-(a+b)}{h} \left(\frac{dP}{P} - \frac{dP_w}{P_w} \right) + \frac{c}{h} \frac{dW}{W} \quad (5)$$

Ukoliko zamenimo relaciju (4) u (5), dobijamo :

$$\frac{dY}{Y} = \frac{1-(a+b)}{h} \left(\frac{dU}{U} - \frac{dU_w}{U_w} \right) + \frac{c}{h} \frac{dW}{W} \quad (6)$$

Relacija (6) nam pokazuje da je ekonomski rast tj. promena nacionalnog dohotka u funkciji rasta jediničnih troškova rada i svetske tražnje. Takođe može se primetiti da ukoliko je viši rast relativnih jediničnih troškova rada u zemlji u odnosu na druge zemlje, dolazi do opadanja izvoza, rasta uvoza, što sve rezultira padom stope rasta nacionalnog dohotka. Kao što se vidi iz poslednje relacije, neophodan uslov da bi se ostvarilo napred navedeno (misli se na značajniji rast nacionalnog dohotka) je ispunjenost Maršal-Lernerove teoreme tj. $a+b>1$. Ukoliko su pak uslovi iz Maršal-Lernerove teoreme striktno ispunjeni, vrednost relativnih jediničnih troškova rada bi trebalo da bude značajno različita od nule odnosno negativna. Međutim, brojni istraživači i ekonometri u svojim testiranjima i ispitivanjima predlažu da bi ovakvo stanje (hipotezu) trebalo odbaciti.

Druga interpretacija polazi od pretpostavke (Tirvol), da će relativne cene u dužem vremenskom periodu pokazivati tendenciju striktno konstantnosti (ovu strogu pretpostavku mnogi autori smatraju da je veoma teško, štaviše nemoguće opravdati, odnosno odbraniti). Na osnovu ovoga, relacija (6) se reducira i dobija se:

$$\frac{dY}{Y} = \frac{c}{h} \frac{dW}{W} \quad (7)$$

$$\frac{dY}{Y} = \frac{1}{h} \frac{dX}{X} \quad (8)$$

U ovom slučaju, razlike u ekonomskom rastu između zemalja biće determinisane isključivo na osnovu razlika u dohodovnoj elastičnosti izvoza i uvoza (7), ili u slučaju egzogeno datog rasta izvoza na osnovu razlika u dohodovnoj elastičnosti uvoza (8).

Međutim, zaključci do kojih je došao Tirvol, postali su povod određenih rasprava. Naime, kao prvo navodi se argument da od kako su testovi koje je vršio Tirvol značajno redukovali ukupnu formu modela, model kao takav ne može biti predstavljen u obliku zakonitosti i adekvatno podržati navedene pretpostavke. Kao drugo, još uvek nije baš dovoljno jasno koje značenje bi trebalo biti dodeljeno dohodovnim elastičnostima tražnje u jednačinama (1) i (2). Zašto je na primer, dohodovna elastičnost uvoza Velike Britanije veoma visoka sa jedne strane, dok je dohodovna elastičnost izvoza niska, u odnosu na ostale zemlje na približno istom nivou *per capita* dohodka. Jedan od mogućih odgovora dao je sam Tirvol koji kaže da proizvođači u Velikoj Britaniji nisu mogli uspešno da se takmiče zbog neadekvatnog upravljanja necenovnim faktorima, naročito tokom perioda za koji su bila sprovedena testiranja. Sličnu interpretaciju dao je i Kaldor koji ukazuje da dohodovni elasticiteti u ovom modelu reflektuju sposobnost inovacija (inoviranja) i prilagođavanja kapaciteta, proizvođača u različitim nacionalnim privredama.

3. TEHNOLOGIJA, TROŠKOVI I KAPACITETI

Poslednjih desetak godina, među ekonomistima, posebno na polju međunarodne ekonomije, je došlo do shvatanja sve većeg značaja tehnološke konkurentnosti. Na ovo je još ukazivao i veliki svetski ekonomista Jozef Šumpeter rečima „Ekonomisti su došli u fazu već duže vremena u kojoj je cenovna konkurentnost jedino šta vide. (...). Ali realnost kapitalizma pokazuje da su osim nje na „ceni” i drugi oblici konkurentnosti. Konkurencija zasnovana na novim proizvodima, na novoj tehnologiji, novim izvorima ponude, novim tipovima organizacije (...) - konkurencija koja upravlja odlučujućim troškovima (odnosno svim troškovima koji bitno utiču na konkurentnost proizvoda gde posebno mesto imaju troškovi rada); odnosno konkurencija čije delovanje nije na marginama, i nije nevažno za

outpute i profite postojanja firmi, već konkurencija koja će biti osnov njihovog života” (Šumpeter, 1943).

Logičan zaključak iz ovoga bi trebalo da uključi kako tehnološku, tako i cenovnu konkurentnost u funkciji izvoza odnosno uvoza. Međutim, čak i ako je zemlja veoma cenovno i tehnološki konkurentna, nije uvek moguće zadovoljiti tražnju za proizvodima te zemlje, zbog ograničenja u kapacitetima. Slično, nedostatak tehnološke ili cenovne konkurentnosti može biti ponekad kompenziran visokim stepenom zadovoljenja tražnje, ukoliko druge zemlje nisu suočene sa ograničenim kapacitetima. Prema tome, rast tržišnog učešća u zemlji i inostranstvu ne zavisi uvek od tehnologije i cena.

Neka tehnološka konkurentnost zemlje bude predstavljena obrascem T/T_w , cenovna konkurentnost P/P_w , i kapaciteti C . Ukoliko tržišno učešće, posmatrano preko izvoza bude $S(X) = X/W$, dobijamo relaciju:

$$S(X) = AC^v (T/T_w)^e (P/P_w)^{-a} \quad \text{gde su } A, v, e \text{ i } a \text{ pozitivne konstante} \quad (9)$$

Diferenciranjem ove jednačine dobijamo:

$$\frac{dS(X)}{S(X)} = v \frac{dC}{C} + e \left(\frac{dT}{T} - \frac{dT_w}{T_w} \right) - a \left(\frac{dP}{P} - \frac{dP_w}{P_w} \right) \quad (10)$$

Prilikom daljeg razvijanja ove relacije, pretpostavićemo da ekonomski rast zavisi od tri faktora:

- rasta tehnološke sposobnosti i znanja, stvarajući mogućnost disperzije tehnologije od zemalja inovatora ka ostalim zemljama sveta (dQ/Q)
- rasta fizičke proizvodnje, opreme, zgrada, transportne i ostale infrastrukture (dK/K)
- stope rasta tražnje (dW/W)

Tražnja je uključena u ovu relaciju, zato što kapaciteti u jednom datom vremenskom periodu su onakvi kakvi jesu (u smislu nemogućnosti brzih promena), pri čemu tražnja može da varira. Ukoliko tražnja nadmaši dati nivo kapaciteta, izvoz će ostati konstantan neko kraće vreme, ali će zato tržišno učešće posmatrano preko izvoza biti smanjeno, jer će ostale zemlje povećati svoj izvoz i zadovoljiti povećanu tražnju. Ukoliko uzmemo ovu činjenicu u obzir, možemo napisati:

$$\frac{dC}{C} = z \frac{dQ}{Q} + r \frac{dK}{K} - l \frac{dW}{W} \quad \text{gde su } z, r, l \text{ pozitivne konstante} \quad (11)$$

Pretpostavimo da je širenje tehnologije i rast u vezi s tim moguće predstaviti krivom koju opisuje relacija:

$$\frac{dQ}{Q} = f - f \frac{Q}{Q^*} \quad \text{gde je } f \text{ pozitivna konstanta,} \quad (12)$$

a Q/Q^* kvantitativni odnos između sopstvenog tehnološkog razvoja jedne zemlje i zemalja inovatora u svetu. Ukoliko zamenimo relacije (11) i (12) u izraz (10), dobijamo:

$$\frac{dS(X)}{S(X)} = vzf - vzf \frac{Q}{Q^*} + vr \frac{dK}{K} - vl \frac{dW}{W} + e \left(\frac{dT}{T} - \frac{dT_w}{T_w} \right) - a \left(\frac{dP}{P} - \frac{dP_w}{P_w} \right) \quad (13)$$

U ovom primeru smo videli i objasnili tržišno učešće posmatrano preko izvoza, uzevši u obzir tehnološku i cenovnu konkurentnost. Ista logika se može primeniti i za uvozne tokove. Međutim ovi efekti sada zajedno u relaciji (13) poprimaju suprotne predznake, pa na primer, rast relativnih cena smanjiće učešće izvoza, i povećaćće učešće uvoza u ovom modelu itd. Ukoliko pratimo uvoz, formula će biti sledeća, s tim što ćemo koeficijente obeležiti sa oznakom bar, da bi smo ih razlikovali od onih u jednačini (13):

$$\frac{dS(M)}{S(M)} = -\bar{v}z\bar{f} + \bar{v}z\bar{f} \frac{Q}{Q^*} - \bar{v}r \frac{dK}{K} + \bar{v}l \frac{dY}{Y} - \bar{e} \left(\frac{dT}{T} - \frac{dT_w}{T_w} \right) + \bar{a} \left(\frac{dP}{P} - \frac{dP_w}{P_w} \right) \quad (14)$$

Vidimo da u ovoj relaciji umesto izraza dW/W koristimo dY/Y s ozirom da posmatramo uvoz. Iz ovih finalnih relacija (13) i (14) može se uočiti rast tržišnog učešća predstavljen preko izvoza i uvoza koji opet zavisi od rasta tehnološke konkurentnosti, rasta kapaciteta i proizvodnje, kompetentnosti ka inovacijama, rasta ralativnih cena i svetske tražnje.

3. KONKURENTNOST I EKONOMSKI RAST

U okviru ovog poglavlja biće reči o relacijama (odnosima) između tržišnog učešća posmatranog preko izvoza i uvoza i privrednog rasta. Kao prvo, nameće se pitanje kako promene tržišnog učešća utiču na privredni rast, odnosno kako sam ekonomski rast kao povratna spreaga utiče na povećanje tržišnog učešća. Polazimo od jednačine ravnoteže trgovinskog bilansa:

$$XP = MP_w \quad (3)$$

Uvažavajući relacije iz prethodnog poglavlja $S(X) = X/W$ i $S(M) = M/Y$, njihovom zamenom u jednačinu (3), a potom njenim diferenciranjem, dobijamo:

$$\frac{dY}{Y} = \frac{dS(X)}{S(X)} - \frac{dS(M)}{S(M)} + \left(\frac{dP}{P} - \frac{dP_w}{P_w} \right) + \frac{dW}{W} \quad (15)$$

Da bi smo objasnili složenost ovih veza, polazimo od pretpostavke da jedna zemlja ne želi neprekidno da povećava bilo dugovanja ili potraživanja prema inostanstvu, tako da imajući to u vidu, izuzev nekih kratkoročnih fluktuacija, bilas plaćanja bi trebalo da bude u ravnoteži. To znači, da ukoliko posmatramo srednjeročna ili dugoročna kretanja, stvarni (realni) rast će biti prilagođen rastu odnosno promenama platnobilansne ravnoteže. Ovde značajnu ulogu, u procesu prilagođavanja, igra država merama fiskalne i monetarne politike.

Drugo pitanje koje se ovde nameće, je mogućnost uticaja povratne sprege- privrednog rasta na povećanje tržišnog učešća. Na primer, dinamičniji ekonomski rast omogućuje rast i plata i produktivnosti. Međutim, ukoliko uzmemo u obzir i jedinične troškove rada, onda može doći do određenog konflikta ove dve kategorije. Neto efekti će sigurno zavisiti pre

svega od rada nacionalnih institucija zaduženih za distribuciju prihoda, čiju ulogu smo u prethodnom delu teksta okarakterisali i ograničili kao egzogenu veličinu. Osim toga, ekonomski rast može imati uticaja na tehnološku konkurentnost preko indukovane tražnje za inovacijama. Važnost i povezanost indukovane tražnje i ponude, bila je predmet mnogih debata poslednjih godina. Postojeća istraživanja pokazuju da ne postoji jednostavna povezanost između promena u uslovima tražnje i inovativne aktivnosti, i ako bi u prvom planu trebalo imati u vidu da se danas vodi velika borba za osvajanje potrošača i zadovoljenje njihovih potreba. Naime, važnost inovacija se isticala ne samo u periodima privrednog rasta, već i u kriznim periodima, te stoga se čini da čitava investiciona aktivnost zavisi više od tehnoloških mogućnosti i kvantitativnih i kvalitativnih resursa koji utiču na inovacije, nego od uslova tražnje.

Konačno, ekonomski rast može imati efekte na konkurentnost same isporuke robe. Naime, povećanje domaće tražnje može dovesti do situacije (poznate iz prethodnog poglavlja), da tražnja može uveliko nadmašiti raspoložive kapacitete, odnosno proizvodnju u važnim sektorima privrede, i kao posledica toga, domaći ponuđači mogu izgubiti značajan deo tržišta, (i time smanjiti tržišno učešće). To se može videti iz relacije (14). Efekti povećanja tražnje u odnosu na postojeće kapacitete, mogu poprimiti i sekundarni karakter, kroz veću sposobnost isporuke, odnosno stimulišući investitore da investiraju u nove produktivnije kapacitete. Ove efekte je značajno razmatrati i trebalo bi ih uvrstiti u model. Na primer, rast tražnje za investicijama može biti predstavljen izrazom:

$$\frac{dK}{K} = \frac{dY}{Y} \quad (16)$$

Međutim, ovaj model zbog razlika u investicionom ponašanju između zemalja, neće dublje ulaziti u analizu, jer to ponašanje zavisi od drugih faktora, kao od prirodnog potencijala zemlje ili specifičnosti koje poseduje neka zemlja.

Saglasno napred navedenim pretpostavkama, ulaganja (investicije) u fizičku proizvodnju i kapacitete, trebalo bi analizirati kao jedan od nekoliko faktora koji određuju tehnološku sposobnost (razvijenost) zemlje. Ovakvo izražavanje rasta fizičke proizvodnje može se posmatrati i kroz rast drugih resursa (komplementarnih rastu proizvodnje), kao što su broj naučnika i inženjera, nivo istraživačkog i razvojnog rada, razvijenost elektronske opreme i dr. Neki od ovih faktora su oskudni i retki, te se država može susresti sa troškovima obezbeđivanja ovih resursa u odgovarajućem kvantumu, što takođe može smanjiti investicije u proizvodnju. Kao što je ukazivao Kaldor (1957), mogućnost da se ovo desi je mnogo veća kod izdataka za vojsku, nego kod drugih državnih aktivnosti. Stoga ćemo u model uneti i ove troškove, jer se pokazalo da izdaci za vojsku imaju značajnije negativno dejstvo na investiciono ponašanje od ostalih državnih izdataka. Model onda izgleda ovako:

$$\frac{dY}{Y} = \frac{dS(X)}{S(X)} - \frac{dS(M)}{S(M)} + \left(\frac{dP}{P} - \frac{dP_W}{P_W} \right) + \frac{dW}{W} \quad (15)$$

$$\frac{dS(X)}{S(X)} = vzf - vzf \frac{Q}{Q^*} + vr \frac{dK}{K} - vl \frac{dW}{W} + e \left(\frac{dT}{T} - \frac{dT_W}{T_W} \right) - a \left(\frac{dP}{P} - \frac{dP_W}{P_W} \right) \quad (13)$$

$$\frac{dS(M)}{S(M)} = -\bar{v}z\bar{f} + \bar{v}z\bar{f} \frac{Q}{Q^*} - \bar{v}r \frac{dK}{K} + \bar{v}l \frac{dY}{Y} - \bar{e} \left(\frac{dT}{T} - \frac{dT_W}{T_W} \right) + \bar{a} \left(\frac{dP}{P} - \frac{dP_W}{P_W} \right) \quad (14)$$

$$\frac{dK}{K} = -gMIL - hWELF + \frac{dY}{Y}, \quad (17)$$

gde su MIL i WELF učešće vojnih i nevojnih (ostalih) državnih izdataka u ukupnom outputu.

Iz jednačine (4) imamo:

$$\frac{dP_i}{P_i} = \frac{dU_i}{U_i} \quad \text{gde je } i = \text{posmatrana zemlja,} \quad (18)$$

gde se vidi da je rast relativnih cena determinisan rastom relativnih jediničnih troškova rada. Zajedno sa tehnološkim faktorima, faktorima rasta fizičke proizvodnje i tražnje, rast relativnih cena određuje i rast tržišnog učešća izraženog preko izvoza i uvoza (13)-(14). Rast tržišnog učešća, rast relativnih cena i rast svetske tražnje, zajedno određuju ravnotežu trgovinskog bilansa. Stvarna stopa rasta (15) zato predstavlja sintezu ovih napred navedenih faktora (čitaj stopa), odnosno pokušaj njenog prilagođavanja.

Stvarni rezultat ovog procesa prilagođavanja zavisi od relativne snage povratne sprege između ovih stopa i stope „održanja” ravnoteže trgovinskog bilansa. Na primer, pretpostavimo da je ova stopa „održanja” y_b ispod stvarne stope rasta y_a . Nastojanje države je da se ova stvarna stopa prilagodi stopi održanja ravnoteže trgovinskog bilansa putem smanjenja tražnje, pri čemu će se postići nova ravnoteža, ali na nekom drugačijem nivou ($y_a = y_b = y^*$). Ta nova ravnoteža y^* biće između inicijalnih vrednosti y_a i y_b samo ako su pozitivni efekti smanjenja izvoza na platni bilans veći od negativnih efekata smanjivanja raspoloživih kapaciteta, ili:

$$0 > [(vr + \bar{v}\bar{r}) - \bar{v}\bar{l}] \quad (19)$$

Ukoliko se desi suprotno, da negativni efekti smanjenja kapaciteta imaju prevagu u odnosu na pozitivne efekte po osnovu smanjenja izvoza, imaćemo jedan „nepravilan” krug, sa novom ravnotežom ispod inicijalne vrednosti y_b :

$$1 > [(vr + \bar{v}\bar{r}) - \bar{v}\bar{l}] > 0 \quad (20)$$

5. TESTIRANJE MODELA

Ovaj model je bio testiran u periodu 1960-1989 i pokrivaio je 15 industrijskih zemalja za koje je bilo moguće izračunati jedinične troškove rada. Prosečne vrednosti promenljivih uzimaju u obzir čitave proizvodne cikluse, koristeći „reprezentativne” godine 1968, 1973, 1979, 1983 da odvoje jedan ciklus dešavanja u svetskoj privredi od drugog. Promenljive koje će biti razmatrane su:

GDP_i --- rast društvenog proizvoda u zemlji i u stalnim cenama,

ME_i --- učešće izvoza zemlje i (volumen) na svetskom tržištu – „*export market share*”,

MI_i --- učešće uvoza zemlje i (volumen) na svetskom tržištu – „*import share*”,

TERMS_i --- odnosi razmene zemlje i – „*terms of trade*”,

W --- rast svetske trgovine u stalnim cenama – „*world trade*”,

TL_i --- tehnološki nivo zemlje i u odnosu na tehnološki najrazvijeniju zemlju koju možemo označiti jedinicom – „*technological level of country*”,

TG_i --- rast tehnološke konkurentnosti i -te zemlje – „*growth technological competitiveness*”,

MIL_i --- vojni izdaci (u procentu) GDP-a zemlje i - „*military expenditures*”,

$WELF_i$ --- ne vojni državni izdaci (u procentu) GDP-a zemlje i - „*non-military expenditures*”,

INV_i --- bruto investicije u osnovna sredstva (u procentu) GDP-a zemlje i - „*gross fixed investment*”.

$RULC_i$ --- rast jediničnih troškova rada zemlje i - „*relative unit labour costs*”

Najveći problem koji se javio prilikom testiranja ovog modela je kako pronaći približnu vrednost (adekvatnu veličinu) tehnoloških promena. Mnoge druge studije koriste GDP *per capita*, meren različitim načinima, kao jednu od mogućnosti iskazivanja približne vrednosti nivoa tehnološkog razvoja. Samo se ovde postavlja pitanje merenja tehnološkog razvoja kod razvijenih i zemalja u razvoju, imajući u vidu problem izbora nekog zajedničkog imenitelja. Za razliku od zemalja u razvoju, razvijene zemlje periodično publikuju podatke o svojim tehnološkim aktivnostima, koji bi se mogli iskoristiti za izgradnju svojevrstne baze, koja bi odgovarala adekvatnom nivou tehnološkog razvoja date zemlje.

Podaci o tehnološkim aktivnostima grubo mogu biti podeljeni u dve grupe. Prvu grupu čine podaci o ulaganjima („input”), a drugu podaci o prihodima („output”) (Soete, 1987). U prvu grupu, između ostalih, spadaju troškovi za istraživačke delatnosti i troškovi razvoja (R&D), dok se u drugu grupu svrstavaju patenti i aktivnosti u vezi sa njima. Prednosti i problemi vezani za različite vrste podataka o tehnološkim aktivnostima su detaljno objašnjeni u drugim izvorima (Fagerberg, 1988), pa se neće ponavljati ovde. Međutim, statistički podaci o R&D i o patentima nisu savršeni pokazatelji (merila), s obzirom da i jedni i drugi zanemaruju važne aspekte tehnoloških aktivnosti. Neki sektori ekonomije se bave istraživačkim i razvojnim delatnostima, međutim, ne bave se patentima, dok se drugi sektori koncentrišu na patente, ne intenzivirajući R&D aktivnosti. Istraživanja na nacionalnom (državnom) nivou, ipak, pokazuju blisku korelaciju između R&D nivoa i nivoa aktivnosti patentiranja (Soete 1987, Fagerberg 1988). Ukoliko bi u jedan isti model uključili obe promenljive, trebalo bi očekivati visok stepen multikolinearnosti. Ovakva razmatranja pokazuju da je najbolje merilo tehnološke aktivnosti izračunavanje prosečnih vrednosti (ponderisane sredine) R&D i patent pokazatelja. Princip bi bio da obe promenljive dobiju istu težinu (ponder). Međutim, s obzirom na suštinske razlike između varijacija obe promenljive, korišćeni su ponderi koji su prilagođeni ovim razlikama. Tako, pokazatelj (proxy) tehnološkog razvoja, TL, je ponderisana sredina (a) civilnog R&D, kao procenta bruto društvenog proizvoda (GDP) i (b) eksternih prijava patenata po glavi stanovnika uzimajući u obzir razlike zbog otvorenosti nacionalne privrede. Civilni R&D je iznos ukupnog R&D umanjen za vojni R&D. Vojni R&D je isključen zato što, ukoliko bi se uključio doveo do neobjektivnog prikazivanja pokazatelja u korist zemalja sa razvijenim vojnim sektorom, ali i zato što je nekoliko studija pokazalo da je ekonomska vrednost sporednih proizvoda i delatnosti vojnog R&D mala. Broj eksternih prijava patenata zemlje i je ukupan broj prijava patenata koje su podneli stanovnici zemlje i u svim drugim zemljama, izuzev u zemlji i . Da bi se dobio indeks tehnološkog razvoja na osnovu patenata, prilagođavanja su vršena uzimajući u obzir veličinu i otvorenost nacionalne privrede (broj prijava patenata podnetih van granica zemlje u kojoj autor patenta stanuje, reflektuje kako veličinu te zemlje, tako i važnost stranih tržišta za domaće). U principu, i ako u okviru prava intelektualne svojine dolazi do čestih promena koje izazivaju problem

uporedivosti podataka po godinama, bitno je izabrati reprezentativnu godinu i time bi trebalo ovaj problem barem delimično otkloniti.

Indeks, tako, varira između 1 (zemlja na svetskoj granici inovacija) i 0 (hipotetička zemlja u kojoj nema tehnoloških aktivnosti). Na sličan način može se konstruisati i pokazatelj (proxy) rasta tehnološke konkurentnosti, TG, kao ponderisana sredina (a) godišnjeg procenta porasta u civilnom R&D za zemlju i , umanjen za prosečni porast u zemljama koje su uzete za ovaj uzorak, i (b) procenat godišnjeg porasta eksternih prijava za zemlju i , umanjen za prosečni porast u zemljama koje su uzete za ovaj uzorak. Godišnji podaci za R&D bili su dostupni prilikom testiranja modela samo za nekoliko zemalja, pa su se morali koristiti pokazatelji rasta u civilnom R&D. U principu, rast R&D (izražen kao procenat rasta GDP) i prihodi po glavi stanovnika su blisko povezani. Ukoliko su težnje u oblasti R&D jedne zemlje znatno više od onoga što se može očekivati od nivoa prihoda te zemlje, to se može sagledati kao težnja te zemlje da svoj tehnološki nivo dovede na viši stepen, kao i obrnuto. U skladu sa tim, izabrani pokazatelj je razlika između stvarnog R&D (predstavljen kao procenat GDP) i onoga što se može očekivati ako se pretpostavi linearni odnos između R&D i prihoda po glavi stanovnika. Izračunat je kao odnos između civilnog R&D po glavi stanovnika i GDP *per capita*, umanjen za prosečnu vrednost odnosa (za sve posmatrane zemlje u modelu) u svakom periodu posmatranja.

Da bismo empirijski model objasnili, potrebno je uzeti u obzir i značenje nekih novih promenljivih, koje utiču na konačne rezultate. Ovde se ipak nećemo zadržavati dugo, u smislu detaljnog analiziranja mogućih situacija, već na osnovu nekih osnovnih relacija izvesti potrebne i dovoljne zaključke, koji se tiču odnosa jediničnih troškova rada i konkurentnosti.

Kao prvo, kako bi smo testirali pretpostavku da između stvarnog ekonomskog rasta i stope održanja ravnoteže trgovinskog bilansa (BAL – „*balance of trade equilibrium*”) postoji uzajamna korelaciona veza, uveli smo posebnu jednačinu za tu tvrdnju (kao dodatak utvrđenoj stopi rasta uravnoteženog trgovinskog bilansa). Kao drugo, na porast relativnih cena u stvarnosti (odnose razmene) utiče veliki broj faktora, od kojih su mnogi specifični za zemlje koje se posmatraju u modelu, dok se neki uopšte i ne odnose na konkurentnost cena i troškove preduzeća. Pošto smo ostali na tvrdnji da je rast relativnih jediničnih troškova radne snage bolje merilo konkurentnosti jednog preduzeća (preko troškova i cena), zamenjujemo rast ovih troškova u dvema jednačinama rastom tržišnog učešća.

U modelu se, takođe, pojavljuju i određeni kvazimodeli („*country dummy*”) koji karakterišu ekonomski rast neke zemlje i dopunjuju sve one efekte koji nisu obuhvaćeni naglim promenama odnosa cena na svetskom tržištu (pri čemu se misli naročito na naftne šokove i njihove uticaje na svetsku privredu i trgovinu). Oni su obeleženi simbolima POST₇₃ i DUMMIES. Model POST₇₃ bi trebalo da izrazi pogoršanje odnosa razmene i uticaj gubitka koji je većina ovih zemalja osetila kao posledicu drastičnih promena cena nafte na svetskom tržištu sedamdesetih godina XX veka. Model se sastoji iz sledećih relacija (jednačina):

$$\text{GDP} = a_{10} + a_{11}\text{BAL} \quad \text{gde se očekuje } a_{10} = 0, a_{11} = 1, \quad (21)$$

$$\text{BAL} \equiv \text{ME} - \text{MI} + \text{TERMS} + \text{W} \quad (22)$$

$$\text{TERMS} = a_{31}\text{RULC} - a_{32}\text{POST}_{73} + \text{DUMMIES} \quad (23)$$

$$\text{ME} = a_{40} - a_{41}\text{TL} + a_{42}\text{INV} - a_{43}\text{W} + a_{44}\text{TG} - a_{45}\text{RULC} \quad (24)$$

$$\text{MI} = a_{50} + a_{51}\text{TL} - a_{52}\text{INV} + a_{53}\text{GDP} - a_{54}\text{TG} + a_{55}\text{RULC} \quad (25)$$

$$\text{INV} = a_{60} - a_{61}\text{MIL} - a_{62}\text{WELF} + a_{63}\text{GDP} \quad (26)$$

Engleski ekonomista Kaldor je upoređivao rast relativnih jediničnih troškova rada i rast tržišnog učešća posmatranog preko izvoza za 12 zemalja u periodu od 1963-1975 god. On je otkrio, za neke od ovih zemalja, da je odnos između rasta relativnih jediničnih troškova rada i rasta tržišnog učešća suprotan u odnosu na uobičajene pretpostavke. Naime, posmatrane su tri zemlje, Japan, Velika Britanija i SAD. Ukoliko izvršimo dekomponovanje ukupnih dobitaka u povećanju tržišnog učešća Japana, to povećanje možemo objasniti kombinacijom nekoliko faktora: a) rapidnim (brzim) povećanjem tehnološke konkurentnosti, b) velikom sposobnošću za imitacijom, odnosno razvijanjem imitativne strategije razvoja, c) visokom stopom investiranja. Međutim, posmatrano u globalu, negativni efekti rasta relativnih jediničnih troškova rada na tržišno učešće, nisu značajno drugačiji od pozitivnih efekata rasta relativnih jediničnih troškova rada na relativne cene (odnose razmene), tako da neki „neto” efekti rasta troškova rada na tržišno učešće su svedeni na zanemarljivo male veličine. U toku tog istog perioda (za SAD), došlo je do smanjenja tržišnog učešća SAD-a i ako je jedinica troškova rada imala opadajući trend. Razlog ove pojave proizilazi zbog smanjene produktivnosti (odnosno uposlenosti) kapaciteta, pri čemu je ta smanjena uposlenost posledica pre svega nedovoljne iskorišćenosti domaćih faktora proizvodnje i smanjenje stope investiranja. Relacija (26) objašnjava da je glavni faktor iza koga stoji smanjenje investiranja i u SAD i u Velikoj Britaniji, visoko učešće nacionalnog dohotka koji odlazi u vojne svrhe tj. za vojnu industriju i naoružanje. Osnovna poruka ove analize je isticanje ključnog značaja tehnološkog faktora i kapaciteta isporuke u domenu kreiranja međunarodne konkurentnosti, uz naglašenu ulogu investicija i faktora koji na njih utiču. U skladu sa tim, stoji i konstatacija da troškovna konkurentnost u velikoj meri utiče i na globalnu konkurentnost, uvažavajući pri tom i veliki broj ostalih necenovnih elemenata konkurentnosti.

6. ZAKLJUČAK

Lični dohodak, pod kojim se podrazumevaju svi personalni izdaci (zarade zaposlenih u preduzeću), često se smatra fiksnom veličinom zbog svoje vezanosti i određenosti kolektivnim ugovorom, zakonodavstvom ili specifičnim propisima. Međutim, oni su znatno elastičnija i funkcionalno najinteresantnija pozicija troškova. Preko nje promene u produktivnosti mogu najjače doći do izražaja. Načinom odabiranja proizvodnih procesa i organizacije zaposlenih u preduzeću, proizvođač može elastičnije reagovati na one promene u proizvodnim troškovima, na koje inače sam nema tolikog uticaja. Može se reći da je u odnosu na ostale proizvodne troškove, pozicija nadnica sa stanovišta proizvođača varijabilnija nego prihod od kapitala ili akumulacije. Očekivalo bi se da je paritet nadnice onaj opšti faktor koji sam po sebi postepeno oscilira, ali koji je u datom momentu uglavnom u svim proizvodnjama podjednako valorizovan, s obzirom na devizni kurs i odnose produktivnosti među pojedinim sektorima privrede. Samo pod tim uslovima nadnica bi postala jedan od faktora proizvodnje koji bi se mogao uklopiti u pojedine vrste proizvodnje tek onda kad su i ostali troškovi proizvodnje prethodno toliko usklađeni sa onim u inostranstvu, da zajedno sa nadnicama daju pozitivne kalkulacijske rezultate.

Premda bi, teorijski trebalo da razlike u izdacima za radnu snagu u prvom redu određuju položaj pojedinih proizvodnji na svetskom tržištu, danas u uslovima monopolističke ili preciznije rečeno, oligopolističke strukture svetske privrede, uz prisustvo mera intervencionizma (i protekcionizma) razvijenih zemalja, uloga nadnice je sabijena na prostor koji joj tržišna cena ostavlja nakon odbitka drugih troškova proizvodnje koji

zauzimaju daleko veći deo cene. U finalnim fazama proizvodnje, uloga nadnica je utoliko značajnija, što ona predstavlja onu varijablu koja neposredno utiče na konačno formiranje akumulacije ili profita u prodajnoj ceni. Kada produktivnost u nekoj proizvodnji poraste (jer se povećao efekat rada), povećani realni proizvodni prinos, uz nepromenjene lične dohotke i ostale troškove u uslovima perfektno konkurencije, značio bi sniženje izvozne cene za ekvivalent te povećane produktivnosti, povećanje vrednosti domaće valute i zbog toga eventualno povećani ekvivalent raspoložive uvozne robe unutar privrede. U današnjim uslovima taj efekat se odvija obrnutim putem. Naime, pri neizmenjenoj izvoznj situaciji (i ceni), protivvrednost povećane produktivnosti, može se ili povećanjem nadnica neposredno kanalisati radniku, ili povećanjem poreza sliti u budžet, ili povećanjem akumulacije usmeriti u štednju i investicije.

Promene u stepenima produktivnosti bi trebalo da postanu one pokretačke snage koje preko nivoa izvoznih (i uvoznih) cena vrše stalnu korekciju raspodele uloga u međunarodnoj podeli rada. Neograničen uslov za to danas ne postoji zbog kanalisanja efekata produktivnosti koje intervencionizam vrši na svoj način. Međutim, upravo u težnji da se efekat povećane produktivnosti ne prepusti stihiji, razvoj intervencije u pogledu nadnica, krenuo je u sasvim drugom pravcu. Pojava tarifnih ugovora, koji se samo povremeno menjaju, oduzela je nadnicama karakter funkcionalne povezanosti sa stepenom dostignute produktivnosti. Stvar je sistema i propisa hoće li se nov razvoj produktivnosti kanalisati, hoće li ga dobiti preduzeće, hoće li se upotrebiti za smanjenje materijalnih izdataka ili će se taj ceo dodatni prihod ili njegov deo raznim ključevima raspodele po učinku prepustiti radniku. Upravo od ovih odnosa zavisi kakav će biti spoljnotrgovinski odraz tako povećane produktivnosti, u smislu da li će doći do povećanja izvoza zbog povoljne cenovne konkurentnosti usled snižavanja cena, ili će spoljnotrgovinski odnosi ostati nepromenjeni.

Kao što povećanje produktivnosti putem povećanja nacionalnog dohotka i apresijacije domaće valute, može delovati u pozitivnom smislu, tako i samo smanjenje produktivnosti mora imati svoja suprotna delovanja. Stoga se može reći da postoji recipročna povezanost između delovanja produktivnosti i valutnih kretanja. Depresijacijom nacionalne valute izazivaju se odnosi koji bi inače odgovarali smanjenoj nacionalnoj produktivnosti, i ako ona ne mora biti onolika kao što to pokazuje kurs. Zato dolazi do toga, da se u zemlji proizvodi uz iste nadnice više nego što po valutnoj promeni ta nadnica vredi u svetskom novcu. Istovremeno se za protivvrednost nadnice dobija uvozom manje nego što je njena stvarna produktivna vrednost. Ako ovakva anticipativna devalvacija može trenutno stimulatивно delovati na izvoz (i destimulatивно na uvoz), dugoročno posmatrano, ona može destimulatивно delovati na nacionalnu produktivnost zbog smanjenih realnih dohodaka. Zbog toga je vrlo osetljivo pitanje određivanja adekvatne stope depresijacije nacionalne valute, u smislu da li je ona bila veća ili manja od nivoa dostignutog stanja produktivnosti.

Troškovi radne snage su jedan element ukupnih troškova i cena proizvoda, koje su sa druge strane u pojedinim slučajevima, samo jedan od elemenata konkurentnosti. Zbog toga se dešava da pojedine zemlje sa vrlo skupom radnom snagom, postižu visoku konkurentnost izvoza nekih proizvoda koji spadaju među radnointenzivnije. Ova konstatacija, da troškovi rada ne moraju biti odlučujući faktor konkurentnosti, čak i u onim proizvodima koji spadaju u radnointenzivnije, se odnosi na proizvode čiju konkurentnost u najvećoj meri determinišu necenovni faktori.

Međunarodno upoređivanje visine ličnih dohodaka i konkurentnosti po tom osnovu, otežano je postojanjem ne samo razlika u načinu oporezivanja, već i u ukupnom načinu pokrivanja potreba koje pojedini sistemi osiguravaju. Teškoće se javljaju pri definisanju

neto-nadnice i bruto-nadnice. Dok je prva jedino merodavna za ocenu kupovne moći prihoda zaposlenih, proizvođač samo po drugoj je u mogućnosti da meri produktivnost rada. Obe ove veličine mogu međusobno odstupati ne samo za visinu poreza i svih socijalnih davanja, već i za iznos svih uslužnih delatnosti koje država iz drugih poreskih izvora finansira u korist potrošača, pri čemu indirektno povećava njegovu potrošnju i životni standard. U zemljama koje imaju razvijene socijalne i zdavstvene službe (Švedska, Nemačka, Danska i dr.), kad se one pretežno finansiraju iz budžeta, bruto nadnica će biti relativno niža nego u drugim, gde se izdaci socijalnih službi neposredno prevajuju na lične dohotke zaposlenih. Stoga se može reći da je najproduktivniji rad u današnjim uslovima onaj koji daje najveće realne proizvodne efekte uz relativno nisku nominalnu neto-nadnicu (u svetskom novcu), manja socijalna davanja i relativno visoku stopu akumulacije, odnosno investicija. Između tog ekstrema i najneproduktivnijeg rada u praksi postoje različite kombinacije, pri čemu se unutar tih različitih komponenti formira tzv. prosečna nadnica.

REFERENCE

1. Lineman Hans and Cees van Beers (1998), "Measures of Export-Import Similarity and the Linder Hypothesis Once Again", **Weltwirtschaftliches Archiv**.
2. "A vision of the future and country competitiveness-an integrated approach"(2013), **World Bank Institut**, International Bank for Reconstruction and Development.
3. Carlin Wendy, Glyn Andrew and Van Reenen John (2001), "Export Market Performance of OECD Countries: an Empirical Examination of the Role of Cost Competitiveness", **The Economic Journal** **111**, Cowley Road, Oxford.
4. Fagerberg Jan (1988), "International competitiveness", **The Economic Journal**, London.
5. Fagerberg Jan (1996), "Technology and Competitiveness", **Oxford Review of Economic Policy**, vol. 12, no. 3, London.
6. Kaldor, N.(1978), "The effect of devaluation on trade in manufactures", **Further Essays in Applied Economics**, Duckworth, London.
7. Dr Miloš Todorović, Dr Ivan Marković (2013), *Međunarodna ekonomija*, Ekonomski fakultet, Niš
8. Samuelson, Paul A, (1973), „Relative Shares and Elasticities Simplified: Comment," *American Economic Review*, American Economic Association, vol. 63(4), pages 770-71.
9. Anthony Philip Thirlwall, (1979), „The Balance of Payments Constraint as an Explanation of International Growth Rate Differences," *Banca Nazionale del Lavoro Quarterly Review*, Banca Nazionale del Lavoro, vol. 32(128), pages 45-53.
10. Šumpeter, Jozef (1943), **Capitalism, Socialism and Democracy**, Unwin, London.
11. Soete, L. (1987) *The impact of technological innovation on international trade patterns:the evidence reconsidered*, *Research Policy*.
12. Kaldor, Nicholas (1957), „A Model of Economic Growth“, *The Economic Journal* **67** (268): 591–624.

**INTERNATIONAL MAY CONFERENCE ON
STRATEGIC MANAGEMENT**

**STUDENTS SYMPOSIUM ON
STRATEGIC MANAGEMENT**

BEHAVIOUR OF PEOPLE IN ORGANIZATIONS

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Abstract: Functioning of the organization can not be imagined without a man. Therefore there was a need to study the man in the organization, its place in the organization, conduct and relationships with other employees. Of crucial importance is the study of the influence of workers in organizational system. A man's labor is the most important element of production. The workforce consists of people with different personalities, interests and thoughts. In order to achieve the targeted goal of the company to monitor and conduct of each employee, eliminate conflicts if they have to achieve unity and collective impact on the increase in labor productivity. It is essential that there is constant communication and collaboration at all levels of the organizational structure. A man's personality is very complex and it is influenced by numerous factors. Therefore, it is necessary for managers to properly manage human resources, track the behavior of its employees, all in order to execute the planned tasks and achieving corporate objectives.

Keywords: people, communication, behavior, conflicts.

PONAŠANJE LJUDI U ORGANIZACIJAMA

Jelena Ristić

Apstrakt: Funkcionisanje organizacije ne može se zamisliti bez čoveka. Zbog toga se javila potreba za proučavanjem čoveka u organizaciji, njegovog mesta u organizaciji, ponašanja i odnosa sa ostalim zaposlenima. Od bitnog značaja je proučavanje uticaja radnika na organizacioni sistem. Čovekova radna snaga je najvažniji element proizvodnje. Radnu snagu čine ljudi različitih ličnosti, interesovanja i razmišljanja. Da bi se postigao planirani cilj preduzeća potrebno je pratiti i ponašanje svakog radnika, eliminisati konflikte ukoliko ih ima da bi se postiglo jedinstvo kolektiva i uticalo na povećanje produktivnosti rada. Neophodno je da postoji neprekidna komunikacija i saradnja na svim nivoima organizacione strukture. Čovekova ličnost je veoma složena i na nju utiču brojni faktori. Zbog toga je potrebno da menadžeri pravilno upravljaju ljudskim resursima, prate ponašanje svojih zaposlenih, a sve to u cilju izvršenja planiranog zadatka i ostvarivanja cilja preduzeća.

Ključne reči: ljudi, komunikacija, ponašanje, konflikti.

1. UVOD

Svaku organizaciju čine ljudi i funkcionisanje organizacija je određeno njihovim ponašanjem. Motivacija ljudi, njihove mogućnosti, njihov rad postaju odlučujući činilac organizacione uspešnosti. U organizaciji se svakodnevno događaju promene koje se reflektuju na ponašanje zaposlenih. Svaki zaposleni prolazi kroz proces prilagodjavanja u organizaciji i nastoji da uskladi svoje ponašanje sa njihovim. Da bi se pravilno upravljalo ponašanjem ljudi u organizacijama primenjuje se naučna disciplina **Organizaciono ponašanje**. Organizaciono ponašanje se bavi izučavanjem ponašanja ljudi u procesu rada. Radna snaga je najosetljiviji element organizacije i treba uticati da se poveća njeno zadovoljstvo na radu. Organizacija treba da ima stručne menadžere koji će se pratiti ponašanje zaposlenih, kontrolisati svoje zaposlene i uticati na njihovo unapredjenje. Ponašanje radnika direktno utiče na produktivnost i ekonomičnost same organizacije. Svako ponašanje se može oblikovati, poboljšati, kontrolisati, a u neki slučajevima i predvideti. Od stručnosti menadžera zavisi da li će određeno negativno ponašanje biti uočeno i poboljšano ili ne. Negativno ponašanje vodi ka konfliktu u kome najčešće učestvuju i ostali radnici što za posledicu ima udaljavanje od zadatka i stvaranje loše radne atmosfere. Da bi cilj organizacije bio ostvaren potrebno je da postoji adekvatna komunikacija. Proces komunikacije u organizaciji obuhvata dosta učesnika i u njemu svako iznosi svoje mišljenje, ideju, predlog, negodovanje i drugo. Zbog toga treba formirati takav model komunikacije u kome bi svako mogao izraziti svoje mišljenje, ali takodje i uvažiti ostale učesnike komunikacije. Komunikacija na radu je veoma bitna za stvaranje pozitivne radne atmosfere u organizaciji.

2. LJUDI U ORGANIZACIJI

Savremeni svet je zahvatilo doba naučno-tehničko tehnološke revolucije. Sve organizacione strukture širom sveta primenjuju savremene tehnologije i modernizaciju. Visok nivo tehnologije utiče na povećanje proizvodnosti i profita jedne organizacije. Medjutim sa druge strane tu je i pokretačka snaga jednog preduzeća, a to su ljudi. Zbog toga se i kaže da ljudski resursi predstavljaju izvor bogatstva jednog društva. Ljudski resursi u jednoj radnoj organizaciji predstavljaju sve njene zaposlene radnike. Uspešno upravljanje ljudskim resursima znači da odgovarajući broj zaposlenih, sa odgovarajućim znanjem i kvalifikacijama i sposobnosti bude raspoređen na radna mesta i da ostvari ciljeve i zadatke jedne organizacije. Položaj ljudi u organizacijama se svakodnevno menja. Na svakom nivou organizacione strukture postoje određeni ljudi koji izvršavaju svoje radne zadatke. Organizacija obuhvata nadređene koji donose odluke i upravljaju organizacijom i podređene koji izvršavaju konkretne radne zadatke. Za funkcionisanje jedne organizacije neophodno je jedinstvo: potencijala (individualnih i grupnih), efikasna komunikacija između ljudi, motivacija zaposlenih, rešavanje konflikata, definisanje prioriteta. Ljudi se različito ponašaju u organizaciji jer se radi o različitim ličnostima. Ljudi mogu da reaguju pozitivno ili negativno u zavisnosti od situacije u kojoj se nadju. U organizaciji vladaju odnosi između samih zaposlenih, između zaposlenih i menadžera, između menadžera i upravljačkog vrha. S obzirom da se radi o različitim ličnostima koji se nalaze na jednom mestu ljudi i različito reaguju na određene stvari. Neko je sklon impulsivnom reagovanju, aktivan je, donosi odluke ne razmišljajući o riziku, preduzimljiv je. Sa druge strane tu su i oni pasivni, neodlučni, oni koji strepe od rizika. Sve ove razlike

utiču na produktivnost na poslu. Zbog toga je potrebno da se uskladi ličnost ljudi sa vrstom poslova koje obavljaju. Slaganje ličnih osobina sa vrstom posla uticaće na povećanje produktivnosti zaposlenog, a takodje i njegovog zadovoljstva na poslu. Kadrovska politika i ostale naučne discipline koje se bave psihologijom rada nastoje da stvore takav model ponašanja ljudi u kome neće vladati konflikti već kreativnost, komunikacija i timski duh.

3. UTICAJ NA PONAŠANJE LJUDI

Ljudi utiču na druge iz raznih pobuda i ciljeva i to:

- Pozitivnih – da ih nauče nečemu;
- Negativnih – da ih potčine da bi služili njihovim interesima.

Uticaj na ljude je rezultat sposobnosti i znanja koje nazivamo mehanizmom uticaja u organizacijama. Autoritet je jedno od sredstava uticaja. Autoritet daje čoveku određenu moć. Moć se može definisati kao sposobnost pojedinca (menadžera ili drugih zaposlenih) u organizaciji da utiču jedni na druge u međusobnim odnosima i interakcijama. Autoritet je sredstvo uticaja pomoću kojeg se menja ponašanje drugih ljudi. Uspešni menadžeri su oni kojima polazi za rukom da utiču na druge. U praksi funkcionisanja organizacije „*moć je poluga za ostvarivanje određenih ciljeva*“. U organizaciji moć se najčešće koristi da bi se uticalo na ljude da povećaju produktivnost. Moć primenjuje kako organizacija tako i pojedinac. U organizaciji mora da postoje ljudi koji će svojim delovanjem omogućiti da se određene aktivnosti obave. To su pojedinci menadžeri i vodje koji imaju moć i autoritet da se određeni poslovi dovedu do kraja. Pojedinac koji poseduje moć ima za zadatak da od zaposlenih izvuče ono najbolje što oni imaju.

4. KOMUNIKACIJA U ORGANIZACIJI

Život čoveka je nezamisliv bez komunikacije. Komuniciramo sa prijateljima, porodicom, na fakultetu, na poslu. Komuniciranje je veština koja se tokom života uči, uveštava i usavršava. U organizaciji je najbitnija komunikacija na poslu. Komunikacija na poslu prati međuljudske odnose i način ostvarivanja veze između njih. Komunikacija na poslu najčešće označava prenos podataka i informacija koje su od bitnog značaja za izvršenje određenog posla. Međutim komunikacija znači i razvijanje prijateljskih odnosa i sticanje poverenja među zaposlenima. Komunikacija se deli na verbalnu i neverbalnu. Verbalna komunikacija je oblik komunikacije u kojem je jezik osnovna forma izražavanja i najznačajniji medij. Jezik se sastoji od sistema znakova i čovek pomoću jezika komunicira sa ostalim ljudima. Jezik je sredstvo komunikacije, sredstvo uzajamnih odnosa ljudi koji se njime služe. Neverbalnom komunikacijom signaliziraju se misli, emocije, stavovi i osobine. Ona je vrlo često podrška verbalnoj komunikaciji ali može biti i zamena za nju. Pomoću neverbalne komunikacije često formiramo prvi utisak o nečemu. Neverbalna komunikacija često može biti komunikacijski most u prevazilaženju nesporazuma jer je neverbalna komunikacija spontana, oslobođena stega koje nameću reči i pažnje da se one prate. Komunikacija u organizacionoj strukturi se kreće u 3 smeru:

- Nagore;

- Nadole;
- Horizontalno.

Komuniciranje nagore (od nižih nivoa ka višim nivoima) koncipirano je tako da omogućava da podređeni obaveštavaju svoje menadžere o svemu što se događa u organizaciji. Komunikacija nadole podrazumeva izdavanje naredjenja podređenima o načinu izvršavanja zadataka. Horizontalna komunikacija podrazumeva komunikaciju na istom organizacionom nivou. Ona je najlakši način komuniciranja u organizacijama.

Komunikacija je neprekidan proces u kome se stalno vrši slanje i primanje informacija, verbalno i neverbalno, a sve u cilju razmene ideja. U svom radnom veku čovek se prilagođava, pravi kompromise, improvizuje. Sve to čini njegovo ponašanje. Problemi u komunikaciji mogu nastati na svim relacijama i probleme treba identifikovati i rešiti, a ne bežati od njih. Pažljiva komunikacija je najvažniji i najbrži put do svih rešenja. Cilj uspešne komunikacije je da pažljivo govorimo i slušamo sagovornika u komunikaciji. Komunikacija je vitalan deo poslovanja, organizacije i menadžmenta, ona je bitan činilac utiska o organizaciji i može predstavljati granicu između uspeha i neuspeha. Zaposleni u organizaciji treba da komuniciraju tako da izbegavaju nejasnoće i nesporazume i da omoguće kvalitetan protok informacija između njih. Što je bolja komunikacija u organizaciji to se doprinosi formiranju organizacione kulture i klime, uspostavljaju se bolji odnosi između zaposlenih i veća je efikasnost poslovanja.

5. KONFLIKTI U ORGANIZACIJI I NJIHOVO REŠAVANJE

Tokom života ljudi nailaze na konfliktne situacije. Konflikti najčešće nastaju kao rezultat nesporazuma, suprotstavljenih interesa i nezadovoljenih potreba. Thomas Kenneth je rekao da je konflikt: Kada jedinice ili pojedinci unutar organizacije rade jedni PROTIV drugih, umesto jedni SA drugima. Ukoliko se nademo u konfliktnoj situaciji najbitnije je da pronadjemo rešenje i rešimo konflikt. Medjutim ovo predstavlja težak zadatak. Ukoliko ciljamo ka pobedi u konfliktu nećemo rešiti ništa, jer bi pobeda značila da su zadovoljeni interesi samo jedne strane. Ovakvo rešenje ne odgovara suprotnoj strani i konflikt i dalje postoji. Najbolje je da se u bilo kojoj situaciji konflikt reši. U okviru konflikta postoji relacija pobediti-izgubiti. Oni koji pobeđuju osećaju se jakim, imaju autoritet i moć. Druga strana koja je izgubila smanjuje produktivnost, kreativnost, rad i istraživački duh. U ovakvim situacijama sukobljene strane ne nastoje da reše problem već razvijaju ljutnju i svako se povlači na svoju stranu. Do rešenja konflikta se dolazi saradnjom obe strane, a ne takmičenjem. Rešenje treba da zadovolji učesnike sukoba.

- Tipovi konflikta:
- Interpersonalni;
- Konflikti uloga;
- Konflikti u grupi;
- Medjugrupni konflikti.
- Uzroci konflikta mogu biti:
- Autoritet;
- Razlike u ciljevima;
- Nejasna nadležnost;
- Osobine ličnosti.

Konflikti se mogu rešiti pregovaranjem, kompromisom, dominacijom, rešavanjem problema. Sukobljene strane mogu ignorisati konflikt ili ga rešiti. Sukobljene strane se trebaju ponašati na pravilan način da bi konflikt bio rešen. U tom slučaju učesnici konflikta bi trebali da snize ton, govore tiho, polako, da slušaju sagovornika, uvažavaju stav sagovornika, ne iskazuju ljutnju. Kada konflikt nastane veoma je bitno znati upravljati emocijama. Govor tela je takodje veoma bitan, jer sagovornik može steći utisak da smo besni, ljuti, smireni i drugo.

Postoje određeni koraci u rešavanju konflikata:

- Definisavanje konflikta(problema);
- Razmišljanje o mogućem rešenju za rešavanje problema;
- Procena rešenja;
- Izbor odluke koja je najbolja za rešavanje problema;
- Odredjivanje načina na koji će se sprovesti donešena odluka;
- Procena da li je konflikt (problem) rešen.

Ukoliko je konflikt rešen i rezultati će biti pozitivni, nema sukoba između sukobljenih strana i povećava se motivisanost za rad.

6. MOTIVISANJE RADNIKA NA POSLU

Motivacija zaposlenih i njihovo zadovoljstvo postaju osnov svake savremene organizacije. Motivacija je ono što pokreće svakog čoveka u životu. Motivacija zaposlenih je jedno od ključnih pitanja vezanih za upravljanje ljudskim resursima, a i cele organizacije. Menadžment preduzeća koristi motivaciju za usmeravanje ponašanja radnika ka ostvarivanju ciljeva poslovanja, a ostvarivanje ciljeva poslovanja preduzeća omogućuje zadovoljavanje ličnih potreba radnika. Osnovni proces motivacije bazira se na tri osnovna elementa a to su: potreba, pokret i nagrada. Maslovljeva hijerarhija potreba klasifikuje sledeće potrebe čoveka:

- Potreba za samopotvrđivanjem;
- Potreba za poštovanjem;
- Potreba za pripadanjem;
- Potreba za sigurnošću;
- Fiziološke potrebe.

Ovo su ujedno i potrebe koje svaki radnik ima na poslu. Maslovljeva hijerarhija potreba predstavlja jednu od teorija motivacije.

Teorija dva faktora ističe dva faktora koji klasifikuju potrebe radnika a to su:

- potrebe nižeg stepena (higijenske potrebe);
- potrebe višeg stepena (pravi faktori motivacije).

U higijenske potrebe spadaju (plata, uslovi rada, sigurnost posla, odnos sa menadžerom, odnos sa ostalim radnicima na poslu). U prave faktore motivacije spadaju (postignuće, priznanje, razvoj, odgovornost, napredovanje). Motivacija je pokretačka snaga svakog čoveka, pa i zaposlenog. Da bi čovek uticao i motivisao druge, prvenstveno treba

da motiviše sebe. Motivacija je bitna za postizanje uspeha u bilo kojoj sferi života kako na ličnom planu, tako i na poslu.

Kao jedan od bitnih faktora za motivaciju navodi se i nagrađivanje radnika. Kaže se da ukoliko je zarada radnika veća, on će biti motivisan da da svoj maksimum i doprinese ostvarivanju cilja organizacije. Adekvatna plata, novčani bonusi, uvažavanje radnika uvek popravljaju raspoloženje i podižu moral među radnicima. Veliki uticaj imaju i organizaciona kultura i uslovi u kojima se određeni posao obavlja. Uloga menadžera je veoma bitna jer on je taj koji utiče na ljude. Odnos između ljudi i menadžera je od velikog značaj za postizanje motivacije.

7. ZAKLJUČAK

Rad menadžera je nezamisliv bez kvalitetnih kadrova pa i samo funkcionisanje preduzeća. Kadrovi su pokretački element proizvodnje jednog preduzeća. Zbog toga je neophodno da se kadrovi stalno razvijaju i napreduju. Teorija i istraživanja organizacije došla su do saznanja o značaju fizičkih, psihičkih i socijalnih karakteristika čoveka u procesu rada, pri čemu je posebno izraženo podsticanje ljudskih stvaralačkih potencijala metodama motivisanja na veće zalaganje. Upravljanje ljudskim resursima podseća na pticu u ruci „ *Stegneš li suviše, udavićeš je! Stegneš li nedovoljno, odleteće!*“. Tako je i sa ljudskim resursima. Ukoliko je autoritet na zaposlene preveliki, ukoliko su potrebe radnika nezadovoljene, ukoliko radnik nema šansu da da neku svoju ideju, on ostaje nevidljiv za organizaciju i njegova uloga u organizaciji se svodi samo na puko izvršavanje radnog zadatka. Međutim, ako je radnik motivisan za rad, ako su zadovoljene njegove potrebe, ukoliko je radnik uvažavan i nagrađen on će dati svoj maksimum i doprineće sve većem razvoju organizacije. Za organizaciju je najbitnije da od radnika izvuče ono najbolje. Znanje, sposobnosti i kreativnosti radnika dovode do ostvarenja cilja. Zbog toga se u organizaciji moraju naći motivisani radnici koji su obučeni za svoj posao i koji su predani svom poslu. Ponašanje ljudi u organizacijama nije potrebno samo pratiti i kontrolisati. Potrebno je naći načine i metode kojima će ponašanje ljudi biti poboljšano. Organizaciono ponašanje je naučna disciplina koja sve više dobija na značaju. Ubrzane promene u svetu i proces tranzicije nameću da svaka organizacija radi na razvoju svojih kadrova. Time su zadovoljene potrebe radnika, a sa druge strane dobija i organizacija jer sa obrazovanim radnicima, motivisanim, koji imaju kreativne ideje biće postignut svaki planirani cilj preduzeća.

REFERENCE

- [1] Stavrić Božidar, Paunović Blagoje, Petković Goran, *Poslovna ekonomija*, Beograd, 2004.
- [2] Trajković Predrag, Trajković Svetlana, *Menadžment – teorija I praksa*, Vranje, 2003.

BENCHMARKING AND BUSINESS ETHICS

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Abstract: Today's business conditions demand a new way of business management based on high moral principles, ethical standards and code of ethics. Since benchmarking process is very sensitive, especially when it comes to competitive benchmarking, the issue of ethical business culture is becoming a prerequisite for the start of the partnership arrangement as it provides an effective way of determining whether a company has, or not, the spirit and practice of benchmarking. Benchmarking as a process that involves business improvement through the study, acceptance, implementation of what competitors are doing better, should be conducted in accordance with the laws and it should in no case be an excuse for unethical behavior.

Keywords: Benchmarking, Business Ethics, Code of Conduct

BENČMARKING I POSLOVNA ETIKA

Nikolić Miloš

Apstrakt: Današnji uslovi poslovanja zahtevaju novi način upravljanja preduzećem zasnovanim na visokim moralnim načelima, etičkim standardima i etičkom kodeksu. Kako je benčmarking proces veoma osetljiv, naročito kada je u pitanju konkurentski benčmarking, to pitanje kulture etičkog poslovanja postaje preduslov za početak partnerskog aranžmana jer obezbeđuje efektivan način utvrđivanja da li kompanija ima, ili ne, u sebi duh kao i praksu benčmarkinga. Benčmarking, kao proces koji podrazumeva poboljšanje poslovanja kroz proučavanje, prihvatanje, implementiranje svega što konkurenti rade bolje, treba da se sprovodi u skladu sa zakonitostima i on ni u kom slučaju ne sme biti izgovor za neetičko ponašanje.

Ključne reči: Benčmarking, poslovna etika, kodeks ponašanja

1. UVOD

Pitanje da li je moguće ostati na prvom mestu i poslovati na pošten i etički način, zaokupilo je pažnju mnogih teoretičara i praktičara, a takodje i pitanje neetičkih aktivnosti u kompanijama koje su postale ustaljena praksa. Protiv toga bore se i mnoge kompanije ali i država donoseći određene propise. Postavljeni su etički standardi (otvorenost, iskrenost), određeni kodeksi ponašanja. Mnoge kompanije podstiču i nagradjuju radnike da

primenjuju kontra standarde i ne poštuju norme ponašanja radi nekog finansijskog uspeha koji se i desi, ali rezultati su kratkotrajni jer samo neetično ponašanje vrlo brzo stvara probleme drugim zaposlenima i na duže staze vodi samo u nazadovanje.

Mnoge zemlje su tokom 2008. godine usvojile, a mnoge trenutno razmatraju zakone kojima se uspostavljaju parametri za etičko i u skladu sa zakonskim propisima korporativno ponašanje. Američki pristup korporativnoj etici i poslovnom ponašanju je prilično dobro razvijen i adekvatno dokumentovan. Problem se javlja kod organizacija koje posluju na globalnom nivou zbog različitosti pravnih sistema van nacionalnih granica. U benčmarking procesu za ovaj problem je u Americi predloženo rešenje koje može pomoći multinacionalnim organizacijama da uz skup usvojenih univerzalnih standarda "Global Ethics & Integrity Benchmarks" procenjuju i mere svoj napredak u formalnom i transparentnom pristupu integritetu i etičnosti. U Evropi je u iste svrhe usvojen benčmarking kodeks ponašanja. Kodeks ponašanja je formalna izjava vrednosti organizacije o određenim etičkim i društvenim pitanjima i nije pravno obavezujući dokument, ali se njegova primena podrazumeva radi podizanja profesionalizma i efektivnosti u ovom relativno skupom i dugotrajnom procesu i da bi se izbegle mnoge forme neetičkog ponašanja.

2. ETIČKO PONAŠANJE U POSLOVNIM ORGANIZACIJAMA

U časopisu *Sunday Times* od 19.08.1992. godine navedeno da u Velikoj Britaniji studenti završnih godina studija ne znaju ni značenje reči etika dok sa druge strane naučnici ukazuju da etički proces treba početi da se razvija pre početka poslovnog života. Prema moralnom shvatanju odnosno kategorijama vrednosti, etika je skup navika, vladanje nekog čoveka, naroda, klase i sl. a po definiciji Laure Neš: "Poslovna etika nije poseban moralni standard, već studija o tome kako poslovni kontekst postavlja sopstvene jedinstvene probleme moralnoj ličnosti koja deluje kao predstavnik tog sistema". U poslovnim organizacijama etičko ponašanje predstavlja kompleksan problem jer obuhvata pitanja koja se postavljaju u kontekstu međuljudskih odnosa. Kroz etiku menadžeri mogu da definišu etički aspekt svojih odluka. Vrednosti koje sačinjavaju etičko ponašanje menadžera mogu biti sledeće: iskrenost, poštenje, međusobno poštovanje, poštovanje dobrih poslovnih običaja, tačnost, uslužnost, držanje obećanja, čestitost, poverenje, vrednoća, inteligencija, ambicioznost, fleksibilnost i hrabrost. Međutim, iako mnogi menadžeri drže do visokih etičkih standarda, mnogi od njih smatraju da se etika ne može porediti sa ekonomijom jer je pitanje etičnosti isključivo ličnog karaktera, da nema veze sa tržištem i da je laganje u poslu moralno prihvatljivo ako je u granicama nepisanih pravila igre.

Kategorije etičkih pitanja jesu:

- 1) lična, koja obuhvata međusobno ophođenje zaposlenih u okviru preduzeća,
- 2) kategorija unutrašnje politike, obuhvata prirodu odnosa između preduzeća i zaposlenih,
- 3) interesne grupe koje se nalaze u permanentnom interakcijskom odnosu sa preduzećem, kroz koje odnose kao što su: obaveze preduzeća prema klijentima, odnos prema društvenoj zajednici i realno predstavljanje proizvoda preduzeća, kao i

4) društveni nivo, na kome se postavljaju pitanja o osnovnim institucijama u određenom društvu kao i stavu kompanije prema saradnji sa institucijama tog društva (Charles R. Stoner).

Iskustva pokazuju sledeće situacije u kojima se menadžeri mogu naći a koje uključuju mnoga moralna pitanja i dileme na sledećem veoma dugačkom spisku: pohlepa, prikriivanje i netačno prikazivanje stanja u izveštajima i prilikom kontrolnih postupaka, izbegavanje održavanja date reči u pogledu dogovorenih uslova i rokova usvajanje poslovne politike koja će najverovatnije druge dovesti u situaciju da moraju da lažu da bi se završio posao, preterana uverenost u sopstveni sud na rizik entiteta preduzeća nedovoljna lojalnost prema preduzeću čim dođu teška vremena loš kvalitet slepo pokoravanje autoritetu bez obzira na to koliko je neetičan ili nepošten uzdizanje samog sebe iznad obaveza preduzeća (sukob interesa) favorizovanje dogovaranje cena žrtvovanje nevinih i bespomoćnih da bi se postigli određeni ciljevi potiskivanje osnovnih pravila: slobode govora, izbora i ličnih odnosa propuštanje da se ukaže na neetične postupke zanemarivanje porodice ili ličnih potreba donošenje odluke o proizvoda čija primena može ugroziti sigurnost drugih ne vraćanje uzetog iz okruženja, iz sredstava zaposlenih ili preduzeća svesno preuveličavanje prednosti nekog plana da bi se dobila podrška ne bavljenje potencijalnih problema u muško-ženskim odnosima ili netrpeljivosti po pitanju nacionalizma nesavesno obavljanje posla i dodvoravanje pretpostavljenima napredovanje u hijerarhiji gazeći druge nesaradnja sa drugim delovima preduzeća davanje nepotunih informacija zaposlenima navodno zbog poslovanja neprihvatanje odgovornosti zbog loše prakse, namerne ili nenamerne i td.

Ova pitanja su veoma važna sa stanovišta benčmarkinga. Kompanije moraju imati svoj etički kodeks objavljen eksterno i interno i koji obuhvata politike, načela i pravila koja usmeravaju ponašanje. Kršenje etičkog kodeksa može narušiti reputaciju i gubitak ugleda a to može da ima velike posledice. U poslovnom svetu su sve više izražena nastojanja da se odlučivanje vrši na human i etičan način.

3. ETIČNOST BENČMARKING PROCESA

U benčmarkingu je često pitanje njegove etičnosti. Časopis *Business Week* je benčmarking opisao 1993. godine kao "eufemizam za legalno potkradanje tuđih zamki". Neupućeni u benčmarking proces benčmarking posmatraju kao industrijska špijunaža i potkradanje odnosno nelegalno istraživanje konkurentskih aktivnosti. Industrijska špijunaža, često nazivana konkurentsko obaveštavanje ima sasvim drugačije metode, motive i način organizacije u odnosu na benčmarking. Kada je *Xerox* kompanija prvi put javnosti prezentovala svoj proces benčmarkinga, u javnosti je to okarakterisano kao industrijska špijunaža, *Xerox* kompanija kao spymaster a ceo proces kao zlokobno, neprihvatljivo ponašanje. Ovo shvatanje je pogrešno jer uspešan benčmarking proces nije industrijska špijunaža i ne zahteva ni nemoralno ni neetičko ponašanje.

Uspešnost benčmarking procesa zavisi od dobijenih informacija za koje se često treba izboriti. Cilj benčmarkinga je razvijati otvorenost u deljenju informacija direktno sa izabranom kompanijom. U takvom okruženju svaki nagoveštaj industrijske špijunaže je eliminisan jer je istraživanje zasnovano na otvorenosti a ne na tajnama. U industrijskoj špijunaži osim uštede u ličnim troškovima istraživanja i razvoja, smanjenje tehnološkog jaza u odnosu na konkurenciju, uštede u angažovanju specijalizovanih kadrova, motiv može da bude i nanošenje štete nekoj organizaciji ili pruženje pomoći njenim direktnim

konkurentima. Takvi motivi nisu vezani za benčmarking. Metode koje se koriste u industrijskoj špijunaži mogu biti: ubacivanje svog čoveka, stručnjaka u konkurentsku firmu, izdaja nekog radnika kojem je za to ponuđena dobra motivacija a koji želi da se svojoj firmi osveti, doslovna krađa ili upad u baze podataka, podmićivanje zaposlenih, prisluškivanje i druge metode koje se koriste i u vojnoj ili političkoj špijunaži uz masovno korišćenje visoke tehnologije. Sa druge strane, benčmarking je otvoren i konstruktivan, bez potkradanja i uz dobrovoljno pruženje informacija. Etičnost benčmarkinga dovodi se u pitanje kada benčmarking partner posumnja u sam proces i namere u trenutku kada se predje granica, kada se postavi pitanje dokle je proces obostran, kada prestaje kvalitetno unapredjivanje a odakle počinje iskorišćavanje tudjeg znanja i veština. Da li je poslovna etika urodjena ili se usvaja iz okruženja, to je pitanje na koje odgovor može biti pola od jednog i pola od drugog, ali da li mi možemo druge naučiti kako da se etički ponašaju, na to pitanje odgovor je da ako ne išta drugo, možemo dati dobar i kvalitetan primer. Uvođenjem kodeksa primene benčmarkinga mnoga pitanja protokola benčmarkinga su rešena i napravljena velika razlika u odnosu na industrijsku špijunažu i u odnosu na konkurentsko obaveštavanje koje podrazumeva prikupljanje informacija o konkurentima radi donošenja odredjenih poslovnih odluka.

4. EVROPSKI BENČMARKING KODEKS PONAŠANJA

Uspešnost Prilikom primene benčmarkinga često može da puno toga pođe naopako jer se mogu desiti razne greške. Da bi se ove greške izbegle benčmarking je danas uređen usvajanjem Evropskog kodeksa primene benčmarkinga (*European Code of Conduct*) sačinjenim pod pokroviteljstvom International Benchmarking Clearinghouse. Grupa koja je radila na izradi ovog kodeksa bila je sačinjena od najvećih eksperata i predstavnika velikih evropskih kompanija uz koordinaciju Performance Improvement Group i Eurocode Working Group. Principi koji su usklađeni ovim kodeksom zasnivaju se na odredbama Zakona o konkurenciji pri Evropskoj Uniji i približno su isti principima APQC/SPI Code of Conduct, samo su reči modifikovane i usklađene sa Evropskim zakonima.

Princip pripreme :

1. Demonstrirajte obavezu na benčmarking tako što ćete biti spremni da napravite inicijalni korak za benčmarking studiju.
2. Budite spremni za svaku benčmarking razmenu u najvećem delu određenog vremena za benčmarking.
3. Pomozite vašem benčmarking partneru da se pripremi za posetu tako što ćete mu obezbediti upitnik i agendu pre same benčmarking posete.
4. Pre svakog benčmarking kontakta a posebno pre slanja upitnika uzmite savet pravnika.

Princip kontakta:

1. Respektujte korporativnu kulturu partnerske organizacije i radite u okviru uzajamno dogovorenih procedura.
2. Iskoristite benčmarking kontakte onako kako je utvrdila (dizajnirala) partnerska organizacija ukoliko se toj proceduri daje prednost.
3. Usaglasite projektovani benčmarking kontakt i proverite obostrano razumevanje.
4. Dobijte individualnu dozvolu pre nego što ćete navesti ime kontakt osobe.

5. Ne pominjite imena osoba za kontakt na otvorenom forumu bez njihove prethodne saglasnosti.

Princip razmene:

1. Obezbedite benčmarking partneru isti tip i nivo informacija koji ste vi zahtevali od njega.
2. Komunicirajte češće a naročito u prvim koracima benčmarking procesa kako biste razjasnili očekivanja, izbegli nesporazume i utvrdili uzajamni interes u benčmarking razmeni.
3. Budite iskreni i jasni.

Princip poverljivosti:

1. Tretirajte benčmarking razmenu kao tajnu koja postoji između pojedinaca i organizacija koje vrše benčmarking. Informacije se ne smeju iznositi van partnerskih organizacija bez prethodnog pristanka benčmarking partnera sa kojim razmenjujete informacije.
2. Učešće organizacije u benčmarking studiji je poverljivo i ne treba ga isticati u spoljnim razgovorima bez prethodne dozvole.

Princip korišćenja:

1. Koristite informacije pribavljenje kroz benčmarking proces samo za ciljeve utvrđene sa benčmarking partnerom.
2. Korišćenje ili iznošenje imena benčmarking partnera kao i korišćenje dobijenih podataka ili proučenih praksi zahteva prethodnu dozvolu tog partnera.
3. Liste za kontakt ili druge informacije dobijene od udruženja koje povezuje učesnike u benčmarkingu (npr. International Benchmarking Clearinghouse) u bilo kom obliku, ne smeju se koristiti za druge ciljeve sem za benčmarking ili networking (povezivanje u mrežu).

Princip legaliteta (zakonitosti):

1. Ako postoji bilo kakvo pitanje vezano za zakonitost, konultujte se sa pravnim savetnikom.
2. Uzdržavajte se od rasprava ili akcija koje mogu dovesti do ograničavanja prometa (trgovinske razmene), fiksiranja cena, poziva na provalu, podmićivanje ili bilo kakve nekonkurentne prakse. Ne raspravljajte sa konkurencijom o sopstvenoj politici cena.
3. Ne preuzimajte poslovne tajne od drugih organizacija putem bilo kojih sredstava koja mogu biti interpretirana kao neprikladna, uključujući i kršenje različitih pravila ili podsticaj na vršenje pravila, kako biste došli do tajnih podataka.
4. Ne otkrivajte i ne koristite bilo kakve poslovne tajne koje mogu biti pribavljene korišćenjem neprikladnih sredstava ili koje vam je neko drugi otkrio, kršeći pri tom obavezu o držanju podataka u javnosti.
5. Kao konsultant ili klijent ne primenjujte rezultate dobijene iz benčmarking studije sa jednom kompanijom na drugu a da prethodno niste zaštitili podatke odnosno obezbedili njihovu anonimnost tako da je identitet participanata zaštićen.

Princip kompletnosti:

1. Izvršite svaku obavezu datu vašem benčmarking partneru do kraja i u dogovorenom vremenu.
2. Završite svaku benčmarking studiju na zadovoljstvo svih benčmarking partnera uz međusobni dogovor.

Princip razumevanja i saradnje:

1. Utvrdite kako bi vaš partner voleo da ga tretirate i ponašajte se prema vašem partneru onako kako bi on voleo da se ponašate prema njemu.
2. Utvrdite kako bi vaš partner za benčmarking želeo da se koristite informacijama koje vam on obezbeđuje i koristite ih na taj način.

Ovaj Kodeks ponašanja je i rezultat konsultacija razvijenih u procesu koordinacije između The Performance Improvement Group i The Eurocode Working Group (koja je uključila seniore benčmarking menadžere) i zvanično predstavljena od strane mnogih uspešnih organizacija.

5. ZAKLJUČAK

Svojim neetičnim, nemoralnim, pogrešnim i nezakonitim ponašanjem učesnici u benčmarkingu mogu ugroziti čitav benčmarking proces ali i ugled i poslovanje svojih kompanija. Uspostavljanje saradnje sa konkurentskim organizacijama često može da predstavlja problem zbog same karakteristike osetljivosti benčmarkinga, pa sastavljanje kodeksa ponašanja treba da doprinese efikasnom, efektivnom i etičkom benčmarkingu. Svaki zaposleni u preduzeću mora slediti najviše standarde etičnosti u odnosu sa poslovnim partnerima, kupcima, dobavljačima ali i sa zaposlenima. Etičnost benčmarkinga nije dovedena u pitanje ako se on ispravno sprovodi za šta postoje neka opšta pravila a to su: poštovanje zakona, uzvraćivanje na pruženu informaciju, poštovanje privatnosti, poverenje se ne sme zloupotrebiti, informacije treba koristiti interno, ništa se bez saglasnosti ne sme objavljivati i ne sme se ucenjivati. Poslovnoj etici ne možemo druge naučiti ako oni sami neće da je prihvate, ali možemo dati dobar primer društvu.

REFERENCE

- [1] Sajfert Zvonko, Adamović Živoslav, Menadžment benčmarking proces, Univerzitet u Novom Sadu, Tehnički fakultet, Zrenjanin, 2004. god.
- [2] Laura L. Nash: Good Intentions Aside: A Manager's Guide to Resolving Ethical Problems, Harvard Business School Pres, Boston, 1990
- [3] Eurocode Working Group www.globalbenchmarking.org
- [4] Charles R. Stoner, "The Foundations of Business Ethics: Exploring the Relationship Between Organization Culture, Moral Values, and Actions", SAM Advanced Management Journal (07497075), 01 June 1989, vol./is. 54/3(38-43)
- [5] Stošić Mihajlović Ljiljana, Komunikacija u poslovnoj logistici, VŠPSS, Vranje, 2008.

GROUP FOCUS: COOPERATION, HARMONY AND TEAM BEHAVIOUR IN DIFFERENT CULTURES

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Abstract: People generally define their membership in a particular group by its identity, values and achievements. They, on the other hand, seek general agreement in decision - making and rarely impose new procedures and programs without adjustment of group dialogue and agreement. In these societies people believe that maintaining harmony in the work environment is equally important and beneficial to all members of the group. In contrast, individualistic societies recognize and reward individual contributions. These societies are encouraging personality and uniqueness. Cultures where the group focus is underdeveloped have laws that protect the rights of individuals, focused on individual achievements, encouraging individuals to separate from the mass. People in these cultures prefer to work and spend time alone, and when they are part of a team they are focused on their own tasks. In some cases, an individual is more protected from the society; such is the case in the United States. In countries where the group focus is very developed have a strong precautionary measures and penalties for those accused of committing a crime. Loyalty to the larger group is expressed in these societies. People believe that a group is more important than individuals who form a group. The paper further explains how to identify group focus and what its characteristics are in collectivist and individualist cultures through case studies.

Keywords: group work, team work, cooperation, behavior, interculture

PERFORMANCE OPTIMIZATION OF PROFESSIONAL WEB SITE BY USING SEO METHODS

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Abstract: This paper presents the optimization process of the professional website for the international journal of Serbian Journal of Management (SJM). The process of optimization is based on statistical analysis of the web site traffic for the time period of January 2008 to December 2013. Google Webmaster tools and Loopia statistics were used as a source of data for the statistical analysis. The most appropriate steps for the optimization of the site operation were selected, based on the review of acquired statistical data.

Keywords: web site optimization, SJM, SEO methods

OPTIMIZACIJA PERFORMANSI PROFESIONALNOG WEB SAJTA PRIMENOM SEO METODA

Nenad Nikolić, Ivan Mihajlović, Ivica Nikolić

Apstrakt: U radu će biti prikazan proces optimizacije jednog profesionalnog sajta, internacionalnog časopisa Serbian Journal of Management (SJM). Sam proces optimizacije baziran je na prethodnoj statističkoj analizi saobraćaja na sajtu u periodu od januara 2008. do decembra 2013. godine. Kao izvor podataka za statističku analizu korišćeni su Google Webmaster tools i Loopia statistics. Na osnovu pregleda statističkih podataka odabrani su najadekvatniji koraci za optimizaciju rada sajta.

Ključne reči: optimizacija veb sajta, SJM, SEO metode

1. UVOD

Pretraživači predstavljaju značajan izvor informacija za potrošače. Prilikom prikupljanja informacija o proizvodima i organizacijama, potrošači često koriste pretraživače kao što su na primer Google, Yahoo i Bing. Organizacijama je veoma bitno kada potrošač otkuca određeni upit za pretragu (ključnu reč, frazu, pitanje) na nekom pretraživaču da sajt bude među vodećim rezultatima pretrage. Korisnik – posetilac pretraživača nema toliko vremena i energije za pretraživanje, da bi pretraživao sve ponuđene predloge i često istražuje samo nekoliko prvih navedenih sajtova [1]. Zbog toga je i bitno da sajt organizacije bude među vodećim rezultatima pretrage. Jedan od načina da

se to postigne jeste uz pomoć optimizacije sajta za petraživače odnosno search engine optimisation – SEO. Naime, nije samo bitno imati efikasnu, dobro organizovanu veb stranicu sa izuzetnim dizajnom, koji će na najbolji način da prestavi vašu organizaciju i vaše proizvode i usluge, već je bitno da potrošači lako i brzo pronađu vašu veb stranicu uz pomoć pretraživača. SEO pomaže da se vaš sajt nađe među vodećim rezultatima pretrage i time omogući potrošačima da lakše i brže pronađu sajt vaše organizacije.

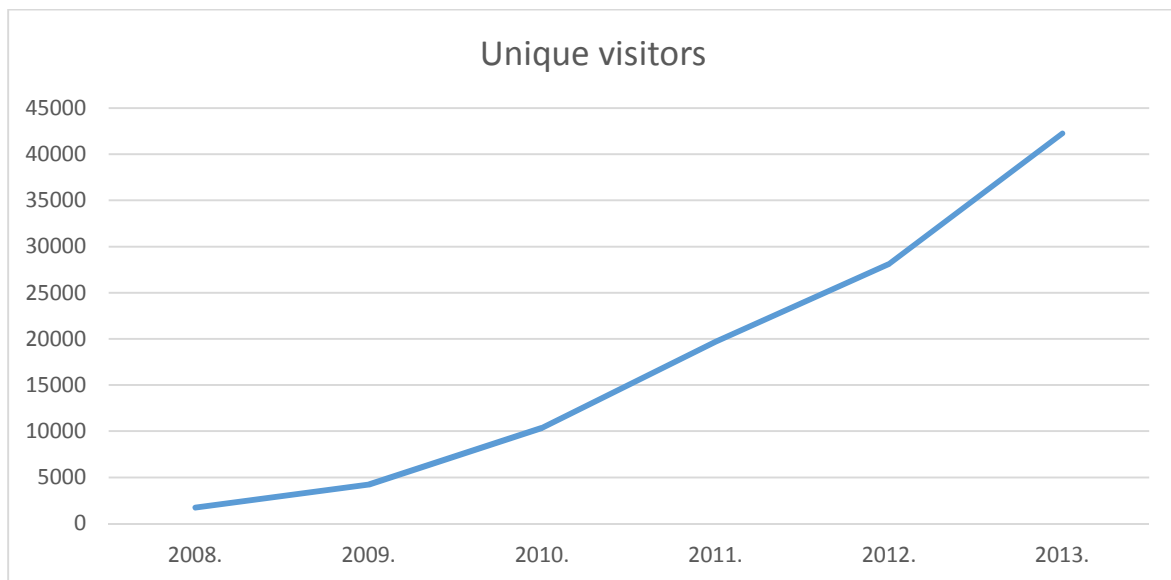
U radu je izvršen pokušaj optimizacije profesionalnog veb sajta uz pomoć metoda SEO. U pitanju je sajt časopisa Serbian Journal of Management (www.sjm06.com) kojeg izdaje Odsek za menadžment, Tehničkog fakulteta u Boru.

2. REZULTATI I DISKUSIJA

Tehnički fakultet u Boru, Univerzitet u Beogradu počeo je sa publikacijom časopisa Serbian Journal of Management tokom 2006. godine. Ovaj časopis izlazi dva puta godišnje i predstavlja međunarodni medij za publikovanje radova o teoriji i praksi nauke o menadžmentu. Ovaj časopis ima međunarodnu redakciju i cilj da u skorije vreme dobije impact faktor na SCI listi. Na sajtu www.sjm06.com objavljuju se radovi publikovani u časopisu Serbian Journal of Management u elektronskom obliku kako bi bili dostupni široj javnosti [2].

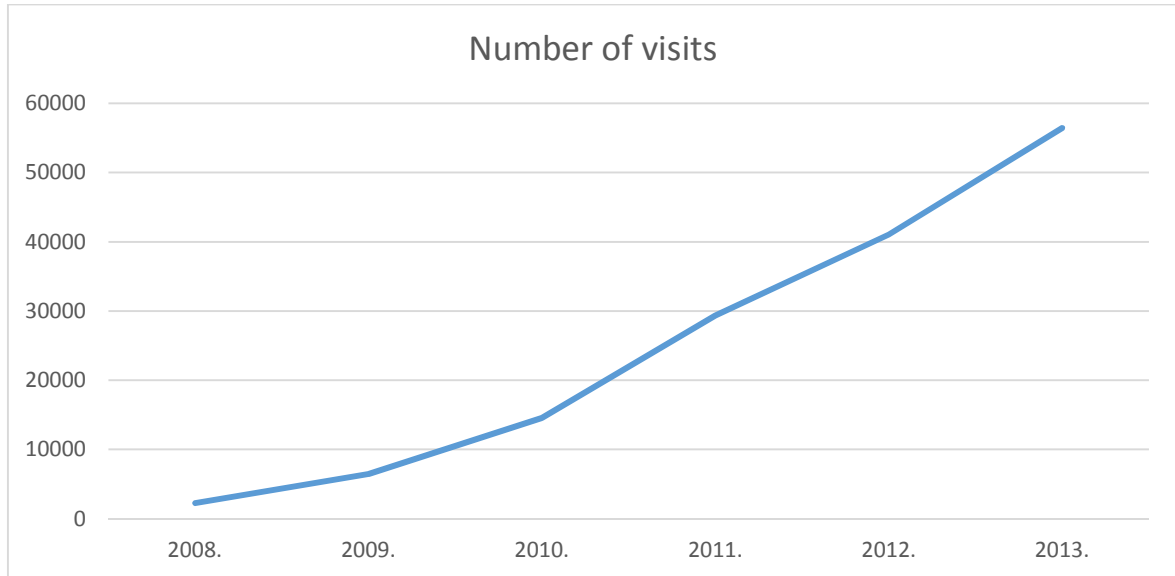
U okviru istraživanja praćeno je broj jedinstvenih posetioca, broj poseta, broj posećenih stranica, količine preduzetih podataka, vreme trajanja poseta, najčešće korišćeni pretraživači i stranice za pristup sajtu kao i broj država iz kojih se pristupalo sajtu.

Grafikon broj 1 prikazuje broj jedinstvenih posetioca u periodu od januara 2008. do decembra 2013. godine, gde možemo da primetimo rastući trend broja jedinstvenih posetioca.



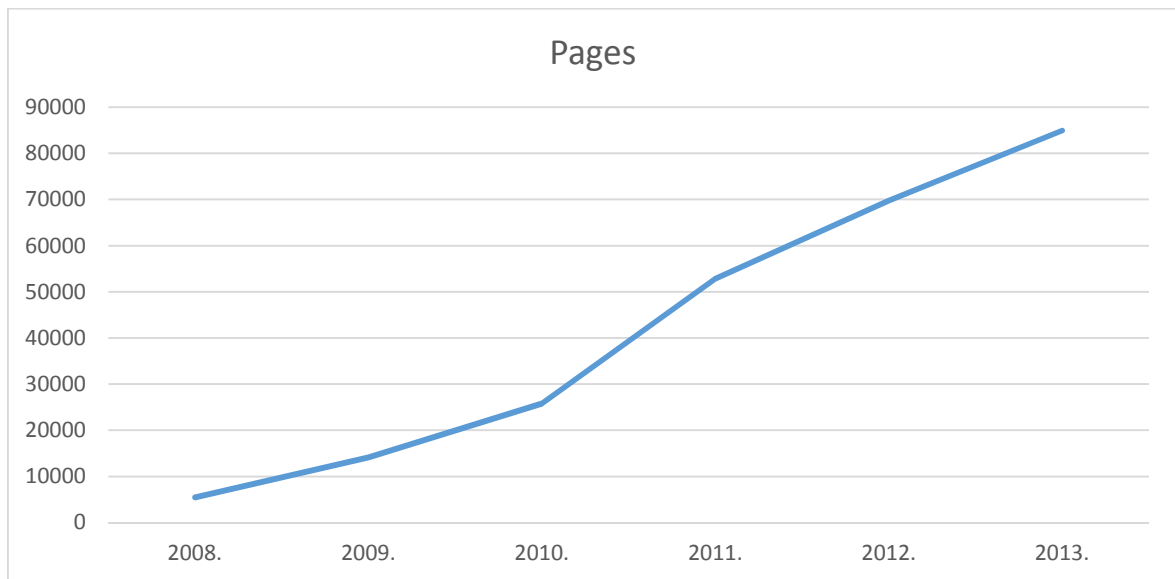
Grafikon 1. Broj jedinstvenih posetioca u periodu od 2008. do 2013. godine.

Rastući trend možemo da primetimo i na grafikonu broj 2 koji prikazuje broj poseta sajtu u periodu od 2008. do 2012. g.

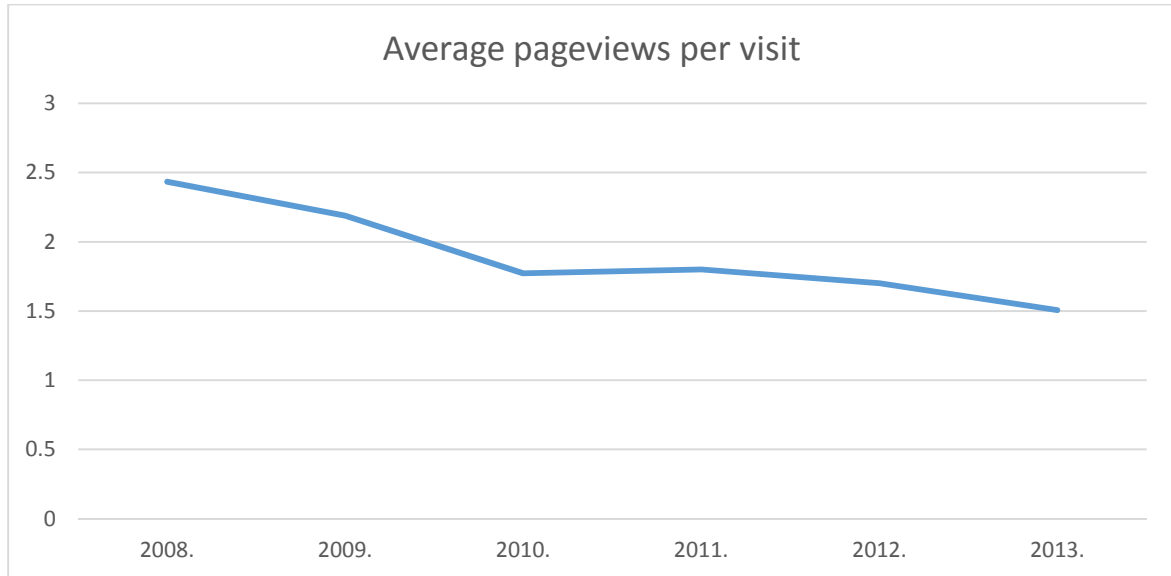


Grafikon 2. Broj poseta sajtu u periodu od 2008. do 2013. g.

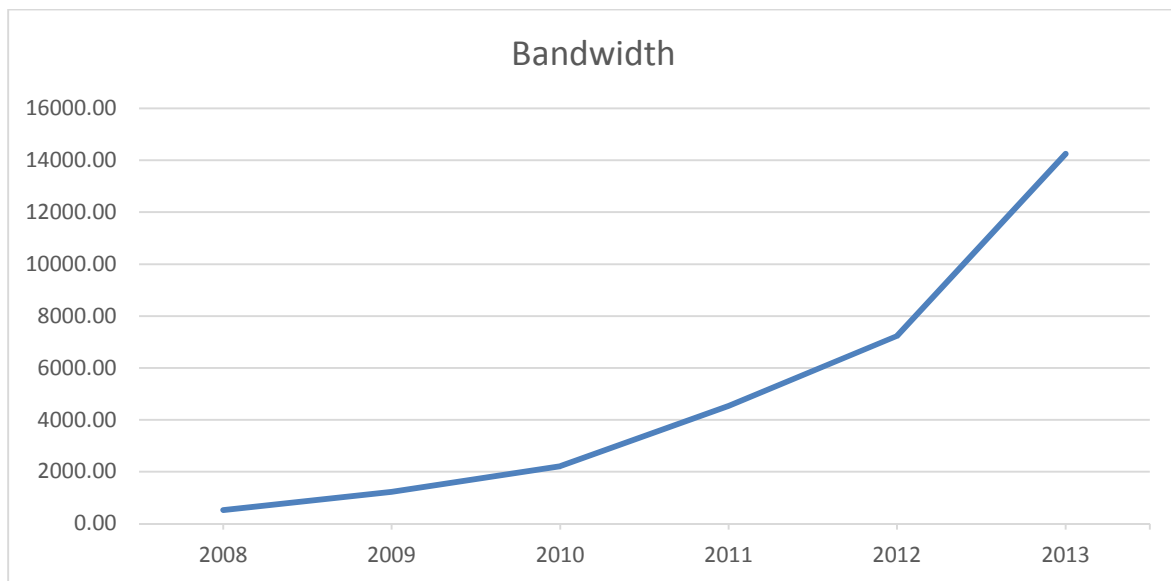
Isto možemo da konstatujemo i za broj posećenih stranica (grafikon broj 3). Kada se broj posećenih stranica podeli sa brojem poseta dobićemo prosečan broj posećenih stranica od svakog korisnika. Na grafikonu broj 4 prikazan je prosečan broj posećenih stranica od svakog korisnika. Sa grafikona možemo primetiti da postoji jedan blagi opadajući trend prosečnog broja posećenih stranica što, gledajući sa pozitivne strane, može značiti da korisnici sajta brzo pronalaze ono što im je potrebno te nije potrebno da lutaju po sajtu kako bi pronašli prave informacije. Ovo isto može govoriti i o dobroj organizaciji i prilagođenom dizajnu sajta. Sa druge strane, ovaj podatak može da ukaze i na to da posetioci ne pronalaze ono što im je potrebno i da brzo napuštaju sajt. Međutim, kako količina podataka preduzeta sa sajta iz godinu u godinu raste, kao što je prikazano na grafikonu broj 5, ovaj podatak ipak treba gledati sa pozitivne strane.



Grafikon 3. Broj posećenih stranica u periodu od 2008. do 2013. g.



Grafikon 4. Prosečan broj posećenih stranica



Grafikon 5. Količina preduzetih podataka po godinama u MB

U tabelama 1 i 2 dat je prikaz trajanja poseta (Visits duration) po godinama. Kako što se može primetiti iz prikazanih tabela najveći broj poseta traju između 0 i 30 sekundi. Naime, u 2008. godine 77,2 % svih poseta traju između 0 i 30 sekundi. Sledeće godine tj. 2009. ovaj procenat raste na 82,8%, 2012. na 88,5% dok 2013. na čak 92%. Ovaj podatak, svakako, ne predstavlja pozitivan rezultat jer pokazuje da se većina posetioca izuzetno kratko zadržava na sajt SJM. Razlog toga može biti taj što časopis Serbian Journal of Management izlazi dva puta godišnje te sajt se redovno ne ažurira novim objavama koje bi zadržale pažnju posetilaca. Naime, kada posetilac primeti da nema novih promena na sajtu od njegove poslednje posete, kao što je na primer novo izdanje časopisa, on ubrzo napušta sajt.

Tabela 1. Vreme trajanja poseta u periodu od 2008. do 2010. godine.

Visits duration/ years	2008.		2009.		2010.	
	Number of visits	Percent	Number of visits	Percent	Number of visits	Percent
0s-30s	1738	77.20%	5351	82.80%	12772	87.70%
30s-2mn	212	9.40%	417	6.40%	641	4.40%
2mn-5mn	124	5.50%	259	4%	360	2.40%
5mn-15mn	95	4.20%	194	3%	341	2.30%
15mn-30mn	46	2%	89	1.30%	178	1.20%
30mn-1h	32	1.40%	109	1.60%	207	1.40%
1h+	3	0.10%	42	0.60%	49	0
Number of visits	2250		6461		14548	
Average (s)	126		131		102	

Tabela 2. Vreme trajanja poseta u periodu od 2011. do 2013. godine.

Visits duration/ years	2011		2012		2013	
	Number of visits	Percent	Number of visits	Percent	Number of visits	Percent
0s-30s	25299	86,10%	36346	88,50%	51948	92%
30s-2mn	1414	4,80%	1421	3,40%	1366	2,40%
2mn-5mn	858	2,90%	970	2,30%	867	1,50%
5mn-15mn	799	2,70%	915	2,20%	860	1,50%
15mn-30mn	414	1,40%	608	1,40%	562	0,90%
30mn-1h	450	1,50%	626	1,50%	666	1,10%
1h+	122	0,40%	146	0,30%	163	0,20%
Number of visits	29356		41032		56,435	
Average (s)	114		108		83	

U nastavku dat je kraći prikaz tabele „Connect to site from“ koja ukazuje na spoljašnje linkove sa kojih je pristupljeno sajtu.

Tabela 3. Connect to site from

2008.				
Origin	Pages	Percent	Hits	Percent
Direct address / Bookmarks	1445	26,30%	1505	15,70%
Links from an Internet Search Engine	868	15,80%	868	9,10%
Links from an external page	609	11,10%	631	6,60%
Links from an internal page	2555	46,60%	6524	68,40%
2009.				
Direct address / Bookmarks	4528	32%	4604	20,10%
Links from an Internet Search Engine	2473	17,40%	2477	10,80%
Links from an external page	916	6,40%	963	4,20%
Links from an internal page	6225	44%	14762	64,70%
Unknown Origin	2	0%	2	0%
2010.				
Direct address / Bookmarks	8398	32,50%	8562	23,70%
Links from an Internet Search Engine	6953	26,90%	6960	19,30%
Links from an external page	2080	8%	2142	5,90%
Links from an internal page	8343	32,30%	18367	50,90%
Unknown Origin	5	0%	8	0%
2011.				
Direct address / Bookmarks	20865	39,50%	21413	18,10%
Links from an Internet Search Engine	11552	21,80%	11626	9,80%
Links from an external page	3684	6,90%	3866	3,20%
Links from an internal page	16716	31,60%	81387	68,70%
Unknown Origin	5	0%	5	0%
2012.				
Direct address / Bookmarks	26244	37,60%	27575	13,50%
Links from an Internet Search Engine	20616	29,50%	20653	10,10%
Links from an external page	6563	9,40%	7172	3,50%
Links from an internal page	16313	23,30%	147859	72,70%
Unknown Origin	21	0%	21	0%
2013.				
Direct address / Bookmark / Link in email...	29255	34,40%	45704	21,30%
Links from an Internet Search Engine	37757	44,40%	53152	24,80%
Links from an external page	5470	6,40%	6474	3%
Links from an internal page	12296	14,40%	108675	50,70%
Unknown Origin	189	0,20%	190	0

Podaci koji su prikazani u tabeli 3 su značajni iz razloga jer nam ukazuju koji sajtovi usmeravaju posetioce ka našem sajtu. Posebno je važan broj poseta usmerenih od strane

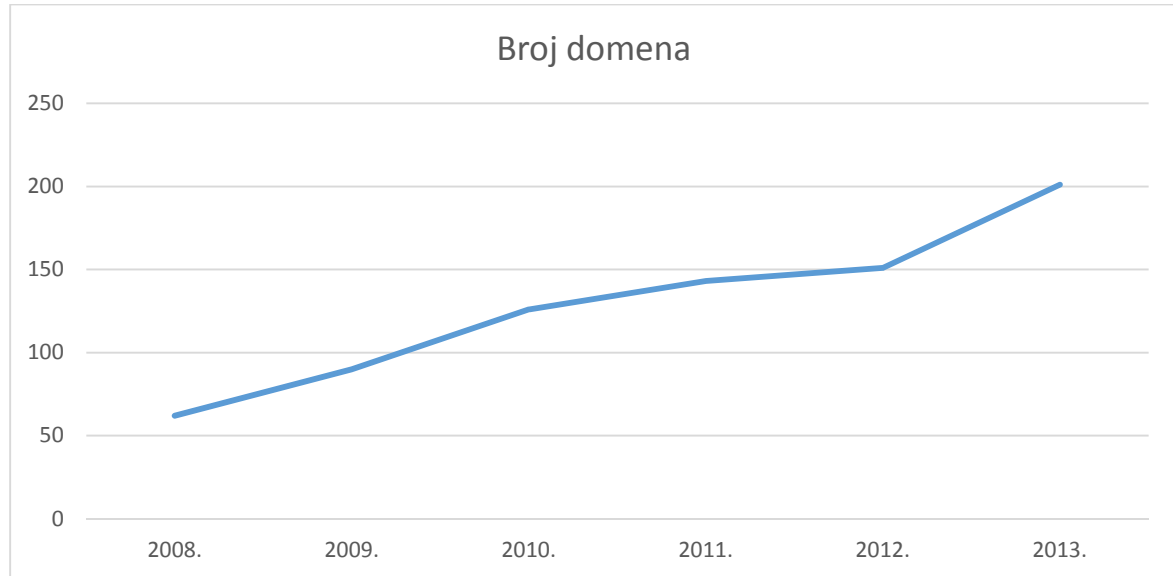
pretraživača. Mali broj poseta od strane korisnika koji dolaze preko pretraživača upozorava nas da smo negde pogrešili prilikom prilagođavanje stranica pretraživačima pa naše stranice na pretraživačima ne rangiraju se najbolje. Takav podatak možemo primetiti za period od 2008. do 2012. godine. Razlog toga jeste taj što se u ovom periodu nisu preduzele SEO aktivnosti. Međutim, možemo da primetimo da udeo posetioca koji su pristupili sajtu uz pomoć pretraživača u toku 2013. godine je znatno veći u odnosu na prethodne godine. Ovaj podatak je izuzetno važan ukoliko se zna da se sa prvim pokušajem prilagođavanje sajta pretraživačima započelo baš u toku 2013. godine. Na osnovu toga možemo zaključiti da su prvi naponi prilagođavanje sajta pretraživačima dali rezultate.

Tabela 4. Najčešće korišćeni pretraživači za pristup sajtu.

2008.		2009.	
Internet pretraživač	Broj pristupa	Internet pretraživač	Broj pristupa
- Google	822	- Google	2316
- Yahoo	25	- Yahoo	89
- Unknownsearchengines	10	- Unknownsearchengines	35
- MSN	9	- MSN	14
- Excite	1	- AskJeeves	9
2010.		2011.	
- Google	6600	- Google	11144
- Yahoo	155	- Unknownsearchengines	168
- Unknownsearchengines	123	- Yahoo	125
- AskJeeves	28	- Yandex	42
- Yandex	24	- AskJeeves	40
2012.		2013.	
- Google	19466	- Google	35897
- Unknownsearchengines	738	- Unknown search engines	1221
- Yahoo	214	- Ask	273
- AskJeeves	103	- Yahoo!	188
- Yandex	56	- Baidu	64

Iz tabele 4 možemo da primetimo da najčešće korišćeni pretraživač za pristup sajtu SJM je Google. Ovaj podatak nam ukazuje da najviše pažnje prilikom prilagođavanje sajta pretraživačima treba posvetiti baš ovom pretraživaču.

Sa grafikona 6 možemo primetiti da broj domena sa kojih se pristupa sajtu iz godinu u godinu raste, što znači da se sajtu pristupa iz sve više zemalja sveta. U tabeli broj 5 dat je prikaz zemalja iz kojih se najčešće pristupalo sajtu.



Grafikon 6. Broj domena u periodu od 2008. do 2013. g.

Tabela 5. Države iz kojih se najčešće pristupalo sajtu u periodu 2008. do 2013. g.

2008.	2009.	2010.	2011.	2012.	2013.
Srbija	Srbija	Srbija	Srbija	Srbija	Srbija
Turska	Turska	Indija	Indija	Indija	Indija
Rumunija	Nemačka	Nemačka	Poljska	Nemačka	Ukrajina
Indija	Indija	Turska	Nemačka	Moldavija	Nemačka
Holandija	Rumunija	UK	UK	Australija	Australija
Nemačka	Slovačka	Australija	SAD	UK	Kina
Češka	UK	Bugarska	Bugarska	SAD	UK
Australija	Holandija	Rumunija	Australija	Turska	SAD
UK	Rusija	Indonezija	Turska	Ukrajina	Holandija
Mađarska	Argentina	Slovačka	Slovačka	Poljska	Indonezija

Na osnovu prikazanih podataka kao i na osnovu analize strukture samog sajta potrebno je preduzeti sledeće aktivnosti u cilju optimizacije sajta SJM:

- Poboľjšati title i meta tag;
- Poboľjšati strukturu URL adresa sajta;
- Grupisati stranice sajta u kategorije;
- Omogućiti prikazivanje putanje na sajtu;
- Dodati opciju sitemaps u glavnom meniju;
- Poboľjšati dizajn sajta;
- Proveriti sajt za postojanje dead link uz pomoć alata Dead Link Checker;
- Efikasno koristiti datoteku robots.txt;
- Podesiti vrednosti atributa rel="nofollow";
- Uz pomoć alata W3C Markup Validation proveriti kompatibilnost koda sajta i ispraviti greške u kodu sajta u cilju dobijanja validation icon na sajtu;
- Izvršiti optimizaciju slika na sajtu;
- Optimizirati vreme učitavanja sajta;

- Obezbediti kvalitetne dolazne linkove;
- Prijaviti sajt u link direktorijum;
- Publikovati člankove na sajtovima specijalizovanim za publikovanje članaka kao što je na primer Ezine;
- Povećati aktivnosti na društvenim mrežama;
- Koristiti e-mail za širenje sadržaja sajta;
- Preduzeti dodatke korake za veći angažman autora iz zemalja koje imaju najveći broj poseta sajtu.

Naravno, ovo predstavlja samo deo spiska aktivnosti koje treba preduzeti jer ne treba zaboraviti da SEO predstavlja proces, te je potrebno stalno preduzeti različite aktivnosti kako bi se poboljšala pozicija sajta kod pretraživačima. Ovde se može primeniti logika Demingovog kruga (planiraj – uradi – analiziraj – unapredi) te analizirati postignute rezultate i preduzeti odgovarajuće aktivnosti kako bi se proces u narednom ciklusu poboljšao.

3. ZAKLJUČAK

Za organizacije je veoma bitno da se sajt organizacije nađe među vodećim rezultatima pretrage. Jedan od načina da se to postigne jeste korišćenje SEO metoda za optimizaciju sajta. Analizom statistike sajta SJM možemo zaključiti da posećenost sajta SJM tokom vremena raste. Takođe, možemo primetiti i rast broja jedinstvenih posetioca, broja zemalja iz kojih se pristupalo sajtu kao i količine preduzetih podataka. Sve ovo govori o sve većoj popularnosti sajta SJM. Kao negativnu stranu prikazanih rezultata možemo istaći kratko zadržavanje posetioca na sajtu koje većinom iznosi između 0 i 30 sekundi. Internet pretraživač preko koga su posetioci najčešće pristupali sajtu jeste Google što znači da najviše pažnje prilikom prilagođavanja sajta pretraživačima treba posvetiti baš ovom pretraživaču. Kako bi se prikazani podaci još više poboljšali potrebno je preduzeti dodatne korake optimizacije sajta.

REFERENCE

1. B. Rakić, M. Rakić, Marketing na osnovu pretraživača, Majska konferencija o stratezijskom menadžmentu, 25. – 27. maj 2012, Bor, 2012.
2. www.sjm06.com pristup 28.4.2014.
3. R. Elmansy, Teach Yourself visuall: Search Engine Optimization, John Wiley & Sons, Indianapolis, USA, 2013.

SYSTEMS ENGINEERING (SE)

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Abstract: Systems Engineering is an interdisciplinary field of engineering which has a focus on developing and managing complex system. It deals with the needs of users and early definition of the required functions in system design and development cycle, with documenting requirements, then with designing in which is performed the synthesis of all the subsystems and their functions, and at the end with the performance and validation of that system. At the same time, it is approach and discipline for the design, creation and operation of complex systems. It is a more complex assembly of methods, tools, and analysis than the system which is created and performed as the result. Systems Engineering is not designed to be a highly specialized engineering disciplines - it is oriented to use the evolution of the system which has to be build, from the moment of identification of functional and operational requirements, through design, construction and exploitation. The evolution of systems engineering contains development and identification of new methods and modeling techniques. These methods provide better understanding of system engineering and it will be more helpful as systems become more complex. In this paper are presented the basic concepts of systems engineering, phases, processes, methods of research and principles of successful system engineering.

Keywords: system engineering, phases of SE, process of SE, SE research, principles for successful SE

SISTEMSKI INŽENJERING (SI)

Marija Kostić

Apstrakt: Sistemski inženjering je interdisciplinarna oblast inženjeringa koja je fokusirana na razvijanje i vođenje složenih sistema. Bavi se potrebama korisnika i ranim definisanjem potrebnih funkcija sistema u ciklusu koncipiranja i razvoja, zatim dokumentovanjem zahteva i projektovanjem u kom se vrši sinteza podsistema i njihovih funkcija i na kraju na izvođenjem i proverom valjanosti sistema. Istovremeno je i pristup i disciplina za projektovanje, kreiranje i funkcionisanje složenih sistema. On predstavlja složeniji skup metoda, alata i analiza u odnosu na sistema koji se kreira i izvodi samim sistemskim inženjeringom. Sistemski inženjering nije koncipiran da bude visokospecijalizovana inženjering disciplina, već je orijentisan da koristi evoluciju sistema koji treba izgraditi, od trenutka identifikacije funkcionalnih i operacionih zahteva, preko projektovanja, izvođenja i eksploatacije. Evolucija sistemskog inženjeringa obuhvata razvoj i identifikaciju novih metoda i tehnika modelovanja. Te metode omogućavaju bolje razumevanje sistemskog inženjeringa i biće korisnije kako on postaje kompleksniji. U ovom radu su prezentovani osnovni pojmovi sistemskog inženjeringa, faze, procesi, načini istraživanja i principi uspešnog sistemskog inženjeringa.

Ključne reči: sistemski inženjering, faze SI, procesi SI, SI istraživanje, principi za uspešan SI

1. UVOD

U tradicionalnom smislu pod pojmom inženjeringa podrazumevaju se pre svega projektantski i izvođački inženjerinzi, kao posebne inženjerske discipline, u oblastima građevinarstva, energetike, mašinstva, hemije, procesne industrije tamo gde se radi o izgradnji složenih i kompleksnih objekata ili postrojenja. Brzim razvojem tehnologija primena naučnih i matematičnih metoda proširila na nove oblasti u razvoju i izradi proizvoda, koncipiranju, projektovanju, izvođenju i održavanju složenih objekata i postrojenja, jednom rečju složenih sistema[1].

Danas inženjering discipline obuhvata nove oblasti, tako da imamo inženjering informatike, softverski inženjering, inženjering nanotehnologija, inženjering logistike, finansijski inženjering, ali i inženjering sigurnosti, inženjering zaštite životne sredine i inženjering ergonomije, pouzdanosti, održavanja itd. Značaj inženjeringa je u sistemskom pristupu razvoju, projektovanju, izvođenju i održavanju sistema kroz sve faze njegovog životnog ciklusa. Posebno treba naglasiti da ne postoji jedno najbolje rešenje ili pristup u rešavanju problema koncipiranja nekog sistema. Efikasnost i efektivnost u svim procesima inženjering može se postići[1]:

- Kombinovanjem velikog broja metoda u fazama razvoja i projektovanja
- Primenom kvalitetnih alata,
- Automatizovanjem ovih metoda i alata
- Primenom snažne tehnologije za izvođenje sistema,
- Primenom boljih tehnika za obezbeđenje kvaliteta
- Novom filozofijom koordinacije, kontrole i upravljanja.

Svaka inženjering disciplina, zavisno od karakteristika sistema koji se razvija i izvodi, nema za cilj samo izradu zadatog sistema, odnosno podsistema. Cilj je realizacija sistema na troškovno delotvoran način, koji podrazumeva da se sa definisanjem obima resursa u predviđenom roku postigne sistem visokog kvaliteta i inovativnosti. Svaki inženjering koristi određene metode, alate i procedure ili tehnologije u svim fazama realizacije sa ciljem da se olakša razvoj izvođenja sistema. Kompetentnost nekog inženjeringa meri se sa raznolikošću metoda, alata i procedura koje koriste i obučenošću i veštinama ljudi u njihovoj primeni[1].

Svaki inženjering, bez obzira na disciplinu kojoj pripada, prolazi kroz identične procese kreiranja, projektovanja, izvođenja i održavanja objekta, sistemski pristup je moguće primeniti u svim navedenim procesima. To dovodi no najvišeg kvaliteta i inovativnosti samog sistema, kao i veće efikasnosti, odnosno skraćivanja rokova izvođenja i uštede troškova, kao i povećanja kvaliteta izvedenih rešenja. Na osnovu iznetih stavova razvijen je sistemski inženjering koji uspešno integriše različite inženjering discipline, naročito kod realizacije složenih sistema[1].

2. SISTEMSKI INŽENJERING

2.1. PRINCIPI SISTEMSKOG INŽENJERINGA

Sistemski inženjering je interdisciplinarna oblast inženjeringa fokusirana na razvijanje i vođenje složenih projekata kao sistema. On je usredsređen na potrebe korisnika i rano

definisanje potrebnih funkcija sistema u ciklusu koncipiranja i razvoja, na dokumentovanje zahteva, a zatim na projektovanje u kom se vrši sinteza svih podsistema i njihovih funkcija i na izvođenju i proverama valjanosti sistema[2].

Procesi sistemskog inženjeringa se mogu podeliti na dva osnovna dela:

- Tehničke ili profesionalne procese i znanja u kojima sistemski inženjering deluje
- Procese menadžmenta sistemskog inženjeringa

Sistemski inženjering je u osnovi interdisciplinarni inženjering menadžment proces koji uključuje i verifikuje integrisana rešenja jednog sistema, tako izbalansiran, da tokom životnog veka zadovoljava potrebe korisnika. On obuhvata logično povezane sekvencijalne aktivnosti i odluke koje treba da izvrše [1]:

- Transformaciju operativnih potreba korisnika u pisane specifikacije performansi sistema i preporučenu konfiguraciju sistema i podsistema koji ga čine.
- Interdisciplinarno integrisanje tehničkih parametara sistema i osiguranje kompatibilnosti svih fizičkih, funkcionalnih i programskih međuveza kako bi zadovoljile potrebe korisnika.
- Interdisciplinarno integrisanje pouzdanosti, bezbednosti, održivosti, logističke podrške, etičnosti, i drugog da bi se zadovoljila očekivanja korisnika i ispunili zahtevi (propisa, standarda itd) opšte prihvatljivosti sistema.

U sistemskom inženjeringu, matematici, nauci i drugim oblastima, centralna stvar je sistem. Koncept sistema čini srce mogućnosti da zamisli, koncipira i projektuje sva kompleksnija zdanja, transportne sisteme, postrojenja za proizvodnju i konverziju energije i materijala, fabrike, računarske sisteme i softverska rešenja, finansijsku konstrukciju za realizaciju složenih objekata, moderne automobile i mnoge druge proizvode na kojima se bazira i svakodnevno funkcioniše savremena civilizacija, koje jednim imenom možemo nazvati sistem. Da bi se obavili svi složeni zadaci, morao je biti konstruisan još složeniji sistem metoda, alata i procedura za projektovanje, izgradnju i održavanje složenih sistema[1].

Sistemski inženjering je istovremeno pristup i disciplina za projektovanje, kreiranje i funkcionisanje složenih sistema. On predstavlja složeniji sistem metoda, alata i analiza od samog sistema koji se kreira i izvodi. Sistemski inženjering je interdisciplinarnan po svojoj prirodi, usmeren na formiranje novih sistema od postojećih, usmeren na izgradnju sistema koji treba da funkcioniše tokom čitavog, obično dugog, životnog veka i usredsređen na odgovarajuću integraciju mnogih i različito orijentisanih naučnih i inženjerskih disciplina, koje su neophodne u sveobuhvatnom inženjering projektu[1].

Sistemski inženjering nije koncipiran da bude visokospecijalizovana inženjering disciplina, već je orijentisan da koristi evoluciju sistema koje treba izgraditi, od trenutka identifikacije funkcionalnih i operacionih zahteva, preko projektovanja, izvođenja i eksploatacije. Neke od osnovnih osobina sistemskog inženjeringa su[1]:

- Metodološki, sistemski inženjering prepoznaje svaki sistem i njegove funkcije, integrisane od različitih podstistema i podfunkcija.
- Osnovni cilj sistemskog inženjeringa je da definiše konfiguraciju karakteristika svakog sistema i podsistema i veze između njih.
- Sistemski način razmišljanja omogućuje da se zajednička pravila unutar različitih sistema identifikuju i unapređuju.

- Sistemski inženjering integriše vrhunška tehnička znanja za kreiranje složenog sistema i znanja iz menadžmenta za njegovu realizaciju kroz projektni menadžment.
- Procesi sistemskog inženjeringa, kao niz interdisciplinarnih aktivnosti, zahtevni angažovanje niza timova sa različitim znanjima i ulogama koji će zajednički definisati i izgraditi sistem.

Potreba da se identifikuju i kombinuju svojstva sistema kao celine, koje u kompleksnim inženjering projektima mogu da se uveliko razlikuju od pukog zbira svojstava podstistema, motivisali su mnoge industrijske oblasti da razvijaju i primenjuju sistemski inženjering. Kada se više nije moglo osloniti na evoluciju projektovanja za poboljšanje postojećih sistema i kada postojeće metode i alati nisu bili dovoljni da zadovolje rastuće zahteve, počele su se razvijati nove metode koje su se direktno odnosile na kompleksnost sistema. Evolucija sistemskog inženjeringa obuhvata razvoj i identifikaciju novih metoda i tehnika modelovanja. Te metode pomažu u boljem razumevanju sistemskog inženjeringa i sve više će pomagati kako on postaje kompleksniji[1].

Kao rezultat rastuće primene sistemskog inženjeringa osnovana je 1995. godine organizacija pod nazivom Međunarodni savet za sistemski inženjering – INCOSE sa ciljem unapređenja edukacije za njegovu primenu u praksi[3].

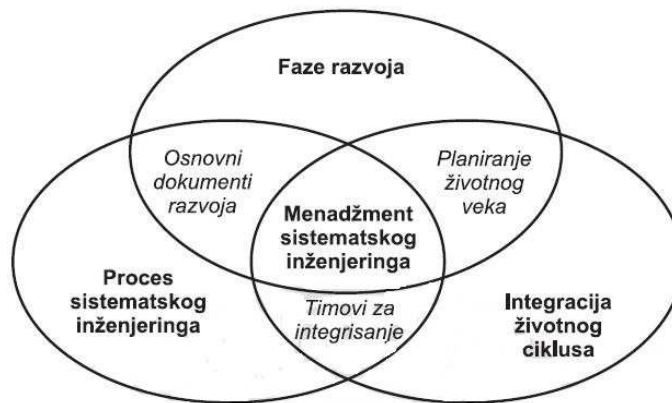
Jedna analiza od strane INCOSE Systems Engineering center of excellence (SECOE) pokazuje da optimalne aktivnosti utrošene na sistemski inženjering iznose 15-20% ukupnih aktivnosti na projektu, a da sistemski inženjering sigurno vodi ka sniženju troškova i ostvarenju drugih efekata na projektu[3].

3. MENADŽMENT SISTEMSKOG INŽENJERINGA

Menadžment sistemskog inženjeringa obuhvata tri glavne aktivnosti[1]:

- Definisanje faza razvoja za upravljanje procesom projektovanja i obezbeđenje glavnih dokumenata razvoja, te za koordinaciju aktivnosti projektovanja. Ova faza ima dve glavne svrhe: upravljanje aktivnostima razvoja i povezivanje aktivnosti tehničkog menadžmenta i aktivnosti projektnog menadžmenta.
- Proces sistemskog inženjeringa koji obezbeđuju strukturu za rešavanje problema projektovanja i trasira tok zahteva kroz aktivnosti projektovanja. On predstavlja srce menadžmenta sistemskog inženjeringa. Njegova svrha je da obezbedi fleksibilan proces koji transformiše zahteve korisnika u specifikacije sistema, arhitekturu podstistema i glavne dokumente razvoja.
- Integrisanje životnog ciklusa uključuje korisnike u proces projektovanja kako bi razvijeni sistem bio upotrebljiv tokom životnog veka.

Glavne aktivnosti menadžment sistemskog inženjeringa su prikazane na slici 1.



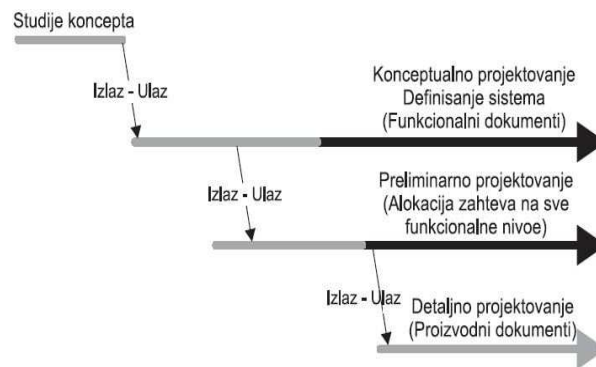
Slika 1. Tri glavne aktivnosti menadžmenta sistemskog inženjeringa [1]

3.1. GLAVNE FAZE RAZVOJA

Glavne faze razvoja menadžmenta sistemskog inženjeringa su[1]:

- Nivo koncepta, čiji rezultat je opis koncepta sistema (obično nazvane studije koncepta). Deo studije koncepta je i studija izvodljivosti (feasibility study).
- Sistemski nivo, čiji rezultat su definisanje i opis sistema kroz specifikacije performansi zahteva.
- Podsystemski nivo/nivo komponenti, čiji rezultat su alokacija zahteva na sve funkcionalne nivoe i specifikacije performansi podsistema i komponenti proizvoda.

Razvoj najčešće napreduje kroz međusobno odvojene, ali i međuzavisne faze ili korake, gde je izlaz iz jedne faze ulaz u drugu kao što je prikazano na slici 2.



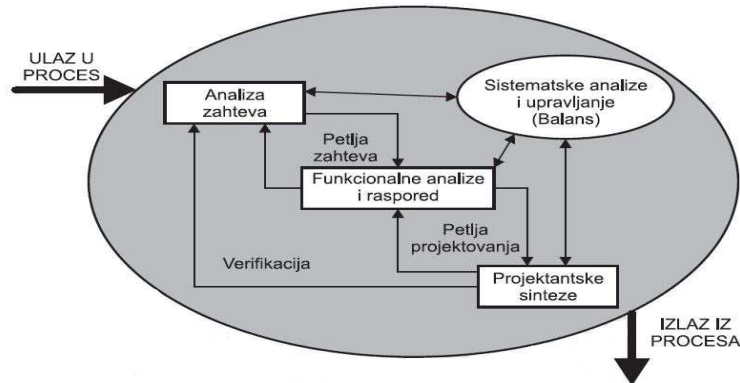
Slika 2. Glavne faze razvoja[1]

3.2. PROCES SISTEMSKOG INŽENJERINGA

Proces sistemskog inženjeringa je vertikalalan, iterativan proces za rešavanje problema. Ovaj proces se primenjuje sekvencijalno u svakoj fazi razvoja i koristi se za[1]:

- Transformacije potreba i zahteva (glas kupca) u komplet sistemskih specifikacija (oglas organizacije) za proizvod i proces (dodate vrednosti i više detalja za svaki nivo razvoja)
- Generisanje informacija za donošenje odluka
- Obezbeđenje ulaza za sledeći nivo razvoja

Na slici 3 su prikazane fundamentalne aktivnosti sistemskog inženjeringa. A to su analiza zahteva, funkcionalne analize i raspored zahteva i performansi i projektantske sinteze. Ulazi u proces mogu da budu zahtevi, potrebe i ciljevi kupaca i drugih zainteresovanih strana, tehnološka baza, izlazni zahtevi prethodno izvršenog razvoja, zahtevi propisa, standarda i drugih specifikacija i drugo. Analiza zahteva obuhvata analizu okruženja, identifikaciju funkcionalnih zahteva, definisanje ili redefinisane performansi funkcija za projektovanje. Funkcionalne analize i alokacije (raspoređivanje) obuhvataju rasčlanjivanje funkcionalnih zahteva na niže funkcionalne nivoe, definisanje i redefinisane funkcionalnih međuveza (internih i eksternih), definisanje, redefinisane i integrisanje funkcionalne arhitekture podсистema/komponenti [1].



Slika 3. Proces sistemskog razmišljanja [1]

Projektantske sinteze obuhvataju transformaciju arhitekture podсистema (funkcionalne u fizičku), definisanje alternativa koncepta sistema i konfiguracije performansi i dokumenata podсистema, izbor preporučenih rešenja za sistem i proces u kome će se realizovati, definisanje, redefinisane i integracija fizičkih međuveza (internih i eksternih). Sistematske analize i upravljanja čiji je cilj uspostavljanje ravnoteže (balansa) između zahteva, funkcionalnih performansi i rešenja sistema i podсистema, obuhvataju studije usaglašavanja zahteva, performansi i rešenja, analize efektivnosti, menadžment rizikom, menadžment konfiguracijom, menadžment međuvezama, menadžment podacima, menadžment performansama. Izlazi iz procesa obuhvataju podatke o odlukama, konfiguraciju sistema, arhitekturu podсистema, specifikacije i druge podatke o rezultatima razvoja (proračuni, analize, crteži, softveti) [1].

Proces sistemskog inženjeringa obezbeđuje praćenje donošenja odluka i put zahteva, održavanje tehničkih podataka (specifikacije, proračuni, analize, crteži, softveri, itd), upravljanje međuvezama, rizicima, troškovima, tehničkim performansama, obezbeđuje verifikaciju zahteva i prati progres preispitivanja (revizija) i procedura [1].

3.3. INTEGRACIJA ŽIVOTNOG CIKULUSA

Integrisanje zahteva za funkcionisanje sistema bez greški i neplaniranih troškova u celom životnom veku obavlja se kroz korišćenje interdisciplinarnih timova. Cilj rada ovih timova je da kreiraju rešenje razvoja koja zadovoljavaju inicijalno definisane zahteve. Članovi timova se biraju tako da obezbede kompetentnost za ostvarivanje ciljeva u oblastima [1]:

- Tehničkog menadžmenta (sistem inženjering)
- Funkcionalnih područja životnog ciklusa sistema

- Tehničkih specijalističkih područja kao što su kvalitet, bezbednost, životna sredina, rizik itd.
- Poslovnih (biznis) područja kao što su finansije, analize troškova/budžeta, ugovaranje itd.

Funkcije u životnom ciklusu predstavljaju određene mere tokom njegovog životnog veka, a obuhvataju[1]:

- Razvoj, koji sadrži aktivnosti od zahteva kupaca do rešenja sistema,
- Proizvodnju i/ili izvođenje, koje obuhvataju izradu i proveru probnih uzoraka, inicijalnu proizvodnju, punu proizvodnju sistema i delova sistema i delova ili izvođenje jedinstvenih sistema i podsistema
- Primenu u praksi, koja obuhvata aktivnosti isporuke ili puštanja u rad, transporta, prijema, sklapanja, ugradnje, provere, probnog rada, skladištenja i funkcionisanja sistema do ostvarenja pune operativne sposobnosti,
- Eksploataciju, koja je funkcija korisnika, a obuhvata aktivnosti neophodne da se zadovolje definisani operativni ciljevi i zadaci sistema,
- Podršku, koja obuhvata aktivnosti za obezbeđenje operativne podrške, održavanja, logistike i upravljanje rezervnim delovima,
- Upravljanje odbačenim delovima, koje obuhvata aktivnosti upravljanja delovima koji su uništeni, neupotrebljivi i nepopravljivi, kako bi zadovoljili propise i direktive,
- Obuku, koja obuhvata aktivnosti neophodne da se ostvare i održavaju potreban nivo znanja i veština za efektivno i efikasno ostvarenje operativne sposobnosti sistema i funkcija podrške,
- Verifikaciju, koja obuhvata aktivnosti neophodne za ocenu progressa na projektu, efektivnosti sistema i za merenje usaglašenosti sa specifikacijom performansi sistema.

3.4. IZLAZI IZ PROCESA SISTEMSKOG RAZMIŠLJANJA

Izlazi iz procesa sistemskog razmišljanja sadrže dokumente koji definišu zahteve za sistem i podatke o projektantskim rešenjima. Ova arhitektura sistema postaje referentni model za razvoj zahteva i dokumenata na svim nivoima sistema u fazama projektovanja od koncepta do detaljnog projektovanja. Proces sistemskog inženjeringa uključuje sistem i konfiguraciju arhitekture podsistema, specifikacije i glavne dokumente projektovanja, kao i podatke o odlukama[1].

Specifikacija je dokument koji na jasan način opisuje ključne fizičko-tehničke zahteve za sistem, podsisteme, materijale ili usluge ugrađene u sistem, kao i procedure koje sadrže tehnologije izvođenja sistema[6]. Tokom razvoja sistema generiše se serija specifikacija koje sadrže detaljne ulazne zahteve za različite nivoe sistema i njegovih delova. Za svaki ulaz definišu se ulazni dokumenti (crteži, proračuni, softveri, itd.) sa podacima koji potvrđuju ispunjenje utvrđenih zahteva, kako je prikazano u tabeli 1[1].

Tabela 1. Izlazi iz procesa sistemskog razmišljanja[1]

Vrste specifikacija	Sadržaj specifikacije	Izlazni dokumenti
Specifikacije sistema	Definiše misiju i tehničke performanse zahteva za sistem. Alokacija zahteva na funkcionalna područja i definisanje veza.	Funkcionalni dokumenti
Specifikacije performansi podsistema	Definiše performanse karakteristika podsistema. Zahtevi za detaljno projektovanje i liste crteža i drugih dokumenata.	Projektna dokumentacija
Detaljne specifikacije podsistema	Definišu formu, performanse i specifikacije ispitivanja (podsistema, procesi, materijali) koji startuju izradu detaljne dokumentacije za sistem.	Projektna dokumentacija
Procesne specifikacije	Definiše tehnologiju rada u procesima tokom proizvodnje ili izgradnje sistema.	Tehnološka dokumentacija
Specifikacije materijala	Definiše materijale ili komponente koji će biti ugrađeni u sistem.	Lista materijala i komponenti

Sumarno gledano specifikacije su dokumenti koji definišu šta sistem mora da radi, kako će to da radi i kako će to biti verifikovano. Projektna dokumentacija predstavlja opis isprojektovanog sistema i njegovih delova sa potvrdama da sistem ispunjava sve specificirane zahteve[1].

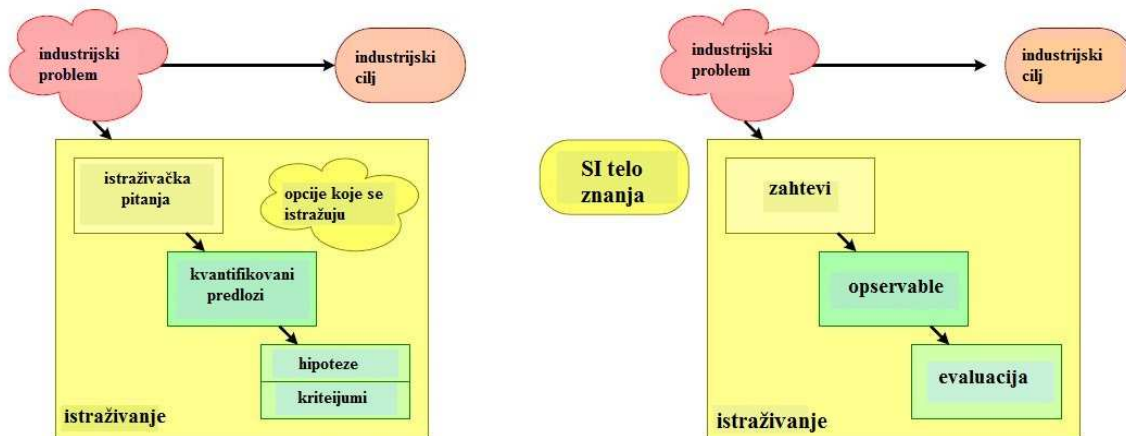
4. METODE ISTRAŽIVANJA U SISTEMSKOM INŽENJERINHU

Metode istraživanja su od velike važnosti za proučavanje efikasnosti sistema inženjerskih metoda i tehnike u praksi. Potrebno je fokusirati se na terensko istraživanje pod pretpostavkom da istraživači mogu posmatrati efikasnost u praksi na terenu. Dominantni istraživački pristupi su akciono istraživanje i industrijske laboratorije. Istraživač kombinuje aktivno učešće u sistemima inženjerskih aktivnosti sa sopstvenom ulogom istraživača. On dakle ima dve uloge kao sistem inženjer i kao istraživač. Stav inženjera sistema treba da bude orijentisan i kooperativan. Stav istraživača je da bude izazovan i ispitivački nastrojen. Tamo gde inženjer sistema želi da implicira određenu metodu i tehniku, istraživač treba da ispita validnost i mogućnost za to[4].

Istraživači odnosno stručna lica koja istražuju sistemski inženjering su obično ljudi obrazovani u tehničkom domenu. Međutim, sama efikasnost sistemskog inženjeringa zavisi u velikoj meri od više faktora i aspekata kao što su stručnost i ponašanje pojedinca, socijalna interakcija između zainteresovanih strana, političke okolnosti, od same organizacije i njenog načina upravljanja. Zato istraživači u sistemskom inženjeringu moraju da grade zaključke na raspoloživim naučnim metodama kako u oblasti tehnike tako i u oblasti društvenih nauka[4].

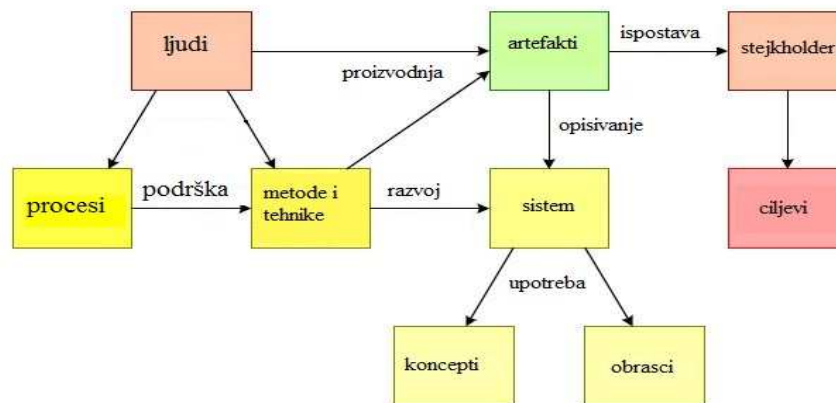
Na slici 4 je prikazan logički redosled koraka za definisanje istraživačkog projekta u sistemskom inženjeringu. Polazna tačka je potreba za poboljšanjem izazvana industrijskim problemom. Istraživači treba da preformulišu problem u industrijski cilj formiranjem nekoliko pitanja kao što su „Koliko određena metoda može ublažiti problem?“ Sledeći korak je da se izoštre istraživanja davanjem određenih merljivih iskaza, kao što je „80%

troškova će biti smanjeno upotrebom određene metode u sistemskom inženjeringu“. Istraživači mogu da koriste istraživačka pitanja i kvantifikovane predloge za formulisanje hipoteza kao osnova za evaluaciju. Često eksplicitni kriterijumi pomažu prilikom evaluacije. Poželjno je da istraživač ostavi prostor za proučavanje višestrukih opcija. Istraživač najpre ocenjuje tzv osnovnu liniju. Osnovna linija može biti performanse procesa, benčmarking sa drugim projektima ili organizacijama ili komparacija sa različitim solucijama. U opservabli je fokus na pružanju podrške ili poništavanje delova iz tela znanja koje smatramo nekorisnim za određeno istraživanje. Rasčlanjavanja zahteva i opservabli se smatra veoma korisnim za istraživanje takođe. Telo znanja ili Body of Knowledge je naučno telo znanja koja se sastoji od referenci, koje su vezane za dosadašnji rad u oblasti sistemskog inženjeringa ili drugih disciplina. Može biti korisno jer sublimira znanja iz date oblasti sa naučnog aspekta, pa se istovremeno prilikom istraživanja koriste saznanja iz prakse ali i iz teorije[4].



Slika 4. Od industrijskog problema do validacije istraživanja[4]

Na slici 5 je prikazan koncept dijagrama istraživanja i mnogih subjekata koji su relevantni za istraživanje. Ako proučavamo koliko je efikasna određena tehnika, onda moramo da posmatramo i opišemo i ljude koji će koristiti tu tehniku, proces u kome će koncept ili tehnika biti apliciran, zatim stejkholdere, njihove preokupacije i ciljeve, kao i artefakte i same koncepte i tehnike. Istraživači moraju da razumeju uzroke neuspeha i uspeha i šta je tome uzrok. Šta je tome uzrok, da li tehnika, ljudi, ugrađeni proces ili neki drugi faktor? [4]



Slika 5. Kontekst dijagram sa relevantnim subjektima za istraživanje[4]

Metode istraživanja mogu biti različite. Neke od njih su[4]:

- Dnevnik – To je najosnovniji način prikupljanja podataka. Nekada je to bila obična sveska i olovka, a danas su to često elektronske verzije dnevnika. Međutim, ovakav način prikupljanja podataka može biti komplikovan za velike istraživačke projekte. U akcionom istraživanju, tipičnom za sistemski inženjering, podaci koji se unose su osjetljivi i poverljivi i zato je neophodna velika predostrožnost kod supervizora koji vode projekat.
- Strukturno prikupljanje podataka – Ovaj pristup sadrži podatke kao što su baze podataka za upravljanje projektom, problemske izveštaje, inženjering podatke i regresije prilikom testiranja.
- Intervjui – To je veoma moćan način za prikupljanje podataka, gde razgovori mogu teći u slobodnom formatu ili istraživači mogu pripremiti unapred standardizovane formate za ovakvo istraživanje.
- Ankete – Ovaj pristup predstavlja jednosmeran vid komunikacije, čiji je glavna mana to što razjašnjenje namera ispitanika nije moguće. Ankete su alat koji se koristi za uslužno ispitivanje radi donošenja boljih odluka.
- Strukturni izveštaji – U ovoj metodi istraživači traže od zaposlenih da prikupljaju podatke redovno u vidu izveštaja. Strukturirani izveštaji pružaju obilje podataka koji omogućava analizu trendova i performansi. Nedostaci su što je ovakav vid nametljiv i iziskuje veliki napor.
- Izrada artefakta – Istraživači mogu naložiti i proizvodnju artefakta odnosno prototipa ili dokaza o mogućoj implementaciji koncepta, što može dati jasan uvid o prednostima i manama za uvođenje određenog koncepta i tehnike sistemskog inženjeringa. Istraživači će napraviti skice, blok dijagrame, tabele i modele, a zatim će procenjivati kvalitet artefakta i moguću primenu određene metode i tehnike na isti.

5. PRINCIPI USPEŠNOG SISTEMSKOG INŽENJERINGA

Sistemski inženjering, njegovi razvojni procesi i principi su prvobitno definisani pre nešto više od 50 godina. Tada se nije moglo pretpostaviti da će sistem funkcionisati kao

samostalan uređaj, kome će funkcije biti unapred zadate. Spiralni model inkrementalne posvećenosti (tzv. The Incremental Commitment Spiral Model) je model životnog ciklusa sistema, koji procenjuje fleksibilan, ali robustan okvir za razvoj sistema i neophodan je za uspešnost sistemskog inženjeringa. On kombinuje prednosti različitih modela tekućih procesa i ograničava svoje slabosti. Omogućava više-inkrementalno tumačenje, ranu verifikaciju i validaciju, stavlja u prvi plan prioritete aktivnosti i obuhvata prilagodljivosti na neočekivane promene istovremeno omogućavajući stabilnost[5].

U nastavku su navedena četiri ključna trenda ovog modela da bi se razvio uspešan sistem[5]:

- Globalni složeni sistemi – Internet i lični komunikacioni uređaji povezuju sve. Inženjeri koji rade u okviru sistemskog inženjeringa moraju se uklopiti u više mreža da bi se sistem povezao sa ostalim mrežama globalnog kolaborativnog procesa.
- Vanredni zahtevi – Neophodno je na vreme reagovati i za to obučiti osoblje pravovremeno, jer ovaj model pruža podršku inkrementalnog i istovremenog definisanja sistemskih zahteva i rešenja pružajući i pristup konkurentskim prototipima.
- Brza promena – Da bi preduzeće bilo konkurentno potrebno je da bude spremno na brze promene. Model omogućava implemeniranje razvojnih faza kroz „kraće korake“, agilnije metode i evolucioni razvoj.
- Visoka garancija kvaliteta – Pošto sistemski inženjering podražava različite procese jasno je da postoje i različiti prioriteti kvaliteta. Model omogućava selekciju primarnih stejkholdera i omogućavanje traženog nivoa kvaliteta.

Da bi model bio primenjiv, neophodno je shvatiti ključne principe[5]:

- Definisane ključnih stejkholdera i evaluacija – Potrebno je identifikovati ključne stejkholdere, vrednost njihovih predloga, definisati dizajn, razvoj i zaključiti dobijene rezultate.
- Inkrementalna posvećenost i odgovornost – Bez posvećenosti ključnih kadrova i sistema odgovornosti sistema u razvoju nema uspešnog sistemskog inženjeringa. Potrebno je da postoji jasna vidljivost napretka i/ili nazadovanja.
- Multidisciplinarnost sistema – Model omogućava sekvencijalni rad pri čemu istovremeno funkcionišu projektovanje, usklađivanje ključeva, ljudski elementi, izvodljivost procesa, planiranje životnog ciklusa.
- Odlučivanje zasnovano na riziku i dokazima – Donošenje odluka na ovaj način nudi širu sliku prilikom otklanjanja problema i menjanja određenih sekvenci procesa.

6. ZAKLJUČAK

Sistemski inženjering efikasno pretvara početne sisteme u kompletan opis sistema sa svim potrebnim elementima integrisanim u kompletnu celinu. On pruža ranu svest o potencijalnim troškovima i daje potencijalna rešenja na cost i benefit bazi. Takođe, sistemski inženjering poboljšava tehničku definiciju procesa.

Metode istraživanja su od velike važnosti za proučavanje efikasnosti sistema inženjerskih metoda i tehnike u praksi. Efikasnost sistemskog inženjeringa zavisi u velikoj meri od više faktora i aspekata kao što su stručnost i ponašanje pojedinca, socijalna interakcija između zainteresovanih strana, političke okolnosti, od same organizacije i njenog načina upravljanja. Zato istraživači moraju da grade zaključke na raspoloživim naučnim metodama kako u oblasti tehnike tako i u oblasti društvenih nauka.

Principi sistemskog inženjeringa donose različite dobrobiti razvoju procesa. Prvi princip podseća na važnost stejkholdera, drugi princip podvlači neophodnost posvećenosti stručnih kadrova procesu, dok treći princip stavlja u prvi plan sinhronizaciju i stabilizaciju koja se postiže sekvencionalnim radom sistema i njegovih procesa. Četvrti princip objedinjuje druge principe jer prati rizike i skuplja dokaze, kako bi se odluke donele na najbolji mogući način.

Značaj inženjeringa je u sistemskom pristupu razvoju, projektovanju, izvođenju i održavanju sistema kroz sve faze njegovog životnog ciklusa. Posebno treba naglasiti da ipak ne postoji jedno najbolje rešenje ili pristup u rešavanju problema i koncipiranja nekog sistema.

REFERENCE

1. Milenko Heleta, Dragan Cvetković, Osnove inženjerstva i savremene metode u inženjerstvu, Univerzitet Singidunum, Beograd, 2009, p. 59-70
2. Arthur D. Hall, A Methodology for Systems Engineering, Van Nostrand, 1962, p.480
3. INCOSE, Systems Engineering Handbook, version 2a, 2004
4. Gerrit Muller, Conference on Systems Engineering Research, March 19-22, Atlanta, GA, 2013, 1092 – 1101
5. Barry Boehma, Supannika Koolmanojwonga, Jo Ann Lanea, and Richard Turner, Conference on Systems Engineering Research, St. Louis, MO, 2012, 297 – 302
6. Constantine L, Yourdon E, Structured Design, Yourdon Inc., Yourdon Press, 1975

INNOVATION IN MODERN CONSTRUCTION INDUSTRY USING YTONG MATERIALS

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Abstract: Construction equipment, both in the world and in Serbia, is now in the stage of "survival", followed by a host of problems leading the fight for survival. Today, the global economic crisis and the weak purchasing power of consumers should look for the optimal solution to such a building material that will have ideal performance. So something is done Ytong. Manufacturing of Ytong material is beneficial and harmless for the nature, because there are in use only natural raw materials, and with new manufacturing technology it significantly reduces the usage of energy resources. On the basis of the research will be considered the extent Ytong meets consumer expectations, as consumers look to him as a modern construction material, high performance, and many other issues regarding Ytong materials and construction systems this material.

Keywords: innovation, construction materials, ecology, economy, quality

INOVACIJE U SAVREMENOM GRAĐEVINARSTVU PRIMENOM YTONG MATERIJALA

Darko Velojić

Izvod: Građevinarstvo, kako u svetu, tako i u Srbiji, se danas nalazi u fazi „preživljavanja“, praćeno mnoštvom poteškoća vodi borbu za opstanak. Danas, u uslovima svetske ekonomske krize, i slabe kupovne moći potrošača, treba tražiti optimalno rešenje za takav građevinski materijal koji će posedovati idealne performanse. Tako nešto je učinio Ytong. Proizvodnja Ytong materijala je blagotvorna i neškodljiva za prirodu, upotrebljavaju se samo prirodne sirovine, a s novim proizvodnim tehnologijama znatno se smanjuje upotreba energetske resursa. Na osnovu sprovedenog istraživanja sagledaće se u kojoj meri Ytong zadovoljava očekivanja potrošača, kako potrošači gledaju na njega kao savremeni građevinski materijal odličnih performansi, kao i brojna druga pitanja koja se tiču Ytong materijala i sistema gradnje ovim materijalom.

Ključne reči: inovacije, građevinski materijal, ekologija, ekonomija, kvalitet

1. UVOD

U današnjem poslovnom okruženju, inovacije predstavljaju osnovu razvoja svake organizacije. Inovacije su postale veoma složene zbog promenljivih zahteva potrošača, konkurentskih pritisaka i brzih tehnoloških promena [1].

Sa pojavom ekonomske krize 30-ih godina, javila se i potreba za proizvodnjom građevinskog materijala koji bi smanjio zavisnost država od uvoza. Upravo tada se „rađa“ inovacija, građevinski materijal - porobeton.

Građevinarstvo se suočava sa mnogobrojnim poteškoćama i problemima. Gradnja objekata je dugotrajni proces na koji utiču brojni faktori. Neretko se dešava da nedovoljnost finasijskih sredstava zaustavi gradnju, probijaju se predviđeni rokovi, pojavljuje se nezadovoljstvo interesnih grupacija, a često se neki objekti nikada i ne završe.

Danas, u uslovima svetske ekonomske krize i slabe kupovne moći potrošača imperativ je ušteda u svakoj sferi života pa i poslovanja. Potrošači danas tragaju za idealnim materijalima, koji u potpunosti mogu da zadovolje njihova očekivanja. Ytong, kao građevinski materijal iz grupe porobetona je jedan od takvih materijala. Brža i ekonomičnija gradnja, obezbeđuje dobru pozicioniranost ovog materijala na sve specifičnijem tržištu.

Sve veći značaj dobijaju građevinski materijali koji su prirodnog porekla, neškodljivi za životnu okolinu, dobrih performansi, a sa čijom primenom možemo ostvariti ekonomičnost gradnje. Značajni parametri prilikom odabira materijala od strane potrošača postaju bezbednost materijala, prirodno poreklo, dugotrajnost koju obezbeđuje gradnja baš tim materijalom i sl.

U istraživačkom delu rada biće predstavljeni rezultati istraživanja koje je sprovedeno na teritoriji Timočke Krajine, a koji govore u kojoj su meri ispitanici zadovoljni Ytong građevinskim materijalom kao na savremenim građevinskim materijalom odličnih performansi, kao i brojna druga pitanja koja se tiču Ytong materijala i sistema gradnje ovim materijalom.

2. POJAM INOVACIJA I ČINIOCI U PROCESU INOVIRANJA

U literaturi postoje različite i brojne definicije inovacija. *Inovacije* obuhvataju uvođenje novih, ključnih faktora proizvodnje u proizvodni sistem. Inovaciju čine kompetencije organizovanja i implementacije istraživanja i razvoja u pravcu stvaranja novih proizvodnja, novih tehnologija, novih tržišta, novih materijala sa ciljem zadovoljavanja potreba potrošača. Prihvatanje ideja ili ponašanja koji su novi za organizaciju predstavlja inovaciju. Takođe, inovacija je bilo koji proizvod ili bilo koji proces proizvodnje nastao uvođenjem novih tehnologija u organizaciju ili kombinacijom postojećih.

Inovacija predstavlja jedinicu tehnološke promene. Ona označava sposobnost da se sopstvena ili tuđa invencija (ideja), primeni na proizvode, ili tehnološke procese u preduzeću. Inovacija predstavlja pretpostavku opstanka preduzeća na tržištu i pokretačku snagu privrednog napretka [2].

„Inovacija predstavlja specifično oruđe preduzetnika, sredstvo pomoću kojeg oni koriste promenu, kao mogućnost za izvršavanje različitih proizvodnih ili uslužnih aktivnosti. Inovacija predstavlja radnju, koja obdaruje resurse novim kapacitetom za stvaranje bogatstva. Inovacija, ustvari kreira „resurs“ i može se reći da je inovacija kreiranje i primena nečeg novog, što menja vrednost, posmatranu od strane kupca, odnosno korisnika. Do inovacije se ne dolazi intuicijom, već logičkim i sistematskim istraživanjem”[3].

Inovacija jeste uspešna tržišna primena invencije, odnosno primena novog ili značajno poboljšanog proizvoda, procesa ili usluge (uključuje značajna poboljšanja tehničkih karakteristika, komponenti i materijala, ugrađenog softvera, korisničke orijentisanosti ili

drugih funkcionalnih karakteristika), ili marketinške metode ili nove organizacione metode u poslovanju, organizaciji rada ili odnosima pravnog lica sa okruženjem, pa može biti:

- **inovacija proizvoda**, kao primena novog ili značajno poboljšanog proizvoda, koje je novo za odnosno pravno lice (ne mora biti nova za tržište), a nije promena estetske prirode ili isključivo prodaja inoviranih proizvoda koje je proizvelo i razvilo drugo pravno lice;
- **inovacija procesa**, kao primena novog ili značajno poboljšanog načina proizvodnje ili isporuke (uključujući značajne promene u tehnici, opremi ili softveru, ali ne isključivo organizacione i menadžerske promene) koja je nova ili unapređena za posmatrano pravno lice, bez obzira ko je razvio;
- **inovacija organizacije**, kao primena novih ili znatnih promena u strukturi ili metodama menadžmenta, s namerom da se u odnosnom pravnom licu poboljša korišćenje znanja, kvaliteta proizvoda ili usluga, ili poveća efikasnost poslovnih rokova;
- **marketinška inovacija**, kao primena nove marketinške metode, uključujući značajne promene u dizajnu proizvoda, pakovanju, plasmanu i promociji proizvoda i naplaćivanju proizvoda [4].

Termin „inovacija“ je u svetu, u poslednjih dvadeset godina, postala ključna reč u naslovu velikog broja knjiga iz oblasti preduzetništva, menadžmenta i strategijskog menadžmenta. Inovacija predstavlja svaki sistem organizovanih i svrsishodnih aktivnosti usmerenih na stvaranje promena (novi proizvod, proizvodni proces, organizaciona struktura, stil upravljanja itd.) [5]. Etimološki, termin inovacija potiče od latinske reči *innovare*, što znači napraviti nešto novo. Inovacija, u suštini, predstavlja unapređenje tehnologije. Inovacija je novi proizvod, usluga, proces, tehnologija nastala primenom sopstvenih ili tuđih rezultata naučno-istaživačkog rada, otkrića i saznanja, kroz sopstveni koncept, ideju ili metod za njeno stvaranje, koja je sa odgovarajućom vrednošću plasirana na tržište [6].

Evropska komisija definiše inovaciju kao: „unapređenje i povećanje opsega proizvoda i usluga i povezanih tržišta; uspostavljanje novih metoda proizvodnje, nabavke i distribucije; uvođenje promena u menadžmentu, organizaciji i uslovima rada zaposlenih“ [7].

Inovacije se mogu klasifikovati na različite načine:

- *prema uticaju na produktivnost:*

- radno intenzivne,
- kapitalno intenzivne.

- *prema relativnom značaju u inovacionom procesu:*

- evolutivne (ili inkrementalne) - adaptacija, poboljšanje i usavršavanje postojećih proizvoda (njihova primena ne čini prethodne proizvode nekonkurentnim, npr. Diet Cola vs. Coca Cola Classic),
- radikalne - uvođenje potpuno novih proizvoda/tehnologija, koji postojeće čine nekonkurentnim.

- *prema rezultatu inovacione aktivnosti:*

- inovacija procesa,
- inovacija proizvoda.

- *prema obimu promena koje izazivaju u proizvodu:*

- komponentne,
- arhitekturne.

- prema ukupnom uticaju na poslovnu aktivnost:

- održive,
- disruptivne [8].

3. AKTUELNI PROBLEMI U GRAĐEVINARSTVU

Građevinarstvo, kako u svetu, tako i u Srbiji, se danas nalazi u fazi „preživljavanja“, praćeno mnoštvom poteškoća vodi borbu za opstanak. Nekada smo imali impresivne, svetski priznate referentne projekte. Srpski graditelji su preuzimali najveći deo graditeljskih zadataka, i u zemlji, i u inostranstvu. Duga kriza je jako iscrpila potencijale kompanija, oprema je zastarela a kvalitetan kadar je napustio zemlju. Uz konstataciju da su danas investicije velikih vrednosti sve češće na tržištu, retki su predstavnici domaće operative koji mogu ispuniti uslove, obezbediti kvalitetnu tehnologiju, finansijsku podršku i menadžment [9].

Većina privrednih društava iz oblasti građevinske privrede suočena sa brojnim problemima, među kojima se posebno ističu, nelikvidnost, nedovoljna investiciona ulaganja, nepovoljni uslovi za dobijanje kredita, neblagovremeno izdavanje građevinskih dozvola, nemogućnost obezbeđivanja garancija za izvođenje radova, izuzetno visoka cena energenata, neravnopravnost kod učešća na tenderima stranih i domaćih izvođača radova, sporo prilagođavanje evropskim standardima, ozbiljna konkurencija građevinara iz sveta, nepoštovanje zakonske regulative, rad na crno i siva ekonomija [10].

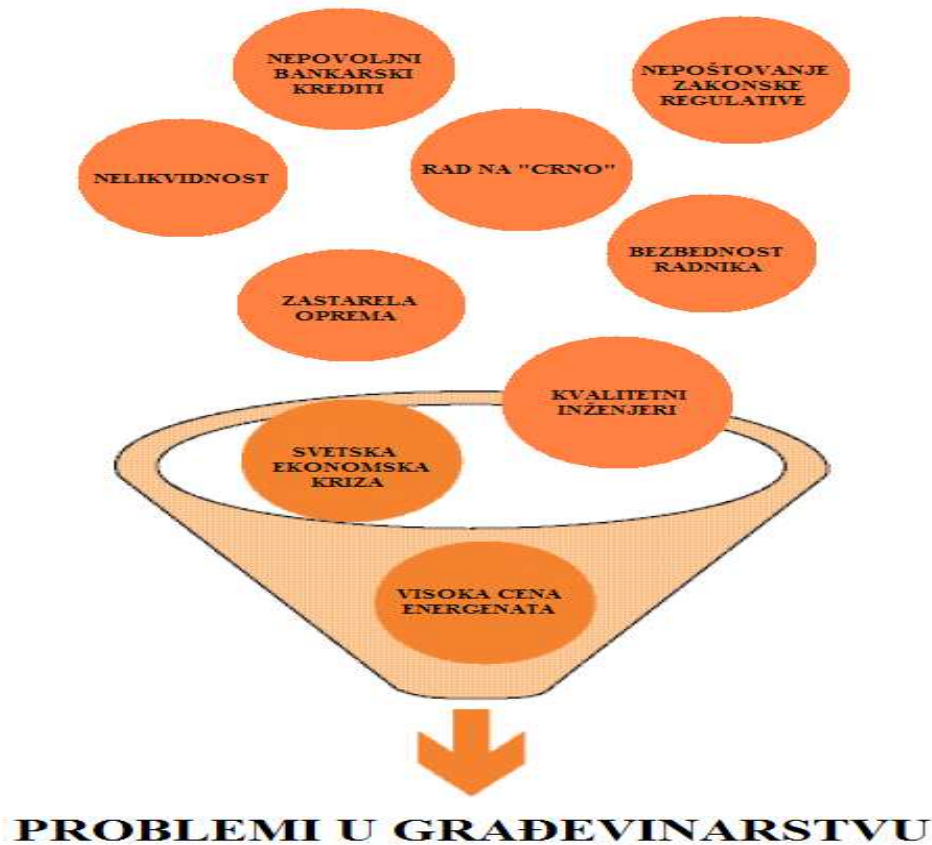
Bezbednost radnika u Srbiji nije na zadovoljavajućem nivou, mere bezbednosti i dostupna oprema za ličnu zaštitu se ne koriste u potpunosti. Predstavljeni rezultati istraživanja sprovedenog u 100 preduzeća, su pokazali da je najveći broj povreda na radu posledica nekorišćenja zaštitne opreme.

Petina zaposlenih ocenila je svoje radno mesto kao nebezbedno, polovina kao delimično nebezbedno, dok je samo 30 odsto ispitanih reklo da se oseća bezbedno na poslu. Većina zaposlenih ne mogu da ostvaruju svoja prava, jer postoji rizik od gubitka radnog mesta, a da jednaku neodgovornost, kada je u pitanju bezbednost radnika, snose preduzeća u privatnoj i državnoj svojini. "Većina poslodavaca, čak 75 odsto firmi, donela je *Akt o proceni rizika* na radnom mestu da bi ispunila zakonski propis, a ne zbog unapređenja sigurnosti i bezbednosti radnog mesta", ukazala je ona.

Potpredsednik veća i predsednik građevinara Saveza samostalnih sindika Srbije (SSSS), saopštio je da je najlošija situacija u sektoru građevinarstva, gde je u poslednjih deset godina, prema zvaničnim podacima, poginulo preko 150 radnika.

Poslednjih deset godina u ovom sektoru dogodilo i preko 2.500 teških povreda od kojih su se neke završile smrtnim ishodom, dodajući da je stvarni broj povreda sa smrtnim ishodom daleko veći.

Radno mesto u građevinarstvu je nebezbedno, jer veliki broj radnika nema kvalifikacije i u obavljanju poslova oslanja se na praksu i iskustvo, a veliki doprinos nesrećama doprinosi i način zapošljavanja. "Broj sezonskih radnika na crno je sve veći i to postaje preovlađujući način zapošljavanja. Strah od gubitka radnog mesta je veći od želje radnika da se sindikalno organizuju i preuzmu odgovornost za svoje zdravlje i bezbednost" [11].



Slika 1. Osnovni problemi u građevinarstvu [12].

Građevinska industrija je podložna krizi navodeći da je, prema statistici Međunarodne organizacije rada, 5 miliona građevinskih radnika ostalo bez posla samo u toku prve godine globalne krize. U Srbiji je u 2011. godini, prema podacima, sindikata, [bez posla ostalo](#) oko 5.000 građevinskih radnika [13].

4. INOVACIJE U SAVREMENOM GRAĐEVINARSTVU PRMENOM YTONG MATERIJALA

YTONG nudi kompletan sistem građenja orijentisan prema potrebama krajnjih kupaca. Od nabavke sirovina, sve do gotovog proizvoda, stroge kontrole kvaliteta osiguravaju najviši standard kvaliteta, a tako visokokvalitetan Ytong materijal za građenje garantuje svakom investitoru gradnje vredne i trajne građevine uz maksimalnu uštedu vremena i novca [14].



Toplotna izolacija – I bez dodatne toplotne izolacije Vaša je kuća optimalno izolovana. Na taj način štedite energiju, novac i uživajte u udobnosti svog doma.



Prirodni sastav – YTONG je proizveden od prirodnih sirovina: kvarcnog peska, cementa, kreča i gipsa pa je time ekološki građevinski materijal i omogućuje zdravo stanovanje.



Masivan, trajan i otporan na pritisak – Stabilno izgrađena kuća trajno zadržava svoju vrednost. YTONG sistem gradnje podrazumeva univerzalan i masivan materijal za gradnju.



Jednostavna i brza gradnja – Jednostavna i precizna obrada, kao i ugradnja YTONG bloka, štedi novac, podiže kvalitet i omogućava 2,5 puta bržu gradnju od klasične.



Mikro klima – YTONG osigurava optimalan odnos temperature i vlažnosti u prostoru, odnosno zdravu klimu u prostoru.



Zvučna izolacija – Boku sa ulice ili muziku iz neposrednog okruženja nećete čuti. YTONG omogućava nesmetano i mirno spavanje.



Zaštita od požara – YTONG je proizveden od mineralnih sirovina i zahvaljujući tome NE GORI.



Garantuje otpornost pri zemljotresu – Kuća građene YTONG-om najsigurnija je kuća u slučaju zemljotresa zahvaljujući maloj težini i sposobnosti YTONG-a da preuzme seizmičke sile iz svih smerova.



Ekologija – Od pripreme sirovina pa do vraćanja ostatka proizvodnje nazad u proizvodni proces, YTONG čuva dragocene prirodne izvore i ostacima ne zagađuje okolinu.



Kvalitet i servis – Proizvodi vrhunske robne marke YTONG proizvedeni su u skladu sa strogim propisima te zadovoljavaju visoke DIN (Euro) standarde kvaliteta.

Slika 2. Prednosti koje Ytong proizvodi poseduju [14].

Ytong sistem gradnje detaljno je osmišljen. Velike dimenzije blokova, kao i zidanje malterom u tankom sloju (lepkom) omogućavaju vrlo brzu gradnju.

Ipak, najveća prednost izgradnje Ytong-sistemom je brzina gradnje uz manje pomoćne radne snage, što kao krajnji ishod donosi znatno niže učešće rada u ukupnoj ceni gradnje.

Iako je Ytong materijal pri nabavci skuplji od cigle, uzimajući u obzir manji broj zidara, kraće rokove gradnje, jednostavnije i jeftinije malterisanje, sistem bez dodatne toplotne izolacije, celokupno izvođenje konstrukcije sa završnom obradom je 10 do 15 odsto jeftinije u odnosu na klasičnu gradnju.

Brža gradnja utiče na ekonomičnost realizacije projekta. Na taj način, zbog:

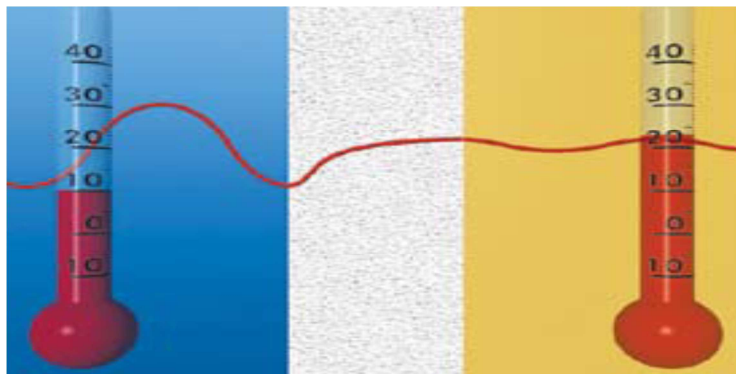
- velikih dimenzija,
- male težine i velike preciznosti Ytong elemenata,
- usklađenog sistema gradnje,
- malo pripremnih radova i pomoćnog materijala,
- brže gradnje i uštede u završnim radovima (gotov zid),
- sa Ytong-om se jednostavno štedi [15].

Pošto se Ytong blok izrađuje sa velikom preciznošću, dobija se kvalitetan zid koji se sa unutrašnje i spoljašnje strane obrađuje materijalima u tanjem sloju. Znači, štedi se na količini materijala za malterisanje, a samim tim i na brzini izrade i sušenja gotovog zida. Unutrašnja strana zida se može gotovim masama (bez klasičnog ili mašinskog malterisanja) gletaricom obraditi u sloju 3-6 mm debljine. Na osnovu iznetih prednosti, dobija se manja debljina gotovog zida, sa boljim termičkim karakteristikama, što ima za posledicu veću neto površinu stana. Za istu spoljnu ivicu zidova, dobija se veća korisna površina objekta. U praksi na primeru stana površine od 60 m² dobija se 4 m² veće neto stambene površine na spoljnim zidovima, odnosno cca 7% veće neto površine objekata sa primerom punog YTONG sistema gradnje [16].



Slika 3. Uporedna analiza Ytong i tradicionalnog zida [16].

Prilikom gradnje Ytong-om štedi se dvostruko: dodatna toplotna izolacija nije Vam potrebna, a istovremeno su troškovi grejanja i hlađenja objekta znatno niži! Troškovi grejanja i hlađenja kod objekata građenih Ytong sistemom gradnje niži su 30 – 50% u odnosu na objekte građene klasičnim materijalima (zavisno od klimatske zone).



Slika 4. Odnos spoljašnje i unutrašnje temperature [17].

Na prikazanoj slici primećujemo osciliranje spoljašnje temperature, koja se uravnotežuje zahvaljujući Ytong zidu [17].

5. ISTRAŽIVANJE I REZULTATI ISTRAŽIVANJA

Istraživanje je sprovedeno na uzorku od 64 ispitanika pretežno sa teritorije Timočke Krajine.

Tabela 1. Tabela prikaz ispitanika po delatnostima u kojoj su zaposleni [12].

Delatnost	Prerađivačka industrija	Građevinarstvo	Trgovina na veliko i malo	Aktivnosti nekretninama	Ostale komunalne i društvene delatnosti
Br. ispitanika	1	35	18	5	5

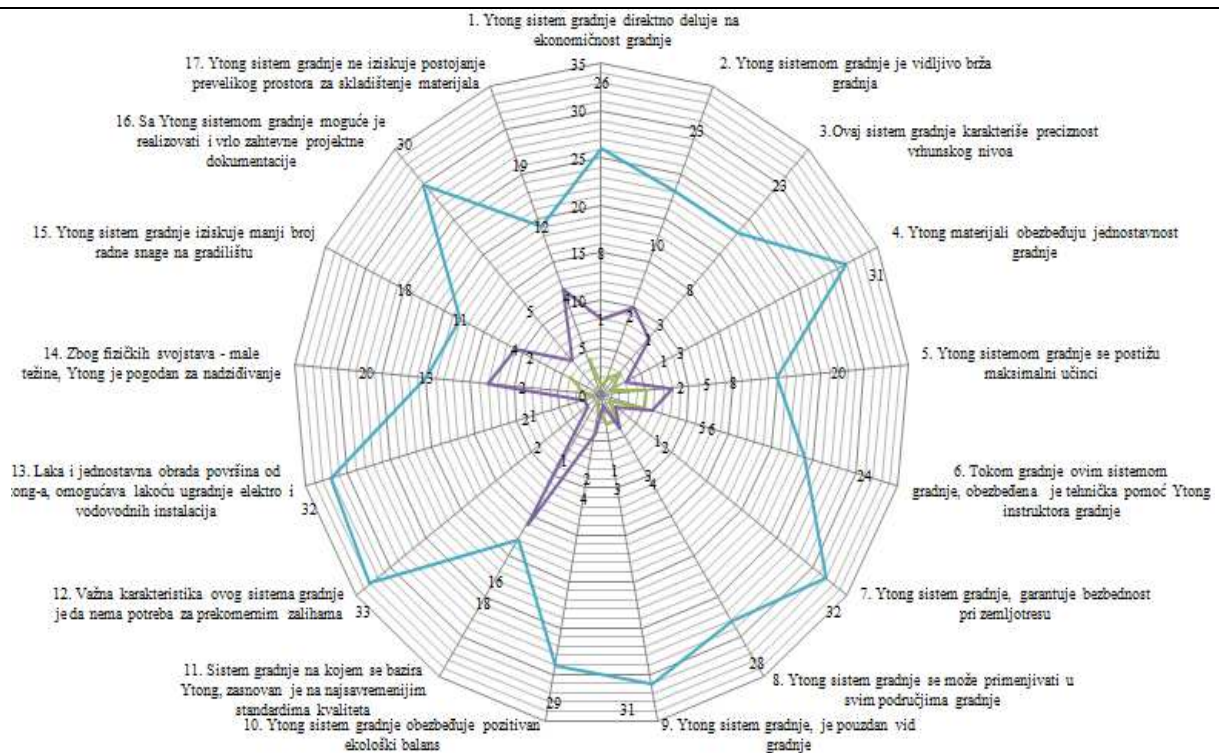
U okviru kategorije pitanja, vezanih za sistem gradnje Ytong materijalima, ispitanici su iznosili lične stavove na sledeća pitanja:

- Ytong sistem gradnje direktno deluje na ekonomičnost gradnje.
- Ytong sistemom gradnje je vidljivo brža gradnja.
- Ovaj sistem gradnje karakteriše preciznost vrhunskog nivoa.
- Ytong materijali obezbeđuju jednostavnost gradnje.
- Ytong sistemom gradnje se postižu maksimalni učinci.
- Tokom gradnje ovim sistemom gradnje, obezbeđena je tehnička pomoć Ytong instruktora gradnje.
- Ytong sistem gradnje, garantuje bezbednost pri zemljotresu.
- Ytong sistem gradnje se može primenjivati u svim područjima gradnje.

- Ytong sistem gradnje, je pouzdan vid gradnje.
- Ytong sistem gradnje obezbeđuje pozitivan ekološki balans
- Sistem gradnje na kojem se bazira Ytong, zasnovan je na najsavremenijim standardima kvaliteta.
- Važna karakteristika ovog sistema gradnje je da nema potreba za prekomernim zalihama.
- Laka i jednostavna obrada površina od Ytong-a, omogućava lakoću ugradnje elektro i vodovodnih instalacija.
- Zbog fizičkih svojstava - male težine, Ytong je pogodan za nadziđivanje.
- Ytong sistem gradnje iziskuje manji broj radne snage na gradilištu.
- Sa Ytong sistemom gradnje moguće je realizovati i vrlo zahtevne projektne dokumentacije.
- Ytong sistem gradnje ne iziskuje postojanje prevelikog prostora za skladištenje materijala.

Sistem gradnje Ytong materijalom

— 1-potpuno nesaglasan — 2-delimično nesaglasan — 3-neutralan — 4-delimično saglasan — 5-saglasan



Grafikon 1. Prikaz rezultata istraživanja [12].

Izuzetno veliki broj ispitanika, njih 69%, je saglasno sa tvrdnjom da Ytong sistem gradnje direktno utiče na ekonomičnost gradnje, što govori o dobroj informisanosti

građanstva, a i samih korisnika Ytong proizvoda na performanse ovog materijala po pitanju ekonomičnosti same gradnje, dok je najmanji broj ispitanika, svega 1%, delimično nesaglasno sa ovom tvrdnjom.

Kada je reč o tvrdnji da je Ytong sistemom gradnje vidljivo brža gradnja, u najvećoj meri su ispitanici saglasni sa ovom tvrdnjom, njih 53%, te je tek 16% ispitanika neutralno po pitanju ove tvrdnje.

Na tvrdnju da Ytong sistem gradnje karakteriše preciznost vrhunskog nivoa, najveći broj ispitanika, čak njih 59%, je saglasno, pravdajući svoju tvrdnju time da je sam sistem gradnje i preciznost gradnje, uzrokovana kvalitetom samih proizvoda, dok je svega 2% ispitanika delimično nesaglasno sa ovom tvrdnjom.

Sa predstavljenom tvrdnjom tvrdnjom da Ytong materijali obezbeđuju jednostavnost gradnje, veliki broj ispitanika, njih 55%, je saglasno, što ukazuje na izuzetnu informisanost ispitanika kada je reč o gradnji ovim materijalom, dok je 9% ispitanika ostalo neutralno po pitanju ove tvrdnje.

Veliki broj ispitanika, njih 51%, saglasno je sa tvrdnjom da se Ytong sistemom gradnje postižu maksimalni učinci, što govori o tome da su ispitanici veoma dobro upućeni po pitanju navedene tvrdnje, a svega je nekolicina ispitanika, 19% njih, bilo neutralno po pitanju ove tvrdnje.

Na predstavljenu tvrdnju da je tokom gradnje Ytong sistemom gradnje, obezbeđena stručna pomoć Ytong tima, ispitanici su u najvećoj meri bili saglasni sa navedenom tvrdnjom, čak 50% njih, što dovodi do zaključka da su ispitanici obavešteni o ovom benefitu koji Ytong kompanija obezbeđuje svojim klijentima. 1% ispitanika je delimično nesaglasno sa ovom tvrdnjom.

Sa izloženom tvrdnjom da Ytong sistem gradnje garantuje bezbednost pri zemljotresu, 39% ispitanika je delimično saglasno sa ovom tvrdnjom, a svega 2% ispitanika je potpuno nesaglasno sa navedenom tvrdnjom, obrazlažući komentarima, da ne postoji građevina koja ne trpi posledice zemljotresa, i koja bi bila bezbedna pri zemljotresu.

Brojčano najveći broj ispitanika, njih 58%, saglasno je sa tvrdnjom da se Ytong sistem gradnje može primenjivati u svim područjima gradnje, što ukazuje na veoma dobru informisanost ispitanika kada je reč o ovoj tvrdnji, a i primeni ovog materijala u svim područjima gradnje, dok je svega 1% ispitanika potpuno nesaglasno sa ovom tvrdnjom.

U velikoj meri, ispitanici su na tvrdnju da je Ytong sistem gradnje, pouzdan vid gradnje, bili saglasni, čak 48% njih. Svega je 2% ispitanika potpuno nesaglasno sa navedenom tvrdnjom, govoreći o prednostima tradicionalnih, ustaljenih, sistema gradnje.

Sa navedenom tvrdnjom da Ytong sistem gradnje obezbeđuje pozitivan ekološki balans, najveći broj ispitanika, njih 56% je saglasno sa ovom tvrdnjom, što ukazuje na dobru informisanost ispitanika kada je reč o prednostima građevinskih materijala koji se tiču ekologije, a samo je 11% ispitanika neutralno po pitanju ove tvrdnje.

Kod tvrdnje da sistem gradnje na kome se bazira Ytong, je zasnovan na najsavremenijim standardima kvaliteta, u najvećoj meri su ispitanici saglasni, čak 56% njih, obrazlažući ovu tvrdnju time da je otuda Ytong i poneo titulu jednog od najboljih građevinskih materijala u svetu, a samo je 2% ispitanika delimično nesaglasno sa ovom tvrdnjom.

Predstavljena tvrdnja da je važna karakteristika ovog sistema gradnje da nema prekomernih zaliha, je u najvećoj meri vrednovana pozitivno. 48% ispitanika je saglasno sa navedenom tvrdnjom, dok je 16% ispitanika ostalo neutralno po pitanju ove tvrdnje.

Dominantni broj ispitanika, njih 66%, je saglasno sa tvrdnjom da laka i jednostavna obrada površina od Ytong-a, omogućava lakoću ugradnje elektro i vodovodnih instalacija,

što u znatnoj meri, prema tvrdnjama ispitanika, utiče na brzinu i ekonomičnost gradnje, a tek je 1% ispitanika neutralno po pitanju ove tvrdnje.

Takođe, izrazito veliki broj ispitanika, njih 70%, je saglasno sa tvrdnjom da zbog fizičkih svojstava – male težine, Ytong je pogodan za nadziđivanje, što upućuje na informisanost ispitanika kada je reč o materijalima, i njihovim fizičkim osobinama, time i osobinama u gradnji, dok je 8% ispitanika ostalo neutralno po pitanju ove tvrdnje.

Najveći broj ispitanika, njih 45%, je delimično saglasno sa tvrdnjom da Ytong sistem gradnje iziskuje manji broj radne snage na gradilištu, ukazujući da brojne prednosti ovog materijala smanjuju broj radnika na gradilištu, a efekat i brzina gradnje ostaju na zavidnom nivou. Svega je 13% ispitanika ostalo neutralno po pitanju ove tvrdnje.

Čak 55% ispitanika, je saglasno sa tvrdnjom da je sa Ytong sistemom gradnje moguće realizovati i vrlo zahtevne projektne dokumentacije, ukazujući na brojne uspešno realizovane građevinske poduhvate građene Ytong sistemom gradnje. Svega je 11% ispitanika ostalo neutralno po pitanju ove tvrdnje.

Na poslednjem pitanju, iz ove grupe pitanja, najveći broj ispitanika, 61% njih, je saglasno sa tvrdnjom da Ytong sistem gradnje ne iziskuje postojanje prevelikog prostora za skladištenje materijala, komentarišući obrazloženjem da je za druge građevinske materijale potrebno mnogo više prostora za skladištenje dodatne opreme, i dodatnih energenata, dok je 11% ispitanika ostalo neutralno po pitanju ove tvrdnje.

6. ZAKLJUČAK

Inovacije predstavljaju alat kojim moraju ovladati kompanije u svom poslovanju. Danas je težnja za stvaranjem nečeg novog imperativ svake organizacije, a i preduslov opstanka na turbulentnom tržištu.

Ytong-ova dugoročna politika je bazirana na zadovoljnim potrošačima. Uz vrhunski kvalitet proizvoda, primenu savremenih tehnologija i izuzetnim menadžmentom Ytong zauzima posebno mesto u svetskom građevinarstvu. Domaći potrošači su i dalje u većoj meri naklonjeni tradicionalnim materijalima (opeka), i ne poznaju dovoljno Ytong kao građevinski materijal odličnih performansi. Jedno od zapažanja je i da prodavci na stovarištima građevinskog materijala nemaju neku posebnu zainteresovanost da ukažu na prednosti Ytong-a i predlože ga kao odlično rešenje. S druge strane istraživanje je pokazalo da i sami izvođači zbog brzine gradnje često izostavljaju ovaj materijal jer na taj način cena za izvedene radove bi bila daleko niža.

Većina ispitanika se složila sa konstatacijom da Ytong zadovoljava kriterijume u pogledu ekonomičnosti koja se ostvaruje tokom gradnje, kvalitetu koji pruža, i njegovog neškodljivog uticaja na prirodnu okolinu.

REFERENCE

1. Urošević S., *Tehnologija, inovacije i konkurentna prednost*, II Simpozijum inovacionih istraživanja, SINOVIS 2012, Srpska asocijacija akademika i inovatora i naučnika, Knjiga radova, str. 189-196, Beograd, 2012.

2. Đorđević D., Urošević S., Uloga inovativnog delovanja u razvoju konkurentske sposobnosti preduzeća, Poslovna politika, godina XXXIX, broj 1-2., str. 20-24., Beograd, 2010.
3. Živković Ž., N. Popović., M. Jelić., *Upravljanje istraživanjem i razvojem*, Bor, 2003.
4. Zakon o inovacionoj delatnosti "Službeni glasnik RS", br. 110/2005 i 18/2010, član 2.
5. Urošević S., "Kreativnost i inovacije u poslovanju – bitan faktor uspeha poslovnih subjekata", I simpozijum inovacionih istraživanja SINOVIS 2011, Srpska kraljevska asocijacija akademika, inovatora i naučnika, Zbornik radova, str. 180-190, Beograd, 2011.
6. Lajović D., Vulić V., *Tehnologija i inovacije*, Ekonomski fakultet Podgorica, str. 57, Podgorica, 2010.
7. European Commission, Green Paper on Innovation, December, 1995.
8. Živković D., *Upravljanje novim tehnologijama i inovacijama*, Bor, 2006.
9. <http://www.cpm.rs/pdf/AG-magazin-31.pdf>
10. <http://www.gradjevinarstvo.rs/VestDetalji.aspx?ban=810&vestid=2795>
11. <http://www.politickiforum.org/index.php?vrsta=tribina&kategorija=&tekst=44&naredba=prikaz>
12. Veljić D., *Inovacije u savremenom građevinarstvu na primeru Ytong materijala u sistemu gradnje*, diplomski rad, Univerzitet u Beogradu, Tehnički fakultet u Boru, Bor, 2012.
13. <http://www.novimagazin.rs/ekonomija/vladin-podsticaj-gradjevinarstvu-i-u-2012>
14. http://www.ytong.rs/rs/content/prednosti_ytonga.php
15. http://ytong.cmass.info/active/srlatin/home/prednosti_ytonga/jednostavna_i_brza_gradnja.html
16. http://www.ytong.rs/rs/content/prednost_ytonga_1335.php
17. www.xella.co.yu

POSSIBILITIES OF IMPROVING BUSINESS ENVIRONMENT IN SERBIA

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Abstract: Companies in Serbia, primarily entrepreneurs, shops, small and medium enterprises, are faced with a very complex procedures and regulations in the initial phase of operations, day to day operations, and in the event of termination of business. Complying with such regulations and procedures represents a significant burden and cost of limited financial, managerial and human resources in the SME sector. In this sense, creating a safe, steady and stimulative business environment, will be one of the biggest challenges of our country in the future. This process requires strong support and progress in many areas of society. To set up and maintain business infrastructure, and create the appropriate business climate, significant contribution to this process can be provided by modern business forms such as free zones, industrial parks, business incubators, technology parks, as well as other business support mechanisms. This will intensify the work on improving the business environment, entrepreneurship, employment rate growth, and the realization of new business ventures, which is the subject of research of this paper. The aim of the research is to analyze the relevant factors and processes of theory and practice, and observe the chances for improving the business environment in Serbia.

Keywords: entrepreneurship, entrepreneurs, businesses, companies, economic development.

MOGUĆNOSTI UNAPREĐENJA POSLOVNOG AMBIJENTA U SRBIJI

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Apstrakt: Preduzeća u Srbiji, pre svega preduzetnici, radnje, mala i srednja preduzeća, suočavaju se sa složenim postupcima i propisima u fazi započinjanja poslovanja, svakodnevnom poslovanju i u slučaju prestanka rada. Poštovanje ovakvih propisa i procedura predstavlja značajno opterećenje i trošak za ograničene finansijske, upravljačke i kadrovske resurse u sektoru MSP. U tom smislu, stvaranje sigurnog, uređenog i stimulativnog ambijenta za poslovanje, biće jedan od najvećih izazova naše zemlje u narednom periodu. Taj proces zahteva snažnu podršku i napredak u brojnim sferama društva. Da bi se osnovala i održavala poslovna infrastruktura, i stvorila odgovarajuća poslovna klima, značajan doprinos mogu dati savremeni oblici poslovanja poput slobodnih zona, industrijskih parkova, poslovnih inkubatora, tehnoloških parkova, kao i drugi mehanizmi poslovne podrške. Time se intenzivira i rad na unapređenju preduzetništva, rastu zaposlenosti i realizovanju novih poslovnih poduhvata.

Ključne reči: preduzetništvo, preduzetnici, poslovanje, preduzeća, ekonomski razvoj.

1. UVOD

Još od kraja 80-ih godina prošlog veka zemlje u tranziciji preduzimaju mere transformacije svojih političkih, ekonomskih i socijalnih sistema u pravcu tržišne ekonomije. Suština ovog procesa je razvijanje privatnog sektora i preduzetništva, a deo ovog procesa je i stvaranje malih i srednjih preduzeća (Small Medium Enterprises – SME-s). U ovim aktivnostima akcenat je stavljen na stvaranje povoljne klime i poslovne sredine u kojoj će biti omogućeno transformisanje postojećih preduzeća prema tržišnoj ekonomiji. Unapređenje preduzetništva ima bitnu ulogu u povećanju konkurencije na tržištu.

U svim oblastima u kojima je uključen veći broj učesnika, nužna je njihova povezanost, usklađenost i koordinacija. Preduzetništvo, kao aktivnost kreativnog kombinovanja raspoloživih faktora u preduzeću, predstavlja pokretačku snagu preduzeća koja nastaju, rastu i razvijaju se na tržištu. Kao proces stvaranja novih vrednosti, organizacija i organizacionih oblika, preduzetništvo objedinjuje aktivnosti i procese predviđanja (vizije), inovativnosti, prihvatanje rizika i učenje. Rezultat kombinovanja ovih raznovrsnih procesa je rađanje, obavljanje i reprodukovanje novog poslovnog poduhvata.

Međutim, neadekvatni eksterni uslovi, mere države i nepovoljna makroekonomska sredina u gotovo svim zemljama u procesu tranzicije, predstavljaju prepreku razvoju preduzetništva i privatnog sektora. Radi olakšanja ovog procesa u mnogim oblastima je neophodan dodatni rad i brojne aktivnosti. Osim finansijske podrške, neophodan je napredak na polju obrazovanja i obuke zaposlenih, kao i transfer znanja. Značajna faza predstavlja osnivanje poslovne infrastrukture, kako bi se stimulisao razvoj preduzetništva i unapređenje malih poslova.

Za razvoj preduzetništva i privatnog sektora potrebno je stvoriti odgovarajuće uslove i poslovni ambijent, što zahteva podršku i napredak u brojnim sferama društva. Da bi se osnovala odgovarajuća poslovna infrastruktura, i stvorila odgovarajuća poslovna klima značajan doprinos može dati razvoj savremenih instrumenata poslovne podrške poput poslovnih inkubatora, industrijskih i tehnoloških parkova, slobodnih zona. Time se intenzivira i rad na unapređenju preduzetništva, rastu zaposlenosti, započinjanju novih poslovnih poduhvata, a time i unapređenju poslovnog ambijenta u celini.

2. MAKROEKONOMSKO OKRUŽENJE I POSLOVNI AMBIJENT U SRBIJI

Blagi oporavak privrednih aktivnosti u Srbiji i prevazilaženje negativnih efekata svetske ekonomske krize započeto je u 2010. godini. Rastu BDP od 1,0% najviše je doprineo rast izvoza. Dinamičniji rast izvoza od uvoza (24,0% i 9,7% respektivno) uticao je na smanjenje spoljnotrgovinskog deficita u 2010. godini za 5,7% i smanjenom učešću u ostvarenom BDP za 0,7pp (17,8%). Posle drastičnog pada u prethodnoj godini, posebno je značajan početak oporavka industrijske proizvodnje (rast od 2,5%) i prerađivačke industrije od 3,9%. Međutim, privreda je i dalje suočena sa niskim nivoom investicija (i pored rasta od 5%), inflatornim rizicima, padom zaposlenosti (stopa nezaposlenosti 19,2%), visinom budžetskog deficita i visokim i rastućim učešćem spoljnog duga u BDP (82%). Tehničko-tehnološko zaostajanje i nekonkurentnost srpske privrede i dalje su ključni ograničavajući faktori efikasnijeg uključivanja u međunarodne tokove.[8]

U poslednjih nekoliko godina, izvestan napredak je postignut u stvaranju institucionalnog i pravnog okvira poslovanja, tako da je Srbija uspela da nadoknadi

zaostatak u razvoju malih i srednjih preduzeća u odnosu na druge zemlje u tranziciji, a u nekim segmentima je čak postigla i bolje rezultate od pojedinih zemalja - članica EU. Broj preduzeća je stalno u porastu, što je praćeno istovremenim povećanjem broja zaposlenih, tako da je broj radnih mesta u sektoru MSP od 2005. veći od broja radnih mesta izgubljenih u restrukturiranju velikih preduzeća, što je dalo značajan doprinos smanjenju socijalne tenzije. Međutim, dinamika zapošljavanja i dalje nije dovoljna da apsorbuje raspoloživu radnu snagu.

Važno je napomenuti da je većina zemalja u tranziciji, uključujući i Srbiju, usvojila Evropsku povelju za mala preduzeća. Ova povelja je veoma važan aspekt razvoja preduzetništva i razvoja MSP, usklađivanja sa standardima EU, što je jedan od uslova za članstvo u Evropskoj uniji. Povelja se zasniva na definisanju pojedinačnih kriterijuma za mala i srednja preduzeća u svakoj zemlji. Ovo je važno zbog toga što mehaničko kopiranje kriterijuma za klasifikaciju preduzeća (broj zaposlenih, bilansnih stanja i godišnji promet) nije prihvatljivo u svim slučajevima, zbog raznovrsnosti nacionalnih ekonomija. Iz tog razloga, Evropska povelja je posebno prilagođena ekonomiji pojedinačnih zemalja.

Komparativna analiza razvoja MSP sektora u Srbiji i EU, pokazuju da je učešće u broju preduzeća i zaposlenosti, kao i prihoda i BDP, sektor MSP u Srbiji spada u prosek EU. Međutim, postoji veliki jaz u srpskom sektoru malih i srednjih preduzeća u odnosu na prosek EU ako pogledate prodaja po zaposlenom, BDV po zaposlenom i profit po zaposlenom. Komparativna analiza investicija po zaposlenom i investicija po preduzeću, u zemljama u okruženju i EU – ukupno 27, ukazuje na značajno niži nivo ovih pokazatelja u Srbiji, u sektoru MSP i ukupne privrede. Investicije po zaposlenom u sektoru MSP iznosi 3.000 evra (prosek EU je 7.700 dolara) i investicije po preduzeću 9.200 EUR (EU 33.400 €).[8]

Relativno visoko učešće MSP u osnovnim indikatorima ekonomskih aktivnosti ukazuje na sporiji tempo strukturnih reformi u zemlji. Svetska ekonomska kriza je samo produbila postojeće razvojne probleme, pre svega, velika preduzeća u restrukturiranju. Svetska banka i Međunarodna finansijska korporacija (IFC) objavile su 23. oktobra 2012, godine "Godišnji izveštaj za 2013". Na globalnoj listi, koja meri lakoću poslovanja u 185 zemalja, Srbija je napravila skok sa prošlogodišnjeg 95. na 86. mesto, čime se našla među prvih deset ekonomija koje su sprovele najveći broj reformi. Pozicija Srbije je poboljšana za 9 mesta zbog značajnog napretka u tri oblasti: pokretanje poslovanja, sprovođenje ugovora i rešavanje pitanja nesolventnosti.[12]

U izveštaju se navodi da je Srbija omogućila lakše pokretanje poslovanja kroz ukidanje minimalnog osnivačkog uloga za pojedine oblike preduzeća. Pored toga, proces rešavanja nesolventnosti ojačan je uvođenjem privatnih procenitelja, smanjivanjem početne cene za prodaju imovine, ukidanjem suvišnih procedura i ubrzavanjem uvođenja elektronskog registra kroz javni pristup svim podacima koji se tiču upravljanja ili vlasništva nad pokretnom i nepokretnom imovinom. Konstatovano je da je sistem izvršenja takođe omogućio lakše sprovođenje ugovora.

Tabela 1. Rangiranje zemalja prema kriterijumu – pokretanje biznisa

(*Doing Business 2013 report*)

<i>Naziv države</i>	<i>Mesto</i>	<i>Procedure (broj)</i>	<i>Vreme (dani)</i>	<i>Troškovi (% od prihoda po glavi stanovnika)</i>	<i>Uplaćen min. kapital (% od prihoda po stanovniku)</i>
<i>Novi Zelanda</i>	<i>1</i>	<i>1</i>	<i>1</i>	<i>0.4</i>	<i>0</i>
<i>Australija</i>	<i>2</i>	<i>2</i>	<i>2</i>	<i>0.7</i>	<i>0</i>
<i>Kanada</i>	<i>3</i>	<i>1</i>	<i>5</i>	<i>0.4</i>	<i>0</i>
<i>Singapur</i>	<i>4</i>	<i>3</i>	<i>3</i>	<i>0.6</i>	<i>0</i>
<i>Makedonija</i>	<i>5</i>	<i>2</i>	<i>2</i>	<i>1.9</i>	<i>0</i>
<i>.</i>	<i>.</i>	<i>.</i>	<i>.</i>	<i>.</i>	<i>.</i>
<i>Srbija</i>	<i>42</i>	<i>6</i>	<i>12</i>	<i>7.7</i>	<i>0</i>

Najveći napredak od 49 mesta, zabeležen je u oblasti pokretanja biznisa, u kojoj Srbija zauzima 42. mesto, zahvaljujući sprovedenim reformama kojima je ukinut minimalni kapital. U izveštaju se navodi da je za otpočinjanje poslovanja preduzeća potrebno sprovesti 6 procedura, što traje 12 dana ukupno, od čega postupak registracije u APR traje do 3 dana.

Kada je reč o konkurentnosti, prema istraživanju Svetskog ekonomskog foruma Srbija je jedna od najnekonkurentnijih zemalja na evropskom kontinentu - jedino BiH zauzima goru poziciju. Uzroci nekonkurentnosti srpske privrede leže upravo u njenoj sporoj modernizaciji i prestrukturiranju. Jedna od najvažnijih odrednica konkurentnosti je investiranje u obrazovanje, jer uspeh i razvoj kako preduzeća, tako i privrede zavisi od intelektualnog potencijala koji poseduje. Iako je usporila dinamiku sprovođenja započetih reformi, recesija menja uslove poslovanja, stvara prostor na tržištu i oslobađa resurse, čime se otvara mogućnost da inventivni pojedinci uoče i iskoriste poslovnu priliku. Nedovoljno razvijen sektor MSPP nije se snašao u novonastalim okolnostima, ali su mala preduzeća zahvaljujući povećanom stepenu mobilnosti i razvoju unutrašnjih potencijala, uspela da spreče dalji pad njihovog nivoa konkurentnosti. [8]

3. PREDUZEĆA U SRBIJI I EVROPSKOJ UNIJI

Istraživanja pokazuju da u Evropskoj uniji od postojećih dvadesetak miliona preduzeća, preko 99% čine mala i srednja preduzeća. Pri tome, ona doprinose ukupnom bruto društvenom proizvodu EU sa 60%, učestvuju sa 70% u ukupnom prometu roba i usluga, obezbeđujući preko 80 miliona radnih mesta. To konkretno znači da je u sektoru MSP zaposleno više od dve trećine zaposlenih od ukupnog broja zaposlenih u privatnom sektoru EU. Time je ovaj sektor i glavni izvor zapošljavanja i stvaranja bogatstva u Evropskoj Uniji.[11]

Sve zemlje EU i većina onih kojima je cilj pridruživanje koriste sledeću kategorizaciju Preporuke Evropske komisije 2003/361/EC:[1]

Tabela 2. Kriterijumi za selekciju preduzeća u EU

Vrsta preduzeća	Broj zaposlenih	God. promet mil. EUR	Aktiva mil. EUR
Mikro	do 10 zaposlenih	do 2	do 2
Mala	od 10 do 50	do 10	do 10
Srednja	od 50 do 250	do 50	do 43
Velika	preko 250	preko 50	preko 43

Kada je reč o preduzećima u Srbiji, prema izveštaju o malim i srednjim preduzećima za 2010. godinu, od ukupno 319.044 preduzeća, preduzetnički sektor čini 99,8% (318.540 preduzeća). Sektor MSPP generiše 66,4% zaposlenih (814.585), 65,3% prometa (4.678 mlrd. dinara) i 55,9% BDV (817,4 mlrd. dinara) nefinansijskog sektora u 2010. godini. Sektor MSPP angažuje 45,4% ukupne zaposlenosti, ostvaruje 44,5% izvoza, 52,3% uvoza, generiše 63,3% spoljnotrgovinskog deficita privrede Srbije i učestvuje sa oko 33% u BDP Republike. Efekti ekonomske krize na razvoj sektora MSPP u 2010. u odnosu na 2009. godinu su:[8]

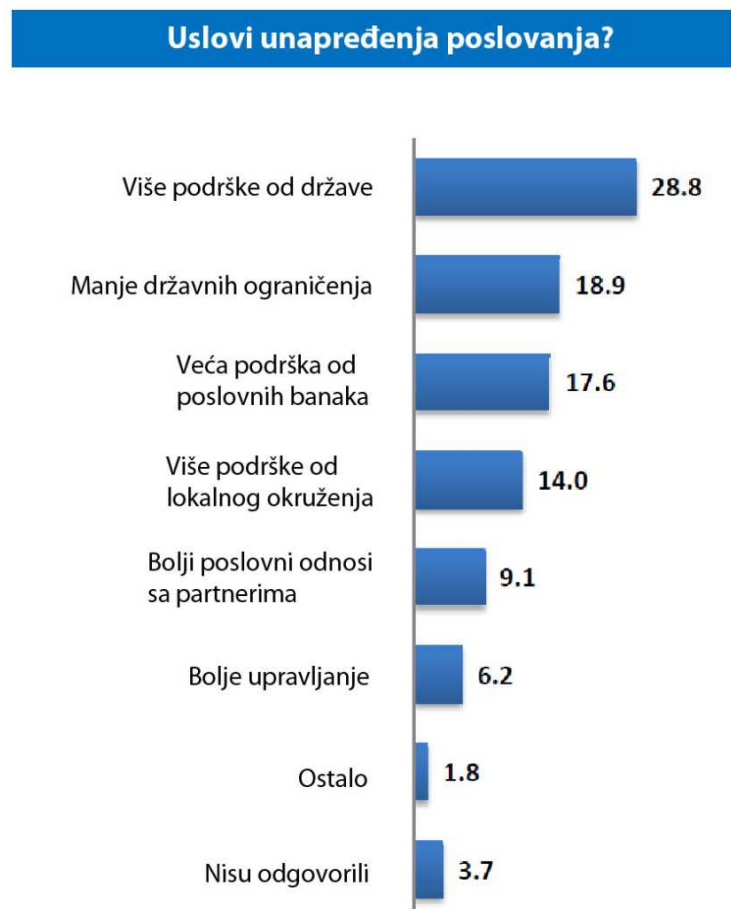
- Povećanje broja MSPP (za 3.713) rezultat je povećanja broja preduzetnika (za 2.439) i mikro preduzeća (za 1.746), dok se broj malih preduzeća smanjio za 259, a srednjih za 213 – pokazatelj sla-be ekonomske snage sektora;
- Nastavljen trend smanjenja neto efekta (odnos broja osnovanih i ugašenih preduzeća i radnji) – na 10 ugašenih preduzeća osnovano je 10 (28 u 2009.), a na 10 radnji koje su prestale sa radom osnovano je 9 novih (11 u 2008.);
- Smanjenje broja zaposlenih za 57.955 radnika (ili 6,6%) čini 71,8% smanjenja zaposlenosti nefinansijskog sektora – nastavljen trend smanjenja značaja sektora MSPP na ublažavanju ukupne nezaposlenosti u zemlji;
- Ispodprosečni rast poslovne aktivnosti (0,3% prema 12,2% kod velikih preduzeća i 4,1% u nefinansijskom sektoru), uticao je na pad ostvarene bruto dodate vrednosti za 1,4% (rast BDV u velikim preduzećima od 12,2%, a u nefinansijskom sektoru od 3,6%);
- Niži rast produktivnosti, meren vrednošću BDV po zaposlenom, nego u nefinansijskom sektoru (5,7% prema 7,4%, respektivno), uprkos višoj stopi smanjenja zaposlenosti (-6,6% prema -6,2%, respektivno); I dalje je najneprofitabilniji deo privrede (stopa profitabilnosti je 36,1% prema 43,0% u velikim preduzećima i 39,2% u nefinansijskom sektoru) i pored činjenice da je u poređenju sa 2009. godinom profit sektora MSPP realno veći za 8,6%, a profitna stopa za 10,1%. Najveću stopu profitabilnosti imaju mala preduzeća (45,9%);
- Nepromenjena je sektorska koncentracija MSPP – Prerađivačka industrija, Trgovina na veliko i malo, Građevinarstvo i Stručne, naučne, inovacione i tehničke delatnosti.;
- Nepromenjene regionalne disproporcije. Nivo razvijenosti sektora MSPP po oblastima u Srbiji, meren indikatorom BDV po zaposlenom, ukazuje da je odnos oblasti sa najrazvijenijim (Grad Beograd) i sa najnerazvijenijim sektorom MSPP

(Pčinjska) 2,4:1 (2,3:1 u 2009.), a u profitabilnosti 2,1:1 u 2010. prema 2,9:1 u 2009. godini.

4. GLAVNI PROBLEMI I PREPREKE U POSLOVANJU PREDUZEĆA I PREDUZETNIKA

Sa ciljem uvida u aktuelno stanje, potrebe i probleme malih i srednjih preduzeća i preduzetnika, Republička agencija za razvoj MSPP, uz podršku Ministarstva ekonomije i regionalnog razvoja, realizovala je terensko istraživanje u periodu od 20. maja do 20. juna 2009. godine. Veličina uzorka bila je 3.000 MSPP (realizacija uzorka 98,8%). Anketirane jedinice su ekonomski aktivna mala i srednja preduzeća i preduzetnici, odnosno poslovni subjekti koji su predali APR-u, odnosno NBS-u, godišnje finansijske izveštaje za 2008. godinu, kao i preduzetnici koji su u sistemu PDV-a.

Kao najznačajniji faktori koji utiču na uspešnost poslovanja navode se pre svega naporan rad, lična inicijativa, motivacija, radno iskustvo, poslovne veštine, podrška porodice, a zatim i poslovne i lične veze, spremnost na rizik, stečeno obrazovanje itd. Kada je reč o uslovima unapređenja poslovanja, anketirani subjekti smatraju da oni najviše zavise od veće podrške od države (28,8%), manje državnih ograničenja (18,9%), veće podrške od poslovnih banaka (17,6%), više podrške od lokalnog okruženja (14%), boljih poslovnih odnosa sa partnerima (9,1%), boljeg upravljanja (6,2%), itd.



Slika 1. Faktori koji utiču na unapređenje poslovanja[9]

Kada je reč o glavnim problemima u poslovanju, ispitanici su rangirali probleme ocenom od jedan do osam, pri čemu jedan ima najveći intenzitet. Prikazane su prosečne vrednosti. Na osnovu prezentovanih podataka, uočljivo je da su najveći problemi nedostatak sredstava (ponder 2), administrativne prepreke (2.1), nedostatak kvalifikovane radne snage (3.6), neusklađenost sa standardima (4), nedostatak informacija o tržištima, tehnologijama, itd. Među administrativnim preprekama navode se poreski propisi i procedure (ponder 2.6), pribavljanje dozvola za gradnju i renoviranje (2.7), rad inspekcijских organa (3.2), uknjižba imovine (3.6), prijava i odjava zaposlenih (3.7), registracija poslovanja (3.8), itd.[9]

Poslovanje sektora MSP, po oceni njihovih vlasnika, opterećuje i:[4]

- Plaćanje PDV unapred, visoke stope doprinosa i poreza, kao i nepovoljnog tarifiranja troškova električne energije, telefona i sl.,
- Nerešeni imovinsko pravni odnosi, spori procesi dobijanja potrebnih dozvola i dugotrajna legalizacija,
- Carinske barijere.

Među brojnim preprekama za MSP uglavnom se navode:

- *Nerazrešena pitanja:* administrativne prepreke, siva ekonomija, relativno visoka poreska opterećenja, nepouzdana i spora pravna procedura naplate potraživanja i stečaja,
- *Nedostatak finansija* – prema mišljenju vlasnika MSP, predstavlja glavni problem u ovom sektoru,
- Kreditno finansiranje je još uvek jedino rešenje za veliku većinu MSP (pored lične uštedevine), a kamatne stope i uslovi kreditiranja nisu povoljni za MSP,
- *Druga pitanja:* slabo funkcionisanje sistema osiguranja i naplate potraživanja, nedostatak zaloga i nesređeno stanje u zemljišnim registrima što ograničava mogućnost korišćenja hipoteka, itd.

Očigledno je da se preduzeća i preduzetnici susreću sa brojnim problemima u poslovanju, kako u započinjanju poslovnih aktivnosti, tako i tokom obavljanja svakodnevnih aktivnosti. U tom smislu, neophodno je preduzeti niz aktivnosti na unapređenju poslovnog ambijenta, pravnog i administrativnog okvira za poslovanje, razvoju instrumenata poslovne podrške u Srbiji u narednom periodu.

5. INSTRUMENTNI EKONOMSKOG RAZVOJA I UNAPREĐENJA POSLOVNOG AMBIJENTA

Istraživanja pokazuju da među brojnim instrumentima ekonomskog razvoja, **poslovni inkubatori** predstavljaju najefektivnije sredstvo pomoći preduzetnicima i preduzećima u započinjanju novih poslova, podršci novoosnovanim preduzećima i davanju raznovrsne pomoći u cilju preživljavanja, tokom početnog perioda poslovanja. Kao fleksibilni organizacioni oblici, koji su u stanju da se efikasno prilagode potrebama i promenama u okruženju, poslovni inkubatori nastoje da aktiviraju *sve resurse preduzeća*, stavljajući ih u funkciju realizacije preduzetničkih poduhvata i razvoj malih preduzeća. Način poslovanja

preduzeća u poslovnom inkubatoru predstavlja svojevrsnu reformu privatnog biznisa, doprinosi jačanju malih i srednjih preduzeća, ali i lakšem pristupu modernim tehnologijama.

Mnoga preduzeća i preduzetnici na samom početku rada suočavaju sa problemom nedostatka kapitala, nedovoljnog iskustva u upravljanju preduzećem i nepoznavanja tržišta, kako u smislu potražnje za ponuđenim proizvodima, tako i u smislu novih, nepoznatih tržišta. Posledica ovoga je veoma mali broj novoosnovanih preduzeća i, indirektno, manji broj novih radnih mesta na lokalnom nivou.

Termin inkubacija podrazumeva obezbeđivanje dobrih uslova za otpočinjanje novih poslova i ostvarivanje poslovnih ideja, inovativnost u podsticanju razvoja preduzetničkog duha, kao i preduzimanje konkretnih koraka u očuvanju takvih uslova i kapaciteta neophodnih za opstanak, rast i razvoj. **Poslovni inkubatori** su preduzeća čiji je cilj stvaranje povoljnih uslova koji će zainteresovanim preduzetnicima omogućiti započinjanje i osnivanje sopstvenog biznisa, održavanje stabilnog poslovanja u nekoliko godina i njihovo osposobljavanje za izlazak iz inkubatora na tržište.[12]

Ciljevi formiranja poslovnog inkubatora su: otvaranje novih radnih mesta, smanjenje broja neuspešnih MSP, jačanje MSP u regionu (lokalni razvoj), zadržavanje mladih ljudi u lokalnim sredinama, podržavanje procesa privatizacije i restrukturiranja i povezivanje MSP u regionu i van njega sa velikim privrednim subjektima. Poslovni inkubatori pružaju mogućnost razvoja novih delatnosti, primenu savremene tehnologije, kao i novih poslovnih, tehničkih, organizacionih i marketinških struktura i metoda.

Prvi korak je finansiranje infrastrukture od strane države i lokalne samouprave, a kasnije se nastavlja ulaskom privatnih investicija (donatori, druge ekonomske organizacije, profitabilne organizacije, akademske institucije). Nakon izgradnje vrši se popuna inkubatora, izbor stanara uz prethodno definisane kriterijume za njihov izbor, kao i definisane kriterijume za izlazak iz inkubatora.

Osnivanje poslovnih inkubatora javlja se kao sve popularniji način podsticanja preduzetništva i smanjenja nezaposlenosti u Srbiji. Svrha poslovnih inkubatora kao poslovnog udruženja je obezbeđivanje dobrih uslova za otpočinjanje novih poslova i prevođenja poslovnih ideja u praksu, kao i sprečavanje odlaska školovanih mladih ljudi u inostranstvo zbog nedostatka uslova. Neki od problema sa kojim se početnici u biznisu sreću su nedostatak početnog kapitala, nedovoljno iskustvo u upravljanju preduzećem i nepoznavanje tržišta.

U Srbiji postoji desetak poslovnih inkubatora poput inkubatora tehničkih fakulteta u Beogradu - inkubatori u Knjaževcu, Nišu, Kruševcu, Užicu, Prokuplju, Boru, Senti, Subotici, Zrenjaninu, Pančevu, Beočinu i Rači. Usluge koje poslovni inkubatori pružaju su - korišćenje prostora inkubatora, zajedničke usluge kao što su sekretarijat, kancelarijska oprema, savetovanje, umrežavanje - poslovni prostor po subvencionisanim cenama, usluge savetovanja i mentorstva.

6. ZAKLJUČAK

Na osnovu svega navedenog, očigledno je da je u Srbiji potrebno kreirati stabilnost i kontinuitet u vođenju ekonomske politike koja bi obezbedila stabilno i predvidivo okruženje za privrednike. Potrebno je obezbediti konkurentski ambijent, sličan onom koji postoji u razvijenim tržišnim privredama. To znači da treba obezbediti makroekonomsku stabilnost, nastavak ekonomskih reformi, poboljšati efikasnost antimonopolske politike,

smanjiti politički rizik, nastaviti putem pristupanja ka EU i privlačenja stranih investicija, sprovesti opštu deregulaciju poslovanja i dr.

Problem predstavlja činjenica da je državna administracija je preglomazna i preskupa. Privredi je potrebna efikasna i „jeftina“ državna administracija. Potrebno je povećati efikasnost državne administracije, koja bi trebala da bude više orijentisana ka korisnicima. U svim segmentima poslovanja država bi trebalo da uvede elektronski servis, a naročito kada su u pitanju javni registri. Od velikog značaja je pojednostavljenje administrativnih procedura, snižavanje njihovih troškova i opšta deregulacija poslovanja. Skupe i dugotrajne administrativne procedure (naročito kada su u pitanju licence, sertifikati i dobijanje građevinske dozvole) destimulišu osnivanje novih preduzeća i investiranje.

Pored toga, nedovoljno su razrađeni mehanizmi finansijske podrške, nedostaju garantne šeme i neohodno je pojednostaviti komplikovane procedure povlačenja sredstava po kreditnim linijama odobrenim od strane državnih institucija. Razvoj različitih organizacija koje pružaju usluge malim preduzećima je neravnomeran i regionalno i sa stanovišta kvaliteta usluga (regionalne agencije i centri, poslovni inkubatori...). Kako je konkurentnost naše privrede jedan od osnovnih činilaca našeg razvoja, a samim tim i uspešnog ulaska u EU, a inovacije su suštinski važan činilac konkurentnosti više je nego neophodno raditi na merama *podrške inovacijama*.

Očigledno je da mogućnosti razvoja privatnog sektora i malih preduzeća u početnim periodima njihovog poslovanja, kao i mehanizmi pomoći preduzećima i preduzetnicima u započinjanju novih poslova, još uvek nisu dovoljno razrađeni i efikasni. U tom smislu, potrebno je, pre svega, podizanje svesti na lokalnom nivou o potrebi za uspostavljanje poslovnih inkubatora, industrijskih zona I parkova, kao instrumenata za podršku osnivanju novih preduzeća i novih radnih mesta, kao i stvaranje implementacionih timova na «lokalu», sastavljenih od odgovarajućih i zainteresovanih partnera.

Poslovni inkubatori su među najznačajnijim instrumentima koji na lokalnom nivou mogu pomoći nastanak novih, održivih preduzeća. Mnoga preduzeća i preduzetnici se na samom početku rada suočavaju sa problemom nedostatka početnog kapitala, nedovoljnog iskustva u upravljanju preduzećem i nepoznavanja tržišta, kako u smislu potražnje za ponuđenim proizvodima, tako i u smislu novih, nepoznatih tržišta. Posledica ovoga je veoma mali broj novoosnovanih preduzeća i, indirektno, manji broj novih radnih mesta na lokalnom nivou. Poslovni inkubatori predstavljaju jedno od rešenja za ovaj problem u tom smislu što podržavaju novoosnovana preduzeća u svim aspektima njihovog poslovanja.

U Srbiji je i siva ekonomija još uvek široko rasprostranjena, iako je poslednjih godina značajno smanjeno njeno učešće. Negativni efekti sive ekonomije se ogledaju u gubitku poreskih prihoda države, u gubicima radnika koji rade u sivoj ekonomiji (ne uplaćuju im se porezi i doprinosi), u neefikasnoj alokaciji resursa, u smanjenju mogućnosti vođenja makroekonomske politike i dr. Siva ekonomija predstavlja i nelojalnu konkurenciju onim preduzećima koja redovno izmiruju svoje fiskalne obaveze. Cilj ekonomske politike ne treba da bude gašenje sive ekonomije, već gdje god je to moguće njeno prevodjenje u legalne tokove.

Na kraju, Srbija kasni u integracionim procesima. Ni osam godina nakon otpočinjanja ozbiljnijih reformskih procesa Srbija nije uspela da obezbedi da Sporazum o stabilizaciji i pridruživanju sa Evropskom unijom stupi na snagu. Nužno je da se u što kraćem roku otklone sve barijere za zaključivanje ovog sporazuma i da Srbija u sledećoj godini obezbediti status Kandidata za prijem u EU. Na ovaj način bi se otklonio deo barijera koji

postoje za srpske izvoznike na tržište EU i obezbedila bi se veća sredstva sa srpsku privredu iz predpristupnih fondova EU.

REFERENCE

1. Antal Szabó, The development of the SME sector in the countries in transition and emerging market economies in the UNECE region
2. *Economy in Serbia - Small and medium-sized enterprises*, Serbian Chamber of Commerce, www.pks.rs
3. European Commission, Small and medium-sized enterprises (SMEs), SME Performance Review, Annual report, 2013.
4. *Implementation of the European Charter for Small Enterprises in the Western Balkans, the working group Small and medium enterprises and entrepreneurship, first session - Belgrade, February 2009.*
5. *Instruments of local economic development*, the Quick Start Guide: Volume 2, Quick Impact Facility, BH
6. National Business Incubation Association, www.nbia.org
7. *Programme for Business Incubators and Clusters in the Republic of Serbia 2007-2010*, Republic of Serbia, the Ministry of Economy and Regional Development
8. Report on SMEs, the Ministry of Economy and Regional Development, Institute for Development, the National Agency for Regional Development, Belgrade, November 2010.
9. *Status, needs and problems of small and medium enterprises and entrepreneurs, the Republic Agency for SME development, the Ministry of Economy and Regional Development, 2010.*
10. Stikić D., *Business incubators as a tool to support the development of innovative enterprises*, 35th National Conference on Quality, Kragujevac, 2008.
11. The development strategy of the competitive and innovative small and medium enterprises in Serbia 2008-2013.
12. The Government of the Republic of Serbia, The Ministry of Economy and Regional Development, <http://www.merr.sr.gov.yu/>

THE CREDIT RATING AGENCIES

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Abstract: Credit rating agencies are important participants in modern financial markets. Credit rating agencies are important participants in modern financial markets. The main task of the agencies is to provide independent, objective and high-quality credit rating assessment to all users of financial services. Ratings are used as basis for investment decisions and appraisal of creditworthiness that indirectly influences volume and cost of the investment.

This paper describes the main activities and roles of rating agencies in the financial markets, the methodology of rating assessment and interpretation of individual ratings. Furthermore, there is a review of historical rating movements for Bosnia and Herzegovina and its connection with the foreign direct investments inflows within the country and the cost of borrowing.

Keywords: Rating agencies, credit rating, the rating methodology, "The Big Three", the cost of borrowing

1. INTRODUCTION

Everyone knows what is bank and which activities are related to banking activities. Most people are able to explain the role of insurance companies or give a basic overview of their activities. Rating agencies are special type of institutions whose purpose and activities only a few people can really explain. On the other hand, it is emphasized that these institutions are of particular importance whose significance is summed up in a sentence of a famous New York Times columnist, Thomas L. Friedman: *„There are two superpowers in the world today. There's the United States and there's Moody's bond rating service. The US can destroy you by dropping bombs, and Moody's can destroy you by downgrading your bonds. And believe me it's not clear sometimes who's more powerful."*

So, what are credit rating agencies? What do they really do? What are the effects of their work? Credit rating agencies are institutions that create and provide access to objective and independent assessments of the relative credit quality for companies, debt instruments or countries. Those are influential mechanisms of financial globalization and they have an impact on governments and on companies behaviour. Therefore, understanding motives, objectives and constraints of these institutions is very important.

This paper is not focused on observing the importance of rating agencies from economic or political point of view, or to determine whether the rating agencies are "good" or "evil". The purpose of this paper is to assess their role in financial globalization based on the growth of their influence. This paper describes main activities and roles of rating agencies in financial markets, the methodology of rating assessment and interpretation of individual ratings, possible errors in the evaluation, and potential consequences of errors.

When it comes to assigning credit rating to a country, it's important to analyze indicators such as income per capita, gross domestic product (GDP) growth, inflation,

political stability etc. The paper gives an overview of credit ratings of Bosnia and Herzegovina (BH) for the period 2008-2013, and an overview of GDP for the same period - as one of the indicators that credit rating agencies consider. Through an overview of foreign direct investments volume and movements of interest rates on total debt of the country, review of the effects of credit rating assigned to BH is given for the same period.

2. THE CREDIT RATING AGENCIES

What do credit rating agencies do? Agencies make estimates on the future ability and willingness of an issuer of securities for the timely payment of principal and interest over time [Moody's Investors Service, 2004]. According to Standard & Poor's [1992] rating is not a recommendation to buy, sell or hold securities, since it does not comment on market price or suitability for the investors, because investors differ by their willingness to take risks. In other words, credit rating should form only part of the information that investors use when making decisions. Defining their role in this way agencies are explicitly protected from any liability to investors who rely on their assessments.

2.1. THE ROLE AND OBJECTIVES OF CREDIT RATING AGENCIES

„The credit rating is an assessment of creditworthiness of a debt instrument or debtor based on analytical models for credit rating agencies, assumptions and expectations.“ [U.S. Securities and Exchange Commission, 2013, p. 2] Therefore, the rating is a standardized indicator of the quality that shows the estimated financial position.

Credit rating agencies have a significant role in reducing information asymmetry. The primary purpose is reducing information asymmetry that exists between financial instruments issuers and potential investors, resulting in avoiding the problem of the existence of asymmetric information between two participants involved in transaction considering that financial evaluation is based on using standardized quality indicators. [Kuhner, 2001]

Besides estimating issuers, rating agencies estimate credit rating for countries. „Country's credit rating demonstrates the ability and willingness of commercial debt servicing obligations in full and on time.“ [Bhatia, 2002, str. 4]

Rating agencies maintain control over the assigned rating by the way of warning investors when certain economic trends affect the assigned rating and revising the assigned rating (upgrading or downgrading). Financial globalization has expanded the scope of these agencies. The main goal for all major rating agencies is to achieve globally comparable rating.

2.2. „THE BIG THREE“

Financial markets growth and integration have led to the opposite trends when it comes to number of credit rating agencies: 150 credit rating agencies operated in 1999 and 73 credit rating agencies operated on the market at the end of the 2009. The number of credit rating agencies is significantly reduced as a result of mergers and consolidations of existing rating agency or takeovers of smaller rating agencies

The global financial market is currently dominated by three major rating agencies: Standard & Poor's (S&P), Moody's Investors Service (Moody's) and Fitch - which include

more than 90% of total credit ratings market (according to total industry revenues and number of published rating opinions). The smallest of this trio is agency Fitch, the only one who is not wholly American owned. Some of the largest and most important rating agencies with data on number of employees, number of assigned ratings and the scope of services, are given in the Table 1.

Table 1. Basic indicators selected Credit Rating Agencies, 2011

Agency	Number of employees	Number of ratings	Owners	Scope of activities
Standard & Poors (SAD)	6.300	870.000	MCGraw-Hill	Full service
Moody's Investors Service (SAD)	3.900	37.000 issuers, 106.000 securities	Dun&Bradstreet	
Fitch (Velika Britanija i SAD)	2.100	2.212 corporate issuers, 3.700 banks	FIMALAC	Full service
Japan Credit Rating Agency (Japan)	90	600 issuers	Institutional investors	Full service
DBRS (Kanada)	30	1.000 issuers	Private	Structural products
Capital Intelligence	11	400 banks	Financial institutions, Fitch	
Kroll Bond Rating Agency (SAD)	-	16.412 financial institutions 1.000 corporations	-	Corporations, banks, insurance companies
Egan-Jones Rating Company (SAD)	-	2.000 corporate issuers	-	Corporations
A.M. Best Company (SAD)	450	5.400 insurance companies	Private	Insurance companies
Rating and Investment Information (Japan)	140	1100	Nikkei Group	Full service
Realpoint LLC (SAD)	42	225 clients	Morningstar	Structural products

Source: Adapted from BIS, 200., „Credit Ratings and Complementary Sources of Credit Quality Information“, Basel Committee on Banking Supervision Working Papers no. 3, p. 22., official data of rating agencies, Securities Commission- SEC (SAD), 2011

“The Big Three” operate globally and evaluate all items ratings, while other agencies are specialized in a particular region or sector. These three rating agencies often referred to as the new rulers of the capital market.

2.3. THE WAY OF ASSIGNING AND EVALUATING RATINGS

Credit rating agencies have different policies when it comes to rating evaluation in the way that some of them assign rating only if requested by an issuer, while others assign rating even when it is not requested. [S&P, 2012] Still, in most cases issuers themselves request the evaluation of risk, because good rating assigned by an international credit rating agency is precondition for entering the international financial market.

Agencies divide all rating grades in few categories by the criteria of creditworthiness and credit risk. Grades are assigned in letters from A to C, apropos D. Within each of categories there are rating levels depending whether the position of the country is estimated as strong, average or weak. Moody's uses numerical codes for labeling those levels, while S&P uses signs plus (+) or minus (-). Agencies provide their opinion about outlooks or

expectations in form of descriptive mark that indicates the direction a rating is likely to move in future. Outlooks may be positive, stable, negative, and variant depending on developments. The meaning of descriptive outlooks specified above is as follows: positive – rating is likely to be upgraded, stable – rating is unlikely to change, negative – rating is likely to be downgraded, and variant depending on developments – rating might be upgraded, downgraded or affirmed.

Considering that Moody's and S&P use different rating grading, the classification and comparative review of ratings is given in Table 2.

Table 2. Comparative review of rating grades

<i>Moody's Investors Service</i>	<i>Standard & Poor's</i>	<i>Brief description of rating category</i>
<i>Investment grade</i>		
Aaa	AAA	Highest quality credit rating, minimum degree of risk
Aa1	AA+	High quality credit rating, very low credit risk
Aa2	AA	
Aa3	AA-	
A1	A+	Upper-medium credit rating, low credit risk
A2	A	
A3	A-	
Baa1	BBB+	Medium credit rating, moderate credit risk
Baa2	BBB	
Baa3	BBB-	
<i>Non-investment (speculative) grade</i>		
Ba1	BB+	Credit rating with speculative characteristics, substantial credit risk
Ba2	BB	
Ba3	BB-	
B1	B+	Credit rating speculative, high credit risk
B2	B	
B3	B-	
Caa1	CCC+	Poor credit rating, very high credit risk
Caa2	CCC	
Caa3	CCC-	
Ca	CC	Highly speculative credit rating, likelihood of obligations default, selective default, default.
C	C	
	SD	
	D	

Source: Bloomberg, Moody's, S&P

2.3. WHETHER IS “AAA” COMPLETELY SAFE INVESTMENT?

Most investors are risk-averse, so they only invest in securities, issuers and countries that bring safe yield. If rating agencies can be trusted, investing in instruments or issuers with the highest credit rating represents safe, risk-free investment. However, the question is whether it is always that way in reality?

Unfortunately, there are few cases and controversies when rating agencies gave wrong opinion which led to huge losses for many large and small investors. Two of those cases deserve special attention. The first one is bankruptcy of Orange County, and the second is “sudden” bankruptcy of one of the biggest American companies Enron, at the end of the year 2001.

Orange County

Orange County credit rating proved worthless in mid 90's. Orange County is rich municipality in State of California (USA), located between Los Angeles and San Diego. It is known as characteristic suburban area with diverse economy, high value-added and capital-intensive activities. Unfortunately, all of that haven't prevented financial collapse in December 1994. “Treasurer of Orange County, Robert Citron, who managed 7,8 billion dollars worth investment fund which contained not only 4,7 billion dollars of Orange County local government agencies, but 3,1 billion dollars that belonged to 180 other municipalities and local government agencies, caused the collapse of Orange County.” [Mishkin and Eakins, 2005, p. 644] Citron's fund investors were unaware of the risk they are getting into. Because of the information asymmetry and wrong assessments of rating agencies, investors ended up losing billions of dollars.

„It was a stunning event in such a stable credit market, where creditworthiness was typically good and significantly improving from mid 80's. Only 1,5% was below the investment grade.” [Sinclair, 2005, p. 86]

Enron

Credit rating agencies have affirmed the highest credit rating (AAA) to an American energetic company Enron only four days before bankruptcy announcement in December 2001. After the bankruptcy, scandalous vortex of false accounting aimed at hiding debts and inflating profits came to light. Thousands of employees lost their jobs, and investors lost billions of dollars.

At the time, Enron was seventh largest company in USA and after the bankruptcy announcement it became the biggest company in the history of USA that collapsed. Although Enron got the Financial Times Award for “the best energetic company of the year” and for “the bravest successful investment decision” a year before, it collapsed soon after the reveal of dubious business cooperation with several companies and concealment of around 500 millions of dollars that haven't been represented in business books. After this announcement, S&P and Moody's downgraded Enron's credit rating to “junk” status what caused enormous number of debts they were not able to cover arriving on collection. Ultimately, that ended up with collapse of Enron and losses measured in billions of dollars.

3. CREDIT RATING OF BOSNIA AND HERZEGOVINA

Pursuant to a formal decision of the Bosnia and Herzegovina's Council of Ministers, Bosnia and Herzegovina signed the contract for sovereign credit rating reporting and monitoring with two international credit rating agencies Moody's and S&P. On the behalf of Bosnia and Herzegovina, the contracts have been entered into by the BH Ministry of Finance and Treasury. [Central Bank of Bosnia and Herzegovina]

Moody's and S&P orderly keep track of BH, including visiting BH at least once a year in order to get the overall picture about variables they consider when assessing credit risk. Based on their analysis and assessments, agencies create and publish reports about BH. First sovereign credit rating was assigned to BH in 2004 by Moody's which was hired in 2003. S&P was hired in 2008, when it also assigned credit rating to BH.

When observing BH credit rating history, i.e. overview of all ratings from the first rating ever assigned to BH until today, given in Table 3 and Table 4, it can be seen that BH rating is non-investment (speculative) grade.

Table 3. BH sovereign credit rating history – Moody's Investors Service

Rating	Date	Status
B3 / stable outlook	July 10, 2012	Rating affirmed / Outlook revised
B3 / on review for downgrade	April 3, 2012	Rating downgraded
B2 / negative outlook	May 16, 2011	Outlook revised
B2 / stable outlook	May 17, 2006	Rating upgraded
B3 / positive outlook	March 29, 2004	Rating assigned

Source: Moody's

Table 4. BH sovereign credit rating history – Standard & Poor's

Rating	Date	Status
B / stable outlook	March 28, 2014	Rating affirmed
B / stable outlook	September 27, 2013	Rating affirmed
B / stable outlook	March 27, 2013	Rating affirmed
B / stable outlook	March 28, 2012	Rating affirmed / Outlook revised
B / On Watch Negative	November 30, 2011	Rating lowered
B+ / negative outlook	July 28, 2011	Outlook revised
B+ / stable outlook	December 8, 2009	Rating affirmed
B+ / stable outlook	December 22, 2008	Rating assigned

Source: S&P

When creating credit rating grades for the country, credit rating agencies analyze number of variables from different categories: institutions efficiency and political risks, economy structure and expected growth, external liquidity, international investment position, fiscal flexibility, performances and debt burden, monetary flexibility. [Deskarić, 2012]

One of the factors that determine economy structure and expected growth is, surely, GDP of the country. Fluctuations in BH GDP, as one of the potential causes that affect credit rating, are analyzed for the period from year 2008 – 2013.

Considering that credit rating grades reflect credit risk, credit rating assigned to BH, i.e. grades improvements and deteriorations, reflects on the overall attractiveness of the country when it comes to foreign investments and height of interest rates on total debt.

3.1. CREDIT RATING OF BOSNIA AND HERZEGOVINA VS. GROSS DOMESTIC PRODUCT

The most comprehensive measure of total output in one economy is GDP. An overview of BH GDP trends for years 2008 – 2013 are shown in the figure below.

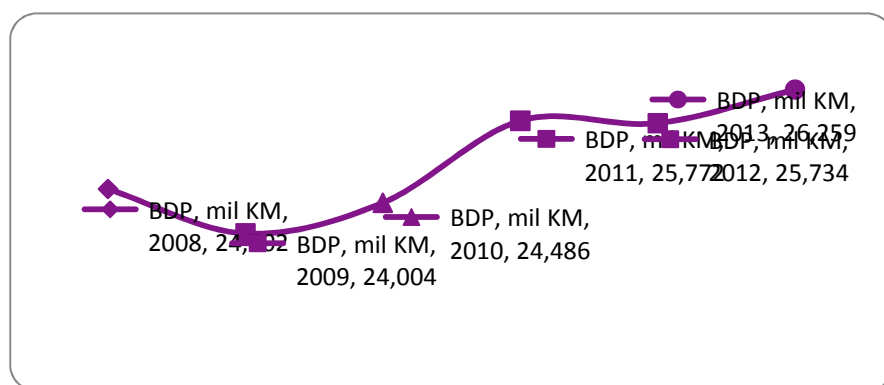


Figure 1. GDP in BH in million BAM, 2008-2013

Source: Authors, based on the data of Agency for Statistics of Bosnia and Herzegovina

GDP in BH decreased in year 2009 compared to the year before. “After years of economic expansion and relatively high growth rates, domestic economy experienced marked contraction in 2009 caused by the global recession. The first signs of economic recession spillover emerged in late 2008, and the effects on domestic economy reflected in the first half of 2009.” (CBBH, 2009, p. 16)

In year 2010 slight recovery of domestic production occurred as the consequence of the growth in external demand that caused export to increase. On the other hand, import grew much slower because of the insufficient domestic demand recovery. In next year, 2011, recovery trend continues, as well as in the beginning of 2012. However, during 2012 sudden stagnation and slowdown occurred due to effects of recession in euro zone and surroundings that appeared again. When connecting credit rating trends with GDP trends, it can be seen that credit rating in year 2012 follows the GDP trend. Decrease in GDP, as one of the factors which credit rating agencies consider when creating credit rating grades, reflected the deterioration in assessing BH ability of servicing debts, i.e. both agencies downgraded BH credit rating.

Namely, Moody's, as table 3 shows, revised outlook of previously assigned rating B2 that implies speculative credit rating and high credit risk, already in year 2011, from stable to negative. In year 2012 Moody's downgraded BH credit rating from B2 to B3. In the other half of year 2012 B3 rating was affirmed and outlook was revised from negative to stable. S&P agency also revised outlook of credit rating B+ that was assigned in 2008 and

implies speculative credit rating and high credit risk, in 2011. At the end of 2011 S&P downgraded BH credit rating to B. Downgraded credit rating B was affirmed also in 2012 and retained until today, together with stable outlook.

GDP trend in last year indicates slight improvement. However, data that refers to last year aren't final, but estimated. Considering natural disasters that hit BH in May 2014, massive floods and landslides, it is uncertain whether recovery trend will continue.

3.2. CREDIT RATING OF BOSNIA AND HERZEGOVINA VS. FOREIGN DIRECT INVESTMENTS

Overall business and investment climate in country determines foreign direct investments (FDI) inflows. Good credit rating for country means more open opportunities for accessing capital. Therefore, assigned credit rating is one of the factors that can attract or reject foreign investors. Figure 2 illustrates FDI trends in BH for years 2008 – 2013.

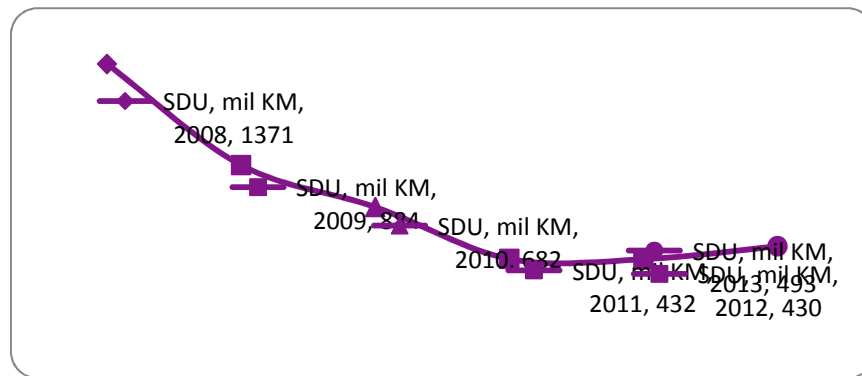


Figure 2. FDI in BH in million BAM, 2008-2013

Source: Authors based on the data of Ministry of Foreign Trade and Economic Relations (year 2013 – preliminary data of Central Bank of Bosnia and Herzegovina for Q1 – Q3)

From the beginning of the observed period FDI have tendency to decrease. The assumption is that the reason for FDI decrease in year 2009 is economic crisis. This assumption can partly be explained by analysis of FDI inflows coming from 10 countries biggest investors in BH: Austria, Netherlands, Croatia, Italy, Germany, Russia, Slovenia, Serbia, Switzerland and Turkey. The goal was to explore whether the BH FDI inflows decrease in 2009 is connected to decrease in GDP in named countries. Seven from all ten countries recorded GDP decrease, while one country recorded stagnation. Remaining two countries, Italy and Russia, recorded GDP increase but they still reduced their investing in BH. This analysis confirmed that economic crisis that reflects in GDP decrease or stagnation, significantly affects lowering FDI inflows in BH in 2009.

After year 2009, FDI continued to decrease until 2011. This negative trend is not surprising, considering that credit rating assigned to BH does not stimulate foreign investors. Namely, first credit rating assigned to BH by both agencies is in the framework of non-investment (speculative) grade, and it has retained in that range until today.

At the end of 2012, after downgrading credit rating as previously described, outlook within the assigned rating slightly improved. That is, together with other factors such as the improvement of performances regarding creating better investment climate in BH presented in Global Competitiveness Reports, part of the reasons why negative trends in

FDI stopped. In year 2013, slight increase in FDI inflows was recorded, but data available is preliminary and exclude the last quarter.

3.3. CREDIT RATING OF BOSNIA AND HERZEGOVINA VS. IMPLICIT INTEREST RATE ON DEBT OF THE GENERAL GOVERNMENT

According to debt of the general government, Bosnia and Herzegovina is still one of the least indebted European transition countries. However, the general government debt has upward trend since 2008. There are two reasons for this: appearance of the general government fiscal deficit and global economic and financial crisis. From 2008 to 2012 economy has registered a real decline and led to the fall in public revenues. The general government failed to adjust public expenditures, which led to fiscal deficit. Such trends have been main cause of rapid increase in public debt from 31,4% of GDP to 42,9% of GDP. If we include public enterprises debt, public sector debt is higher and it's 45,9% of GDP. [Directorate for Economic Planning, 2013]

The implicit interest rate on public debt of general government of BH is quite low, since it was 1,9% at the end of 2012. However, the implicit interest rate on public debt has been increased by 37% since 2008. The main reasons for this increase were rising interest expenditure on internal debt (caused quite unfavorable internal borrowing) and servicing interest for frozen foreign currency savings. On the other hand, implicit interest rate on external debt decreased. This may be caused by servicing of debts incurred before 2008.

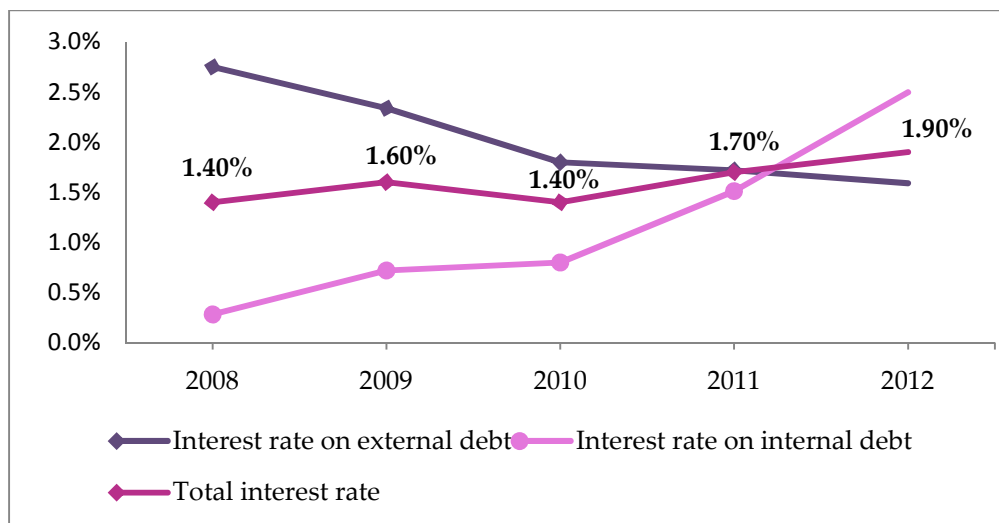


Figure 3 Trends of the implicit interest rate on debt of general government, 2008-2012

Source: Ministry of Finance and Treasury and CBBH

Despite the strong upward trend of unfavorable commercial borrowing, it still does not have a primary role in total public debt of general government of BH. Also, it should be noted that government borrows commercially exclusively on domestic market. The general government has not borrowed commercially on the international financial market, but only from international institutional lenders. This leads to the conclusion that conditions of commercial borrowing in the international financial market in BH are extremely negative.

It's important to mention the interest rates of commercial borrowing to government sector in Republic of Srpska (RS) and Federation of Bosnia and Herzegovina (FBH) in

2012. The average effective interest rate on loans to the government sector in RS was 5,9%, and the average interest rate on loans to the government sector in FBH was 7%. The main cause of high interest rates is high credit risk which reflects very low credit rating of BH. Credit rating assigned to BH by credit rating agencies S&P and Moody's for 2012 was "B" or "B3", which labels BH as country of high credit risk, mostly because of political instability.

4. CONCLUSION

Credit rating agencies are specialized institutions which assign credit rating to companies and countries financed by issuance of securities (primarily bonds). Three companies, whose credit rating grades affect the borrowing conditions and yields of debt instruments, dominate the international service market. Power of these agencies is constantly increasing and has led to the fact that, by way of changing credit rating grades, they dictate the volume of investment and induce fear or security to millions of investors all over the world. There is a wide circle of advocators of the theory that rating agencies contributed inducing numerous economic and financial crisis and savings losses. In that regard, number of requests for restructuring and stricter monitoring of credit agencies has increased. In EU there are even strengthening initiatives for establishing new credit rating agency as non-profit organization. In BH, the role of creating credit rating grades is performed by two of three largest rating agencies in the world, Moody's and S&P.

When creating their assessments, agencies observe the overall situation in the country, including economic and political climate. One of the main economic indicators that partly directs the opinion about the country that agencies gain is country's GDP. Observing BH GDP during the six years period, from 2008 – 2013, it is noticed that GDP decrease reflected the deterioration in assessment of BH servicing debts ability.

Credit rating can be understood as front door to creating better investment climate and an indicator which will be considered by every institutional investor when making decision about investing in a company/country. For risk-averse investors, credit rating assessment of a security or an issuer should be the key parameter when making investment decision. This assessment also determines risk premium required by investors. Trends of FDI inflows in BH observed in period including years 2008 – 2013, testify that foreign investors behave that way, considering that their actions follows the credit rating grades assigned to BH by credit rating agencies. Besides, based on reviewing BH credit rating history and observing trends in interest rates on total debt of BH general government in years 2008 – 2012, it can be concluded that credit rating deterioration, i.e. increasing the risk of servicing debts on time inability, affected the increase of interest rates on total debt.

REFERENCES

I Books, articles, reports

Bhatia, A., (2002), *Sovereign Credit Rating Methodology: An Evaluation*, IMP Working Paper

BIS, (2000), *Credit Ratings and Complementary Sources of Credit Quality Information*, Basel Committee on Banking Supervision Working Papers br. 3

Kuhner, C., (2001), *Financial rating agencies: Are they credible? – Insights into the reporting incentives of rating agencies in times of enhanced systemic risk*, Minhen: Schmalenbach Business Review, 53

Mishkin F.S. and Eakins S.G., (2005), *Financijska tržišta i institucije*, Zagreb: Mate

Moody's Investors Service, (2004), *Consistency, Reliability, Integrity*, New York

Sinclair J.T., (2005), *The New Masters of Capital*, London: Cornell University Press

Standard & Poor's, (1992), *Ratings Handbook*, 1 (5)

U.S. SECURITIES AND EXCHANGE COMMISSION, (2013), *Investor Bulletin – The ABCs of Credit Ratings*, 161 (10/13)

Council of Ministers of Bosnia and Herzegovina, Directorate for economic planning, (2013), *Izveštaj o fiskalnoj održivosti BiH*

II Internet sources:

Central Bank of Bosnia and Herzegovina, (2009), *Godišnji izvještaj*, available at: http://cbbh.ba/files/godisnji_izvjestaji/2009/GI_2009_bs.pdf

Deskar-Škrbić, M., (2012), *Postupak određivanja kreditnog rejtinga*, available at: <http://www.banka.hr/postupak-odredjivanja-kreditnog-rejtinga/print>

Croatian Bureau of Statistics, (2008), *Statistički ljetopis Republike Hrvatske*, available at: http://www.dzs.hr/Hrv_Eng/ljetopis/2008/PDF/00-sadrzaj.pdf

Croatian Bureau of Statistics, (2009), *Statistički ljetopis Republike Hrvatske*, available at: http://www.dzs.hr/Hrv_Eng/ljetopis/2009/PDF/00-sadrzaj.pdf

Croatian Bureau of Statistics, (2010), *Statistički ljetopis Republike Hrvatske*, available at: http://www.dzs.hr/Hrv_Eng/ljetopis/2010/SLJH2010.pdf

Croatian Bureau of Statistics, (2011), *Statistički ljetopis Republike Hrvatske*, available at: http://www.dzs.hr/Hrv_Eng/ljetopis/2011/SLJH2011.pdf

Croatian Bureau of Statistics, (2012), *Statistički ljetopis Republike Hrvatske*, available at: http://www.dzs.hr/Hrv_Eng/ljetopis/2012/sljh2012.pdf

European Commission Eurostat, (2010), *Turkey's Statistical Yearbook*, available at: http://epp.eurostat.ec.europa.eu/portal/page/portal/pgp_ess/0_DOCS/tr/Yearbook2010.pdf

Statistical Office of the Republic of Serbia, (2011), *Statistički godišnjak*, available at: http://www.media.srbija.gov.rs/medsrp/dokumenti/SGS2011_cyr.pdf

Statistical Office of the Republic of Serbia, (2012), *Statistički godišnjak*, available at: <http://pod2.stat.gov.rs/ObjavljenePublikacije/G2012/pdf/G20122007.pdf>

Standard & Poors, *Rating Methodology: Evaluating the Issuer*, available at: <http://www.uic.edu/classes/actg/actg516tr/Readings/Bond-Ratings/S&P-Rating-methodology-35pages.pdf>

Statistical Office of the Republic of Slovenia, (2008), *Statistical Yearbook*, available at: <http://www.stat.si/letopis/LetopisPrvaStran.aspx?leto=2008&lang=en>

Statistical Office of the Republic of Slovenia, (2009), *Statistical Yearbook*, available at: <http://www.stat.si/letopis/LetopisPrvaStran.aspx?leto=2009&lang=en>

Statistical Office of the Republic of Slovenia, (2010), *Statistical Yearbook*, available at: <http://www.stat.si/letopis/LetopisPrvaStran.aspx?leto=2010&lang=en>

Statistical Office of the Republic of Slovenia, (2011), *Statistical Yearbook*, available at: <http://www.stat.si/letopis/LetopisPrvaStran.aspx?leto=2011&lang=en>

Statistical Office of the Republic of Slovenia, (2012), *Statistical Yearbook*, available at: <http://www.stat.si/letopis/letopisprvastran.aspx?lang=en>

Statistics Netherlands, (2009), *Statistical Yearbook*, available at: <http://www.cbs.nl/NR/rdonlyres/421A3A8C-956D-451D-89B6-D2113587F940/0/2009a3pub.pdf>

Statistics Netherlands, (2011), *Statistical Yearbook*, available at: <http://www.cbs.nl/nr/rdonlyres/d4d0493e-8a94-4509-a0f1-310add8e7614/0/2011a3pub.pdf>

Swiss Statistics, (2012), *GDP and Beyond – Indicators*, available at: <http://www.bfs.admin.ch/bfs/portal/en/index/themen/00/09/blank/ind42.indicator.420026.420000.html?open=4200001,4200003&close=4200003>

Trading Economics, (2012), *Countries and Indicators*, available at: <http://www.tradingeconomics.com/countries>

Turkish Statistical Institute, (2011), Turkey's Statistical Yearbook, available at: http://www.turkstat.gov.tr/Kitap.do?metod=KitapDetay&KT_ID=0&KITAP_ID=1

World Economic Forum, (2008), *Global Competitiveness Report*, available at: <http://www.weforum.org/pdf/GCR08/GCR08.pdf>

World Economic Forum, (2009), *Global Competitiveness Report*, available at: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2009-10.pdf

World Economic Forum, (2010), *Global Competitiveness Report*, available at: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2010-11.pdf

World Economic Forum, (2011), *Global Competitiveness Report*, available at: http://www3.weforum.org/docs/WEF_GCR_Report_2011-12.pdf

World Economic Forum, (2012), *Global Competitiveness Report*, available at: http://www3.weforum.org/docs/WEF_GlobalCompetitivenessReport_2012-13.pdf

Agency for statistics of Bosnia and Herzegovina, available at: www.bhas.ba

Banja Luka Stock Exchange, available at: www.blberza.com

Bloomberg, available at: www.bloomberg.com

Central Bank of Bosnia and Herzegovina, available at: www.cbbh.ba

Moody's Investors Service Corporation, available at: www.moodys.com

Sarajevo Stock Exchange, available at: www.sase.ba

Standard and Poor's, available at: www.standardandpoors.com

CLASSICAL AND SYSTEMATIC WAY OF THINKING IN THE MANAGEMENT OF ORGANIZATION

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Abstract: The main goal of this project is to study and examine a way of thinking. Based on previous research, it was concluded that the way of thinking could be primarily divided on classical and systematic way. Both of these theories have their own way of formation, and also, have their own advantages and disadvantages.

Something that is important, is that the way of thinking that is subdivided in the classical and systematic approach, can be applied to any area of life, through psychology, sociology, and the management, economy etc. The main focus of this project will be study of this two methods of thinking, specific, application of these two methods of thinking in management organization. Consideration was given to works in which this topic is discussed in detail, where the various researchers addressed this problem, which refers to how to manage the organization. Do we apply some methods of classical thinking, or keep up with time and apply modern concepts and way of thinking? Which method is more effective and more applicable in solving various problems? Is it better to use "soft" or "hard" process in decision – making?

Basically, trying for systematic way of thinking is something that many of managers applied today, and there will be discussion why is that good and recommendable. Conducted numerous studies where the researchers came to the conclusion that this system is exactly what the organization required for its successful planning, directing, and generally its management.

Keywords: way of thinking, classical and systematic way of thinking, organization management.

KLASIČAN I SISTEMSKI NAČIN RAZMIŠLJANJA UPRAVLJANJA ORGANIZACIJOM

Cvetković Vidosava

Apstrakt: Cilj ovog rada jeste da se prouči i sagleda sam način razmišljanja. Na osnovu ranijih istraživanja, došlo se do zaključka da se sam način razmišljanja pre svega može podeliti na, takozvani, klasičan i sistemski način. Obe ove metode imaju svoj način nastanka, a isto tako, kako i brojne prednosti, tako i nedostatke.

Ono što je bitno, jeste da se sam način razmišljanja koji se dalje deli, kao što je napomenuto na klasičan i sistemski pristup, može primeniti na bilo koju oblast života, i to

preko psihologije, sociologije, pa do menadžmenta, ekonomije i dalje. Glavna tema ovog rada biće izučavanje ova dva metoda razmišljanja, odnosno, konkretnije, primenjivanje ova dva načina razmišljanja prilikom upravljanja organizacijom. Sagledani su radovi u kojima je ova tema detaljno razmotrena, gde su se razni istraživači bavili ovim problemom, koji se odnosi na to na koji način upravljati organizacijom. Da li primeniti neke od metode klasičnog načina razmišljanja ili ići u korak sa vremenom i primenjivati savremena shvatanja i načine razmišljanja? Koja metoda je efikasnija i više primenljiva pri rešavanju različitih problema? Da li je bolje primeniti "meke" ili "tvrde" postupke u donošenju odluka?

U osnovi, vezivanje za sistemski način razmišljanja je ono što danas mnogi primenjuju, a biće upravo reći o tome zašto je baš on dobar i preporučljiv. Rađena su brojna istraživanja gde su naučnici došlo do zaključka da je ovaj sistem upravo ono što je organizaciji neophodno za njeno uspešno planiranje, usmeravanje, i uopšteno, njeno vođenje.

Ključne reči: način razmišljanja, klasičan i sistemski način razmišljanja, upravljanje organizacijom.

1. UVOD

Način razmišljanja predstavlja pre svega ono kako mi razmišljamo, čime se mi vodimo. U osnovi, ima ih puno, što znači da se načini razmišljanja teorijski može pojaviti u bilo kojem segmentu života, preko običnih, svakodnevnih stvari, psihologije, sociologije, pa do menadžmenta, ekonomije i ostalih privrednih oblasti. Samim tim, dolazi se i do zaključka da se sam način razmišljanja može primeniti, i itekako se se i primenjuje u upravljanju i vođenju organizacija.

Pre nekog detaljnijeg razmatranja o svemu ovome, treba napomenuti da su glavne podele načina razmišljanja, na klasičan i sistemski način. Obe ove metode imaju svoj neki istorijski razvoj, način primene i svoje dobre i loše strane. Imaju svoje za i protiv. Ovde ćemo videti koji metod je bolji za primenu prilikom vođenja organizacije i zašto je bitno upravo taj primenjivati. Za klasičan i sistemski način razmišljanja se, takođe, može reći da predstavljaju i takozvani „mek“ ili „tvrd“ postupak u donošenju odluka. Mnogi se pitaju koji je postupak bolje primeniti? Koji postupak primeniti prilikom vođenja same organizacije? Živimo u burnom okruženju koje stalno iziskuje neke promene, pa se i sam menadžment mora voditi time, i biti svestan toga, i zato na osnovu toga donositi racionalne odluke i razmišljati na pravi način.

Da bismo razumeli promene koje nastaju u organizaciji, trebamo pre svega razumeti šta i na koji način utiče na ponašanje ljudi unutar te same organizacije. Iz toga moramo znati njihove stavove, mišljenja i ostalo. Moramo biti kombitabilni sa njima i na osnovu toga usvojiti onaj način razmišljanja kojim bi organizacija mogla uspešno da ostvaruje svoje zadatke i ciljeve.

2. KLASIČAN NAČIN RAZMIŠLJANJA

Pre svega, okvirno, za klasičan način razmišljanja se može reći da on predstavlja induktivno istraživanje. Sama indukcija predstavlja zaključivanje iz pojedinačnog ka opštem, a za sam metod se može reći da on označava da se odluke donose na osnovu

posmatranja. O samoj celini se zaključuje na osnovu delova, a iz sistema se izoliraju oni elementi koje rastavljamo na još sitnije elemente (I. Mihajlović, 2009). Fundamentalni izazov tradicionalnom razmišljanju menadžmenta jeste da je sistem celina koja je sastavljena od delova. U okviru tog sistema svaki deo može uticati na to kako sistem radi, a način na koji saraduju svi delovi, određuje ustvari koliko sam sistem dobro radi. Klasičan ili tradicionalni način upravljanja organizacijom, predstavlja upravljanje njenim odvojenim delovima, odnosno posebno upravljanje prodajom, marketingom, nabavkom, kao posebnim organizacionim jedinicama.

Sam klasičan način razmišljanja upravljanja organizacijom, nastao je sa nastankom i prvih organizacija. Svodi se na neke jednostavne metode, gde je čovek posmatrao samo površinu svog poslovanja i onog što ga okružuje. Iz same organizacije, posmatranu kao jedan sistem, izolirao je neke pojedine elemente za koje je smatrao da nisu bitni za njegovo poslovanje, ali će se kasnije zaključiti da sve ono što je tada smatrano nebitnim, je ustvari suština njegovog uspešnog poslovanja. Ono što je kasnije počelo itekako da zanima mnoge menadžere, jeste bilo to zašto su i kako mnoge druge organizacije bile uspešnije i efektivnije od njihovih. Počelo je da se ulazi u srž problema, i u tim početnim stadijumima stvaranja organizacije lako se otkrivao odgovor na to pitanje, nego što je to slučaj danjašnjice, gde se organizacije nalaze u jednom burnom okruženju. Međutim postoje još uvek neke dodirne tačke sa teoretičarima tog doba i današnjih menadžera. To su različita pitanja koja se odnose na:

- Kako obezbediti efikasnu komunikaciju u organizaciji?
- Kako osigurati realizaciju postavljenih ciljeva?
- Koliko organizacijskih nivoa treba postaviti u organizacionoj strukturi? (D. Stanivuković, 2003.)

Ono na šta je organizacija bila usmerena tada, jeste bilo pre svega ostvarivanje profita. To, samim tim, predstavlja osnovu klasičnog načina razmišljanja u upravljanju organizacijama. Stvaranje što većeg profita bio je jedini cilj tadašnjeg poslovanja. Druga pitanja koja su se odnosila na ostvarivanje želja i zahteva potrošača, motivisanje i nagrađivanje zaposlenih, poboljšanje uslova rada i sl. je bilo ono što tadašnje poslodavce nije zanimalo i na šta se oni nisu fokusirali. To je kasnije dovelo do mnogih negotovanja, pa su same organizacije i njihov menadžment morali da počnu sa uvođenjem promena.

2.1. ISTORIJSKI RAZVOJ KLASIČNOG RAZMIŠLJANJA

Kao što je već napomenuto, sam način razmišljanja u upravljanju organizacijama, nastaje sa pojavom prvih organizacija. Zbog svoje jednostavnosti se i naziva klasičan način. Razvoj industrijske proizvodnje kreće da se razvija krajem 19. veka. Sa tim u vezi dolazi i do uspostavljanja prvih organizacionih postavki i jedinica. Tada se na preduzeće i njegovo osnivanje, gledalo kao na sredstvo ili sistem koje će ostvarivati i donositi profit. I to je bila jedina njegova svrha postojanja. Radnici u njemu su smatrani samo kao deo tog preduzeća. Tretirani su kao delovi mašina koji se mogu menjati (Russell, 1997.). U takvim organizacionim jedinicama, dolazi do primenjivanja, takozvane, vojničke forme upravljanja, poznatiji kao linijski sistem upravljanja organizacijom. Na osnovu primene ovakve forme upravljanja, jasno se određuju obaveze i odgovornosti svakog pojedinca u organizaciji. Preduzećem se upravlja odozgo prema dole, kroz kontrolu finansija, planova i budžeta. Usled toga dolazi do nemogućnosti za napredovanjem, usavršavanjem, dolazi do

zanemarivanja radnika. Glavna preokupacija menadžmenta jeste, kao što je rečeno, stvaranje profita. Ovakav način upravljanja organizacijom uveo je Ford, kada je došlo do masovne proizvodnje autobomobila. Međutim, primenjivanje linijskog sistema upravljanja je pogodan za manufakturne uslove proizvodnje, jer se ovde proizvodnja obavlja sa jednostavnim sredstvima za rad i sa daleko manjim brojem radnika, nego u industrijskoj firmi, kao što je to slučaj sa Fordovom kompanijom.

Organizacije koje se vode klasičnim načinom upravljanja prepune su gubitaka. Samo rukovodstvo se usmerava, kao što je rečeno, na velike marketinške akcije, kvaliteta nema, a novac bespovratno odlazi. Pošto je Ford začetnik ovakvog načina upravljanja organizacijom, i na osnovu njegovog velikog uspeha, mnogi, ne razmišljajući, nastavljaju sa primenom ove metode. Zbog toga se vremenom izgubio original vođenja i upravljanja organizacijom, a upravljanje na ovaj način se smatra univerzalnim načinom. Zbog ubrzanog razvoja tržišta i velike konkurencije, upravo je ovakav način vođenja nepreporučljiv. U startu se gubi trka za uspešnim opstankom na ovakvom tržištu. Međutim i pored svega ovoga, treba napomenuti da je klasičan način razmišljanja i upravljanja organizacijom, odnosno klasičan menadžment i dalje jedna žilava forma. Opstaje i dalje iako stvara nepotrebne troškove, snižava kvalitet, ubija motivaciju. Jedini je razlog tome jer primenjuje strogu hijerarhijsku podelu.

Kako su se vremena menjala, tako se i sama svest čoveka o svim aspektima života, pa i o upravljanju organizacijom menjala. Dolazi do drugačijih shvatanja, detaljnog ulaženja u probleme i njihovo efikasno rešavanje. Process industrijalizacije je nastavio sa svojim razvojem, a do menjanja načina upravljanja dolazi u kompaniji Toyota. Ona je tokom prošlog veka u želji da pronađe bolji način oblikovanja i vođenja posla, u tome i uspela. Svoju pažnju su počeli da usmeravaju na sam način rada od početka do kraja, umesto fokusa na budžet i naplatu, počeli su da se usmeravaju na to šta je bitno korisnicima njihovih proizvoda. Tražili su sve ono što ometa efikasno obavljanje posla i to otklanjali, a rezultat toga je bilo povećanje motivacije i smanjenje monotonije. Sve ovo dalje vodi ka sistemskom načinu razmišljanja i upravljanja organizacijom. U vođenju organizacije postoje dva osnovna pravila koja treba primenjivati, a to su:

- Raditi stvari kako treba i
- Raditi prave stvari.

Tanka je granica između ovih shvatanja, a upravo ona odruje samu uspešnost poslovanja neke organizacione jedinice. Mnogi naponi su usmereni na to da stvari treba raditi kako treba, a malo ko postavlja pitanje da li su to prave stvari koje treba uraditi. Upravo iz ovoga ulazi se u detaljnu analizu posmatranja organizacije kao jednog sistema i određuje način njenog upravljanja.

3. SISTEMSKI NAČIN RAZMIŠLJANJA

“Sistemski način razmišljanja posmatra svaki element kao deo sistema ali i kao deo okruženja i zajedno sa okruženjem, tj. posmatra ga sa onim što nije sistem” (I. Mihajlović, 2009.). Zaključak ovoga je da je okruženje od ključne važnosti u odnosu na ono što posmatramo kao neki sistem. Kada ne bi bilo delovanja okruženja na bilo koji sistem, sve bi bilo idealno. Međutim, u stvarnosti to nije moguće. Na postojanje bilo kog sistema koji nas okružuje, pa i na postojanje samih nas kao delova sistema, deluju brojne sile iz okruženja.

Zato se za sistemski način razmišljanja kaže da je realan način razmišljanja i posmatranja stvari. Ista je stvar i sa upravljanjem organizacijom. U ovom slučaju, organizaciju posmatramo kao jedan realan sistem na koju deluju razni uticaji iz okruženja. To mogu da budu ekonomsko stanje države u kojoj se nalazi, tržište, konkurencija, sredina u kojoj posluje (kulturni običaji naroda države u kojoj se nalazi). Sam menadžment organizacije svega ovoga mora da bude svestan i na osnovu ovoga da postavlja jasne ciljeve, da svoje zadatke obavlja efikasno i efektivno.

Sistemski teoretičari su na području torije sistema počeli organizaciju da posmatraju kao jednu celinu koja je sastavljena od raznih delova i elemenata koji su u nju ugrađeni i koji se nalaze u međusobnoj interakciji jedni sa drugima. Kao što je i napomenuto, na organizaciju se posmatra kao jedan sistem koji je realan i otvoren, jer one međusobno saraduju sa drugim organizacijama iz okruženja, menjaju strukturu, sastav i broj ljudi i sl. Iz ovoga se jasno vidi da se organizacije mogu jedino posmatrati kroz jedan sistemski način, jer kao jedan sistem deluju sa onim što se nalazi u dodiru sa njima, i sa onim što je izvan njenih granica. Isto tako, utiču na promene u okruženju, ali isto tako i brojne promene utiču na nju. Ovo predstavlja jedan od osnovnih principa savremenog poslovanja i upravljanja organizacijom, pa samim tim i menadžeri raznih kompanija moraju da budu svesni i da posmatraju organizaciju kroz jedan sistemski način.

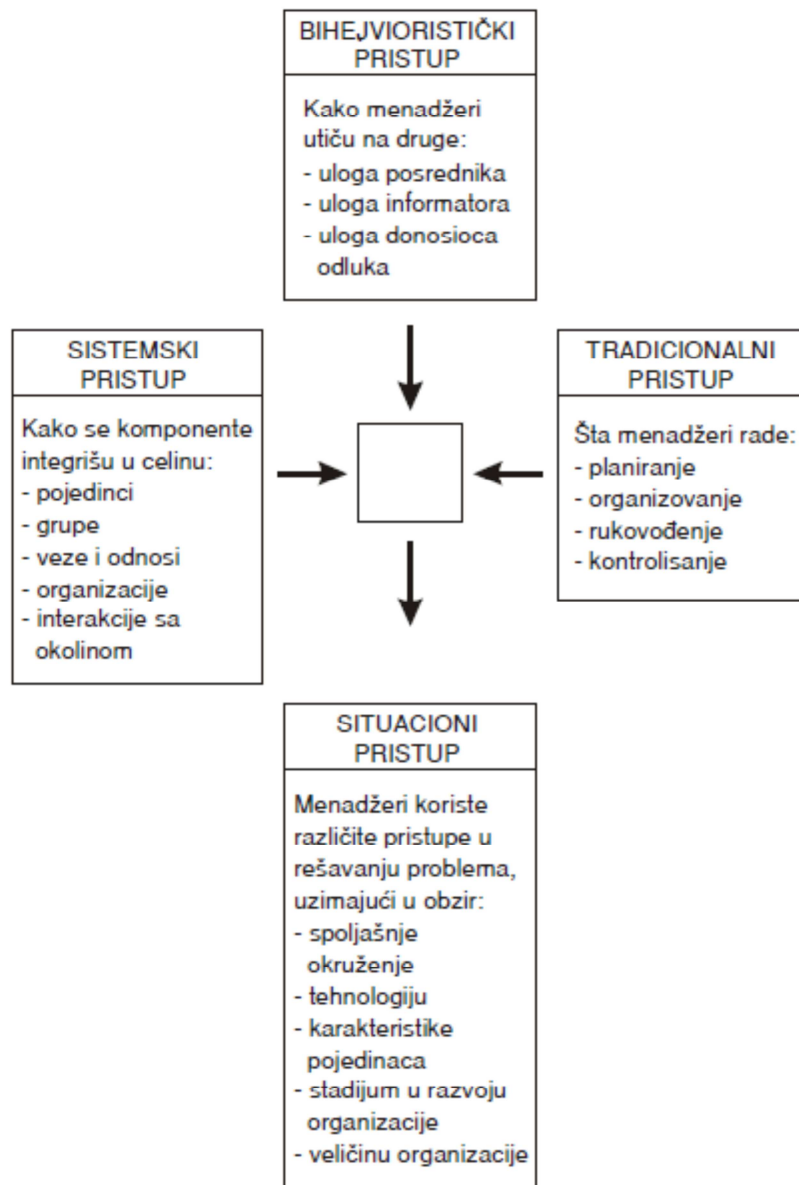
Jedan od argumenata za uvođenje sistemskog načina razmišljanja u upravljanju organizacijama, jeste da ne postoji efikasan način za postupak upravljanja projekta, a sistemsko razmišljanje bi pružilo pogodnu konstrukciju za razvoj bolje teorije i prakse. Ovo daje samo još jednu prednost sistemskom nasuprot klasičnom načinu razmišljanja u upravljanju organizacijom, upravo zato, kao što je prethodno rečeno, sistemski način razmišljanja posmatra ono što se nalazi u sistemu, a i druge spoljne elemente koji utiču na sam sistem.

3.1. ISTORIJSKI RAZVOJ SISTEMSKOG NAČINA RAZMIŠLJANJA

Važnost sistemskog načina razmišljanja kod upravljanja organizacijom je prvi put uočena od samog početka. Međutim, kako i samo vreme, tako se i sam način razmišljanja menjao, pa je nastala kasnija podela na klasičan i sistemski, odnosno, moderni način shvatanja i upravljanja organizacijom. Fundamentalni koncept sistemskog načina razmišljanja je razvijen početkom XX veka u disciplinama kao što su biologija, ekologija, psihologija i kibernetika. Primena koncepta kroz ove discipline je prvi uočio Bertalanffy (Bertalanffy, 1950) i nazvana je kao Generalna Sistemska Teorija. Glavni i veliki istraživači ovakvog shvatanja i koji su dalje počeli da šire ovakvu ideju bili su Č. Čurčman (Churchman, 1963.) i Akof (Ackoff, 1962.), sistemski i kibernetički inženjeri kao što su Hal (Hall, 1962) i Ber (Beer, 1966). Kako su se organizacije kao zasebne jedinice dalje razvijale, javljale su se različite podele. Jedna se odnosila na to da su same organizacije stavljale naglasak na matematički i kompjuterizovani pristup u primeni sistemskog načina razmišljanja i upravljanja organizacijom, kibernetika se razvijala negde zasebno u organizaciji, a sistemski inženjering je počeo da se primenjuje u javnom sektoru.

Sam sistemski način razmišljanja je tokom vremena sve jačao, dobijao sve više pristalica i počeo značajnije da se primenjuje u upravljanju organizacijama. Ono što je značajno u okviru ovoga jested a sistemski način razmišljanja posmatra organizacije kao sistem međusobno povezanih komponenata i polazi od bitnog stanovišta i činjenice, a to je da ne postoje dve identične organizacije. Zbog toga je potrebno uzeti u obzir činjenicu specifičnosti okruženja u kojem organizacija raste i razvija se. Tu još treba uračunati i

specifičnost resursa, ljudi, metoda rada i ostalo što dalje utiče na samu organizaciju i njen rad. Ovo sve dalje govori da su svi objekti koje posmatramo u međusobnoj vezi i da čine određene structure koje čine sistem višeg reda. Ovakvo razmišljanje vodi dalje do toga da se identifikuju najuticajniji faktori koji deluju na rad nekog sistema, u ovom slučaju na upravljanje organizacijom. Za praktično projektovanje upravljanja organizacijom, međutim, nije dovoljno samo sistemsko razmišljanje i njegova primena koja je delimična. Prema Dr. Dragutinu Stanivukoviću, pet najznačajnijih faktora koja se uzimaju u prilikom projektovanja organizacije na sistemski način jesu spoljašnje okruženje, tehnologija, karakteristike učesnika u procesu rada, stadijum u razvoju organizacije i veličina organizacije. U centru je još i prisvajanje ostalih vodećih teorijskih i praktičnih saznanja. To se može prikazati i uz pomoć sledeće slike (slika 1).



Slika 1: Sistemski način razmišljanja u upravljanju organizacijom

Moto jedne savremene organizacije i ujedno samog sistemskog shvatanja i njegove primene bio bi brže, fleksibilnije, egzaktnije, jeftinije, jednostavnije. Ovo nije moto koji je samo dat na papiru, ovo je upravo ono čime se velike svetske kompanije stvarno i vode.

3.2. PRIMENA SISTEMSKOG NAČINA RAZMIŠLJANJA U UPRAVLJANJU ORGANIZACIJOM

Nakon razmatranja o tome šta je to sistemski način razmišljanja, koje su njegove osnove i šta on zapravo znači, postavlja se jedno ključno pitanje. To je, kako se sistemski način razmišljanja može primeniti u upravljanju organizacijama? Odnosno, kako sistemski način razmišljanja pomaže u definisanju nivoa kontrole u planiranju, komuniciranju i uopšte u samoj kontroli u vođenju organizacijom?

U okviru organizacija postoje uglavnom jedan rasep između menadžera projekta i donosioca odluka, pa samim tim nastaju dva različita menadžerska sistema. Jedan je, takozvani, formalin deo koji je usaglašen sa nekim spoljnim specifičnostima koje su vezane za ugovorne specifikacije. Drugi je neformalni deo koji je zasnovan na intuiciji menadžera projekta i grupne dinamike koja postoji u okviru projekta. Da bi se otklonio jaz između ova dva dela menadžeri počinju sa praktičnom primenom sistemskog načina razmišljanja i njegovih principa. Iz ovog razloga bi se trebalo pristupiti detaljnoj razradi ovog pravca, metodologiji koja bi izgradila stabilnu strategiju u upravljanju organizacijom.

Jedan deo sistemskog razmišljanja koji se primenjuje u upravljanju projektima je zatvoreni ili takozvani "tvrđi" ("hard") sistemski pristup. Sa druge strane se nalazi otvoreni ili "meki" ("soft") pristup. Zatvoreni ili "tvrđi" sistemski pristup zahteva strog pristup u upravljanju organizacijom. Ovaj pristup se uglavnom primenjuje u konvencionalnim organizacijama i fokusiran je na proces standardizacije koji se odnosi na tri njemu bitne stavke. To su cena, vreme i obim proizvodnje. (Atkinson, 1999.) Fokusira se isključivo na autpute, a neki inputi, kao što je recimo ostvarivanje ciljeva organizacije, su zanemareni. Bitni nedostatak ovakvog sistemskog pristupa u upravljanju jeste da organizaciju posmatra zasebno koja nije u kontaktu sa okruženjem iz čega ovakva pretpostavka se sve manje uzima u obzir. Zatvoreni sistem upravljanja organizacijom ne vrši razmenu energije sa okruženjem, pa sama takva organizacija vrlo brzo izumire. Svrha samog sistemskog načina razmišljanja i upravljanja organizacijom bi trebala da ispravi ove stavke i da pomogne menadžerima da na jedan drugi način pristupe upravljanju organizacijama. Pod ovim se podrazumeva da svi treba da sarađuju kao tim koji treba da igra glavnu ulogu u celokupnom sistemu. Kao što je napomenuto, sa druge strane se nalazi otvoreni ili "meki" pristup u upravljanju organizacijom. Ovakav sistemski pristup tvrđi da delovi sistema trebaju da budu usaglašeni sa kompleksnim okruženjem. Odnosi se na to da, za razliku od zatvorenog pristupa koji se fokusira na internu sredinu, organizacije trebaju da budu interno fokusirane na svoj rad interno, uključujući i eksterno okruženje. Takve organizacije vrše razmenu informacije, energije i materijalnih vrednosti. Isto tako, na taj način ona održava takozvano dinamičko stanje ravnoteže.

Sistemski pristup u upravljanju organizacijom je usaglašen sa funkcionalizmom i potrebom za holističkim shvatanjem. Ono se odnosi na to da organizacija nije usmerena samo na proizvodnju svojih proizvoda i rešavanje nekih stvari koje su samo interno bitne, već na radikalno menjanje organizacije i njeno poistovećivanje sa celokupnim okruženjem. Samo holističko shvatanje je usmereno na stvaranje celokupne slike o specifičnosti sistema, i mnogo važnije, na prikazivanje glavnih atributa praktičnosti sistema. Krucijalna stvar je da organizacije trebaju pristupiti jednom otvorenom sistemskom pristupu u

planiranju, kontroli i celokupnom vođenju organizacije. Postoje tri shvatanja koja su bitna za sistemski način razmišljanja i kojih treba da budu svesni savremeni menadžeri:

- Okruženje u kome se nalazi organizacija je kompleksno bez ne linearne interakcije kao što su povećanje prinosa, gomila veza itd.
- Strategije samih organizacija moraju da se menjaju, jer je sama budućnost nepredvidiva
- Sama organizacija treba da bude labilna struktura koja će moći da se prilagođava vremenu koje dolazi, eventualno budućim neprilikama.

3.3. OKRUŽENJE SISTEMSKOG NAČINA RAZMIŠLJANJA

Svaka organizacija je u međusobnom dejstvu sa okruženjem. To je ono zbog čega je čini otvorenom. Da nije tako, one bi bile zatvorene i autarhične, pa to ne bi nikako imalo pozitivne implikacije za nju. Ona je stvorena da raste i razvija se, a na ovaj način bi samo propale i nestale. Šira društvena zajednica je organizaciji izvor njenih potreba, a u isto vreme i ograničenja. Pošto je napomenuto da su organizacija i okruženje u međusobnoj interakciji, postoje neki elementi koji čine samo okruženje. To su: društvena zajednica, tržište sa izvorima potreba, tržište proizvoda i usluga, društvene norme poslovanja, odnosno zakoni itd. Samu okolinu organizacije možemo podeliti u tri osnovne zone, koje se mogu prikazati u vidu prstenova. To su interni sistem organizacije, konkurentski sistem i šira okolina. Sve tri zone utiču na posredan i neposredan način u upravljanju organizacijom.

Kao interaktivno delovanje organizacije i okruženja, treba napomenuti bitnu stavku, a to je da kako samo okruženje može delovati na organizaciju, tako i sama organizacija može delovati na okruženje. Uticaj okoline na organizaciju ima veliku važnost. Naime, to znači da će sam način upravljanja i uspešnosti organizacije zavisiti od okruženja u kojem se nalazi. Uticaj se ogleda, pre svega, u mogućnostima i ograničenjima za normalno funkcionisanje organizacije. Naime, sama društvena okolina je merodavni pokazatelj za uspešnost nekog proizvoda ili usluge na tržištu, pa samim tim i za uspešnost poslovanja. Sa druge strane, organizacija svojim poslovanjem može da utiče na okruženje. Ona na svoju okolinu može delovati na više načina i ima moć da menja dato okruženje prema svojim potrebama. Međutim, da bi do ovoga došlo, sama organizacija mora ostvariti pozitivan ekonomski uticaj na okruženje. Iz toga proizilazi činjenica da organizacija prvo mora primeniti sistemski način razmišljanja, sagledati okruženje i prilagoditi se njemu.

4. ZAKLJUČAK

Sam naš način razmišljanja utiče i bitno određuje svaku našu pojedinačnu i grupnu stavku u životu. Klasičan i sistemski način razmišljanja predstavljaju samo jednu podelu u okviru ovoga.

U okviru upravljanja organizacijom, videli smo da postoje ova dva metoda. Kao što je napomenuto, i kao što je i očigledno, svaki od ova dva metoda ima svoj istorijski razvoj, pristalice, svoj razvoj, pozitivne i manje pozitivne strane. Na osnovu prethodnih razmatranja i ostalih istraživanja, došlo se do zaključka da je za samo upravljanje organizacijom važna primena sistemskog načina razmišljanja. To treba uzeti u obzir upravo zato što živimo u jednom kompleksnom vremenu, sa kompleksnim okruženjem,

koje zahteva brzo i efikasno prilagođavanje brzim promenama. Isto tako, bitno je da se organizacija kojom se upravlja ne posmatra samo kao jedna zasebna jedinica izdvojena od mnogih elemenata. Njeno upravljanje se svodi na delovanje sa tim elementima i preko njih, odnosno na njenu interakciju sa ostalim elementima koji su različiti i kojih je izuzetno mnogo. Isto tako, osnovna karakteristika koja je bitna kako za sistemski način razmišljanja, tako i za efikasno upravljanje organizacijom, jeste okruženje koje nikako ne smemo zanemariti. Samo okruženje predstavlja zajednički element svega navedenog.

Okruženje bitno određuje način upravljanja samom organizacijom. Preko toga, dalje sve to vodi stvarnju uspešnosti organizacije. Pošto okruženje i organizaciju ne posmatramo kao dve zasebne jedinice, već dve jedinice koje se nalaze u međusobnom dejstvu, zaključuje se da je sistemski način razmišljanja upravo ono što određuje budućnost same organizacije.

REFERENCE:

- Ackoff R. L., (1997.), *Menadžment u malim dozama*, PS "Grmeč", Beograd
- Dr. Mihajlović I., Nikolić Đ., dr. Jovanović A., (2009.), *Osnove teorije sistema -Inženjerski menadžment pristup-*, Univerzitet u Beogradu Tehnički fakultet u Boru, Bor
- Kapsali M., (2011.), *International Journal of Project Management: Systems thinking in innovation project management; a match that works*, London UK
- Atkinson, R., (1999.), *International Journal of Project Management* 17, Project management: cost, time and quality, two best guesses and a phenomenon, its time to accept other success criteria
- Mingers J., White L., (2009.), *European Journal of Operational Research, A review of the recent contribution of systems thinking to operational research and management science*, University of Bristol, UK
- Churchman, C., (1963.), *Management Science* 9, *The X of X*
- Ackoff, R., (1962.), *Operational Research Quarterly, Some unsolved problems in problem solving*
- Hall, A.D., (1962.), *A Methodology for Systems Engineering*, Van Nostrand Reinhold, NY.
- Beer, S., (1966.), *Decision and Control*, Wiley, London
- Bertalanffy, L., (1950.), *The theory of open systems in physics and biology*, *Science* 111
- Vuleta M. (2013.), *Principi upravljanja u organizaciji*, Zbornik radova Fakulteta tehničkih nauka, Novi Sad
- Dr. Stanivuković D. (2003.), *Logistika - Organizacija i menadžment -*, Univerzitet u Novom Sadu, Fakultet Tehničkih nauka, Novi Sad

<http://www.vanguard-savjetovanje.hr/sistemska-razmisljanje>

IMPACT OF THE SOCIAL NETWORK FACEBOOK AS AN AID TO LEARNING IN ACADEMIC INSTITUTIONS

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Abstract: The use of social networks provides an important backdrop for social, emotional and cognitive development of youth, who spent much of their time on the internet. One of today's most popular social network - Facebook is a phenomenon of communication. Facebook soon became a necessity in the life of modern man, and seems to be a real life moved at a virtual social network. In higher educational institutions, the explosion of social media provides students with a new way of learning and networking opportunities. The aim of this study was to examine the relationship of the use of Facebook by students in order to improve education. In this study participated 238 students from the University of Belgrade, Technical Faculty in Bor. For data processing, we used the software package SPSS 18.0.

Keywords: Facebook, students, Academic institutions

UTICAJ DRUŠTVENE MREŽE FACEBOOK KAO POMOĆNOG SREDSTVA PRI UČENJU U AKADEMSKIM INSTITUCIJAMA

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Apstrakt: Korišćenje društvenih mreža obezbeđuje važnu pozadinu za društveni, emotivni i kongnitivni razvoj mladih, koji veliki deo svog vremena provode na internetu. Jedna od najpopularnijih društvenih mreža današnjice - Facebook predstavlja komunikacijski fenomen. On je ubrzo postao neophodnost u životu savremenog čoveka, i izgleda kao da se realni život preselio na virtualnu društvenu mrežu. U visokim obrazovnim ustanovama, eksplozija društvenih medija pruža studentima nov način učenja i mogućnosti umrežavanja. Cilj ovog istraživanja je da se ispita odnos korišćenja Facebooka od strane studenata u cilju unapređenja obrazovanja. U samoj studiji učestvovalo je 238 studenata sa Univerziteta u Beogradu, Tehničkog fakulteta u Boru. Za obradu dobijenih rezultata korišćen je softverski paket SPSS 18.0.

Ključne reči: Facebook, studenti, akadamske institucije

1. UVOD

Korišćenje medija obezbeđuje važnu pozadinu za društveni, emotivni i kongnitivni razvoj mladih, koji veliki deo svog vremena provode na internetu [1, 2]. Društveno

umrežavanje kao jedna vrsta online aplikacije u poslednjih nekoliko godina je naglo rasprostranjena među velikim brojem mladih studenata. Jedna od najpopularnijih društvenih mreža današnjice - Facebook predstavlja komunikacijski fenomen [3]. On je ubrzo postao neophodnost u životu savremenog čoveka, i izgleda kao da se realni život preselio na virtualnu društvenu mrežu. U visokim obrazovnim ustanovama, eksplozija društvenih medija pruža studentima nov način učenja i mogućnosti umrežavanja [4].

Facebook bez sumnje u prvi mah deluje kao magična utopija od svakodnevnice koja obiluje nostalgijom u psihološkom smislu da je današnje vreme vreme u kojem se liberalne želje i akti pojedinca mogu odvijati samo u "slobodnim trenucima" kojih je sve manje. Uzevši u obzir da je slobodno vreme dragocenije danas nego pre dvadesetak godina, formiranje facebooka se može protumačiti i kao medijska poruka koja je plasirana tržištu poput *all – in – one* proizvoda koji se može upotrebiti na raznolike načine a da pritom vreme za korišćenje istog i dalje ostaje faktor koji ograničava ali i koji doprinosi upražnjavanju komunikacije.

Facebook je zaista jedan planetarni fenomen. Svesno je napravljen da služi kao veoma razrađeno sredstvo za komuniciranje. Poprimio je karakteristike globalne epidemije. Proširio se na gotovo celu planetu Zemlju (bar na onaj deo koji je pokriven internetom) i za sada se ovoj epidemiji ne može stati na put.

Misija Facebooka je da svet otvoren i povezan - da ljudi koriste Facebook kako bi ostali u kontaktu sa prijateljima i rodbinom da otkriju šta se dešava u svetu i da podele i izraze mišljenje u vezi onoga što ih se tiče [5], ali i da se iskoriste potencijal ove društvene mreže kao mesta poslovnog povezivanja i marketinških aktivnosti. Facebook-ov sajt predstavlja bazu podataka o korisnicima i za korisnike, gde je „svaka stranica korisnika baza njihovog života, tako da je ovo sajt za društveno umrežavanje kolekcija kolekcija i kolektiva“.

U proseku 50% korisnika Facebook-a je svakodnevno aktivno, svaki korisnik ima po 137 prijatelja i mesečno provodi čak do 740 biliona minuta uz Facebook [6]. Prema podacima iz maja 2012. facebook je dostigao cifru od 1,11 milijardi korisnika [7]. Najviše korisnika Facebooka imaju Sjedinjene Američke Države sa preko 166 miliona korisnika, zatim Indija sa preko 62 miliona korisnika, zatim Brazil sa preko 58 miliona korisnika, a potom slede Indonezija, Meksiko i Velika Britanija. Zanimljiv je podatak da se Srbija nalazi na 47. mestu sa preko 3 miliona korisnika što ukupno čini 56,44% stanovništva, iako ne spada u zemlje sa visoko razvijenom tehnologijom. Na poslednjem 213 mestu se nalazi Vatikan gde samo 4,17 % stanovništva koristi Facebook, što je i očekivano zbog vrste populacije i načina života [8].

2. PREGLED LITERATURE

Sajtovi društvenih mreža (SDM) prema Boydu i Ellisonu [9] se mogu definisati kao web usluge koje omogućavaju pojedincima da 1) kreiraju javni ili polu-javni profil unutar nekog ograničenog sistema, 2) vide listu drugih korisnika. Trenutno postoji mnogo sajtova društvenih mreža koji pružaju širok spektar interesovanja i prakse. Zbog sve većeg broja korisnika facebooka ovaj rad se bavi problematikom korišćenja facebooka u akademske svrhe, kao alat koji pomaže studentima da postižu bolje rezultate na fakultetu.

Korisnici Facebooka među kojima su i brojni studenti svakodnevno nalaze brojne razloge za upotrebu ove društvene mreže. Među njima se izdvajaju najčešćih devet motiva za korišćenje Facebooka koji uključuju sledeće: 1) održavanje postojećih odnosa sa

prijateljima (npr., napisati prijatelju poruku na zidu, ostati u kontaktu sa prijateljima i sa ljudima koje poznajete, održavanje kontakta sa ljudima koje ne viđate često, saznati šta rade poznanici ili prijatelji sada) [10, 11, 12, 13], 2) upoznavanje novih prijatelja (npr., pronaći informacije o drugim ljudima, razvijati ljubavne veze, upoznati nove prijatelje) [11, 14], 3) korišćenje Facebooka je kul i zabavno [12], 4) da bi bili popularniji (npr., takmičenje u popularnosti prema broju prijatelja na Facebooku) [14], 5) da brže potroše vreme (npr., da vreme brže prođe kada je dosadno, za igranje igrica i skretanje misli od drugih stvari u realnom životu) [12], 6) da predstavi sebe (npr., ažuriranje svog statusa, iznošenje informacija iz privatnog života) 7) za potrebe učenja (npr., kao dodatna pomoć pri učenju) [10, 12], 8) za raznorazne marketinške aktivnosti, 9) studentski aktivizam [10].

Iako studenti Facebook smatraju društvenom mrežom a ne nastavnim sredstvom, on može imati značajan uticaj na performanse studenata. Facebook može pomoći studentima da se lakše prilagode načinu funkcionisanja univerziteta. Korišćenjem Facebooka studenti stiču više samopoštovanja, društvo ih brže prihvata, lakše se prilagođavaju univerzitetskoj kulturi što im omogućava da postižu bolje rezultate na ispitima.

Uprokos potencijalu Facebooka da poboljša proces učenja, zaključci koji su prizašli iz nekoliko studija pokazuju da profesori ne žele da uključe ovu tehnologiju u svoje nastavne strategije. Iznenadujuće ECAR istraživanje redovnih studenata i informacione tehnologije [15] zajedno sa drugim studijama pokazuju da uprkos tome što sve više koriste informacione tehnologije u svakodnevnom životu, oni se prijatno osećaju dok primenjuju tradicionalne načine učenja i vole umereno korišćenje informacionih tehnologija. Međutim, neki autori preporučuju da se ovo tumačenje uzima sa rezervom jer je "umerena upotreba informacione tehnologije" već implementirana u društvo.

Kontradiktorna priroda ovih studija pokazuje da nema dokaza o postojanju jedne generacije mladih studenata koji poseduju sofisticirane tehnološke veštine i koji imaju preferencije ka učenju uz pomoć društvenih mreža [16]. U tom slučaju, pokazuje da upotreba sajtova društvenih mreža kod mladih zavisi od pola pojedinaca, rase, nacionalnosti, i od obrazovanja roditelja. Dakle, pre nego što se uvedu radikalne promene u trenutnom obrazovnom sistemu, neophodno je preduzeti rigorozne empirijske studije koje istražuju percepciju učenika o

Zbog popularnosti i aktuelnosti ove teme, sproveli smo istraživanje čiji je cilj da identifikuje faktore upotrebi društvenih mreža kao akademske alate za učenje. koji u velikoj meri utiču na studente da usvoje i koriste brojne alate društvenih mreža, posebno Facebooka u obrazovne svrhe u akademskim institucijama. Zaključci koji su proizašli iz ovog istraživanja pomoći će nam da bolje razumemo i unapredimo korišćenje alata koje nam nude društvene mreže u obrazovne svrhe. Korišćenjem Facebooka kao pomoćno sredstvo u nastavi pri učenju će omogućiti da se na bolji način prilagode nastavne strategije savremenim potrebama studenata.

3. METODOLOGIJA

3.1. UZORAK I PRIKUPLJANJE PODATAKA

Za potrebe ovog rada sprovedeno je istraživanje gde su podaci prikupljeni putem upitnika [17] na UB, Tehničkom fakultetu u Boru (Srbija). Ispitani su studenti od prve do četvrte godine osnovnih akademskih studija, kao i studenti master studija.

Upitnik, koji je imao 44 pitanja, se fundamentalno sastoji od dve grupe pitanja. Prva grupa ukazuju na demografske karakteristike studenata (pol, starost, frekvencija i način korišćenja, broj prijatelja). Druga grupa pitanja vezana je za korišćenje Facebooka u akademske svrhe u kojoj su uključeni aspekti koji se odnose na sledeće elemente: korisnost, percepcija jednostavnog korišćenja, olakšavajući uslovi, identitet grupe, društveni uticaj, društveni odnos, dnevne aktivnosti, matreijal za deljenje i resursi, saradnja, povezivanje posla.

Prednost primene anketnog upitnika, sa formalnog stanovišta, jeste u tome što obezbeđuje anonimnost ispitanika i diskreciju podataka, kao i potpunu standardizaciju prikupljenih podataka. Anketirano je ukupno 270 ispitanika, od kojih je 238 listića ispravno popunjeno (88,15 %). Za gredaciju dobijenih rezultata korišćena je Likertova petostepena skala. Demografski profil i deskriptivna statistika ispitanika mogu se videti u Tabeli 1.

Tabela 1. Demografske karakteristike uzorka

Demografske varijable	Kompozicija uzorka	
	Kategorije	Procenat (%)
<i>Pol</i>	Muški	42,0
	Ženski	58,0
<i>Godine starosti</i>	• Od 18 – 20	40,8
	• 21 -23	45,4
	• 24 – 26	5,9
	• Preko 26 godina	8,0
<i>Učestalost korišćenja Facebook-a</i>	• 1 x dnevno	17,6
	• 2-5x dnevno	48,7
	• 6-10x dnevno	19,7
	• 11-15x dnevno	5,9
	• 16-20 dnevno	3,8
	• Preko 20x dnevno	4,2
<i>Svrha korišćenja Facebooka</i>	• Da budem u kontaktu sa prijateljima	75,6
	• Da komuniciram sa kolegama/koleginicama o fakultetu	5,0
	• Da dopustim drugim ljudima da budu upoznati sa dešavanjima u mom životu	1,3
	• Da komuniciram sa drugim ljudima sa kojima duže vreme nisam u kontaktu	6,3
	• Da izgradim profesionalne odnose sa drugim ljudima	1,7
	• Za flertovanje	2,1
	• Nešto drugo	8,0
<i>Broj prijatelja na Facebook-u</i>	• 1-40 prijatelja	5,9
	• 40-80	4,6
	• 80-140	6,3
	• 140-180	4,2
	• više od 180 prijatelja	79,0
<i>Šta mislite o korišćenju Facebook-a u akademske svrhe</i>	• Facebook je pogodan za korišćenje u akademske svrhe	23,1
	• Može biti pogodan za povezivanje sa drugim kolegama/koleginicama	53,8
	• Facebook treba koristiti u lične svrhe, a ne u obrazovanju	8,0
	• Moja privatnost može biti otkrivena	1,3
	• Ne razmišljam o tome	12,6
	• Nešto drugo	1,3
<i>Način korišćenja Facebook-a</i>	• Preko računara	29,4
	• Preko mobilnog telefona	3,4
	• Koristeći i računar i mobilni	67,2

4. REZULTATI ISTRAŽIVANJA

Za empirijsku validaciju rezultata tj. definisanja ključnih faktora koji utiču na korišćenje Facebook-a u akademskim institucijama korišćena je faktorska analiza kroz sledeća tri koraka [18].

Korak 1. Ocena prikladnosti podataka za faktorsku analizu

Kada se određuje prikladnost određenog skupa podataka za faktorsku analizu, treba razmotriti dva glavna pitanja: veličinu uzorka i jačinu veze između promenljivih. Za jačinu korelacije među promenljivima koriste se dva testa Kajzer-Mejer-Olkinov (KMO) pokazatelj adekvatnosti uzorka i Bartlerov test specifičnosti. Izračunate vrednosti ovih statističkih pokazatelja u ovom radu su date u Tabeli 2.

Tabela 2. Izračunate vrednosti KMO pokazatelja i Bartlerov test sveričnosti

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		,809
Bartlett's Test of Sphericity	Approx. Chi-Square	3765,389
	df	946
	Sig.	,000

U prikazanom rezultatu vrednost pokazatelja KMO iznosi 0.809 što znači da je veća od predviđene vrednosti 0,6 i rezultati su statistički značajni pri čemu je $p=0.000$, s toga je faktorska analiza u potpunosti opravdana za analizu ovog uzorka.

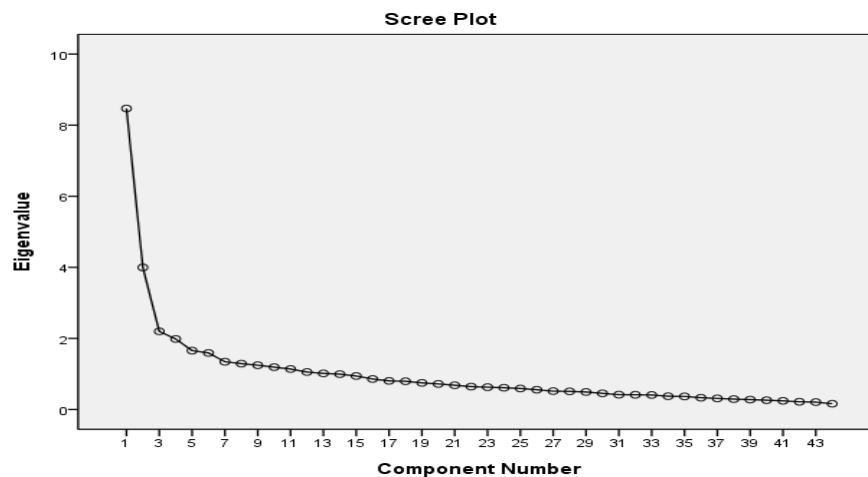
Korak 2: Izdvajanje faktora

Izdvajanje (ekstrakcija) faktora obuhvata određivanje najmanjeg broja faktora koji predstavljaju međuveze u skupu promenljivih. Za određivanje broja faktora koje treba zadržati postoji više tehnika: Kajzerov kriterijum (kriterijum karakterističnih vrednosti); dijagram prevoja (Scree test); paralelna analiza [18]. U Tabeli 8. su prikazani rezultati ekstrakcije faktora primenom metode analize glavnih faktora (engl. *principal component analysis PCA*).

Tabela 8 Rezultati analize glavnih faktora

Component	Total Variance Explained					
	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	8,469	19,248	19,248	8,469	19,248	19,248
2	3,997	9,083	28,331	3,997	9,083	28,331
3	2,198	4,995	33,326	2,198	4,995	33,326
4	1,984	4,510	37,836	1,984	4,510	37,836
5	1,656	3,763	41,599	1,656	3,763	41,599
6	1,591	3,616	45,215	1,591	3,616	45,215
7	1,344	3,054	48,269	1,344	3,054	48,269
8	1,290	2,932	51,201	1,290	2,932	51,201
9	1,245	2,830	54,031	1,245	2,830	54,031
10	1,191	2,707	56,737	1,191	2,707	56,737
11	1,139	2,588	59,326	1,139	2,588	59,326
12	1,053	2,394	61,719	1,053	2,394	61,719
13	1,015	2,307	64,026	1,015	2,307	64,026
14	,994	2,259	66,285			
15	,942	2,140	68,425			
16	,858	1,950	70,376			
17	,805	1,829	72,205			
18	,794	1,804	74,008			
19	,748	1,700	75,709			
20	,719	1,634	77,342			
21	,681	1,548	78,890			
22	,644	1,464	80,354			
23	,628	1,427	81,781			
24	,611	1,390	83,171			
25	,591	1,342	84,513			
26	,556	1,264	85,777			
27	,516	1,173	86,950			
28	,510	1,159	88,109			
29	,492	1,118	89,226			
30	,454	1,033	90,259			
31	,417	,949	91,208			
32	,414	,940	92,148			
33	,408	,927	93,075			
34	,372	,846	93,921			

Po Kajzerovom kriterijumu, zanimaju nas samo komponente čija je karakteristična vrednost veća ili jednaka 1.0. Samo prvih 13 komponenti imaju vrednosti iznad 1.0 i iznose (8,469; 3,997; 2,198; 1,984; 1,656; 1,591; 1,344; 1,290; 1,245; 1,191; 1,139; 1,053; 1,015). Tih 13 komponenti objašnjavaju 64,026 % varijanse. Broj komponenata koje zadovoljavaju Kajzerov kriterijum je često prevelik pa je izvršena i analiza dijagrama prevoja (Scree plot). Na njemu je potrebno naći prevojnu tačku (lakat) u kojoj se oblik krive menja i ona prelazi u horizontalu. Na konstruisanom dijagramu prevoja prikazanom na slici 1 mogu se videti kod sedme tačke (gde se prihvata rešenje sa 6 faktora).



Slika 1. Konstruisani dijagram prevoja

Treći način određivanja broja faktora koje treba zadržati i koji se sve više i češće koristi jeste paralelna analiza. Paralelna analiza u ovom radu je izvedena primenom programa MonteCarlo PCA for Paralel Analysis [19]. U narednoj Tabeli 3 je dato poređenje karakterističnih vrednosti dobijenih faktorskom analizom u SPSS program i u program MonteCarlo PCA for Paralel Analysis.

Tabela 3. Poređenje karakterističnih vrednosti

Redni broj komponente	Stvarna karakteristična vrednost iz PCA	Vrednost dobijena paralelnom analizom	Odluka
1	8,469	1,9293	prihvatiti
2	3,997	1,8291	prihvatiti
3	2,198	1,7482	prihvatiti
4	1,984	1,6851	prihvatiti
5	1,656	1,6201	prihvatiti
6	1,591	1,5702	prihvatiti
7	1,344	1,5170	odbaciti

Korak 3: Rotacija i tumačenje faktora

Kada je broj faktora određen, sledeći korak je njihovo tumačenje. Da bi se ovaj proces olakšao pribegava se „rotaciji“ faktora. U matrici rotiranih komponenti date su izračunate rotirene faktorske težine svake od stavki (promeljivih) za šest identifikacionih komponenti (faktora) Tabela 4. U njoj je izvršeno grupisanje promenljivih u jedan od šest faktora na osnovu njihovih izračunatih faktorskih težina.

Tabela 4. Matrica rotiranih komponenti

	Component					
	1	2	3	4	5	6
Fb obezbedjuje sirok spektar materijala za učenje	,690					
Koristim Fb da postavljam saopštenja o predavanjima, ispitima, fakultetu	,683					
Koristim Fb da poboljšam diskusiju sa ostalim studentima	,672					
Fb obezbedjuje bogat multimedijalni sadržaj i podršku u poboljšanju učenja	,659					
Koristim Fb da poboljšam komunikaciju sa profesorima	,634					
Fb pruža podršku studentima u izradi zadatih obaveza	,600					
Koristim Fb da poboljšam komunikaciju sa kolegama na fakultetu	,581					
Fb poboljšava rad studentskih grupa	,574					
Koriscenje Fb-a postice kreativnost u studentskim grupama koje imaju iste interese i potrebe	,568					
Fb koristim za komunikaciju sa svojim kolegama o aktivnostima na fakultetu	,451					
Fb koristim kao izvor informacija o predavanjima	,436					
Fb je odgovarajuca platforma za razmenjivanje informacija	,429					
Fb koristim da bih podelio informacije sa svojim prijateljima						
Koristim Fb za komunikaciju sa prijateljima		,692				
Koristim Fb za lociranje prijatelja sa kojima nisam dugo u kontaktu		,624				
Fb koristim da dodjem do saznanja o novostima i inovacijama		,565				
Koriscenjem Fb-a mogu da pridruzujem grupama koje me interesuju		,562				
Fb koristim da budem u toku sa desavanjima mojih prijatelja		,506				
Mogu da pristupim Fb-u svaki put kad imam pristup internetu		,404				
Fb mi omogucava da brzo delim mnogo stvari sa drugima		,372				
Fb koristim po preporuci prijatelja		,351				
Komunikacija na Fb je jasna i razumljiva			,694			
Smatram da je koriscenja Fb aplikacija jednostavno			,669			
Fb omogucava brzu komunikaciju sa ljudima			,656			
Lako je postati korisnik Fb-a			,636			
Nemam nikakvih problema sa citanjem aplikacija na svom nalogu			,545			
Fb nalog se lako koristi			,473			
Mogu dobiti tehnicku podrsku e-mailom ukoliko imam problema sa koriscenjem Fb-a				,619		
Koriscenjem Fb-a mogu kreirati grupe koje mi omogucavaju da delim informacije sa ljudima koji imaju ista interesovanja kao ja				,605		
Fb nudi odgovarajucu podrsku				,575		
Fb nudi tehnicku podrsku koja mi je potrebna				,521		
Koristim Fb jer mi omogucava da se priklucim grupama sa kojima imam zajednicke interese				,518		
Bilo ko moze da mi pomogne da koristim Fb				,416		
Koristim Fb za saradnju sa drugim clanovima u grupi u kojoj sam se pridruzio				,414		
Fb je slican drugim drustvenim mrezama (msn, twitter, linkedn)						
Koristim Fb da bih se ukolpila u drustvo					,711	
Koristim Fb jer drugi ljudi to ocekuju od mene					,707	
Smatram da je koriscenje Fb neophodno					,663	
Posvecujem dosta paznje karakteristikama Fb-a					,588	
Koriscenja Fb-a poboljsava licne veze					,545	
Koristim Fb za sklapanje novih prijateljstava						,699
Koristim Fb za deljenje informacija i podataka						,649
Koristim Fb da budem informisan o svojim sadasnji i bivsim kolegama						,534
Fb omogucava lakse uspostavljanje licnih kontakata						,371

5. DISKUSIJA REZULTATA

Utvdili smo da postoje ukupno 6 faktora koji su bitni za korišćenje Facebooka kao pomoćno sredstvo pri učenju u akademskim institucijama. Ukupno 12 stavki određuje prvi faktor. Sve stavke su grupisane oko korišćenja Facebooka u edukativne svrhe. Ova savremena društvena mreža pruža mnogobrojne pogodnosti studentima, laku i brzu komunikaciju sa kolegama na fakultetu ali isto tako i sa profesorima. Zbog toga je prvi eksrahovani faktor edukacija. Izračunata vrednost koeficienta Cronbah Alpha za 1 definisani faktor iznosi 0.856, što potvrđuje da je ispunjen uslov saglasnosti (0,7) između pitanja koja se odnose na edukativni karakter Facebooka. Ono što je značajno jeste da je druga grupa faktora orijentisana oko kontakta sa prijateljima, angažovanju u okviru grupa koje postoje na ovoj društvenoj mreži. Korisnicima Facebooka je jako bitna društvena interakcija koja se ostvaruje na lak i brz način. Zato je ova grupa faktora koja se sastoji od 8 pitanja orijentisana na komunikaciju, koeficient Cronbah Alpha iznosi (0,742). Sve promenljive koje pripadaju trećoj komponenti tj. faktoru se u najvećoj meri odnose na jednostavnost prilikom upotrebe ove društvene mreže. Sva pitanja koja se tiču lakog pristupa, brze i jasne komunikacije, lakog korišćenja aplikacija su grupisana oko ovog faktora. Povezanost ove grupe pitanja ima statističku značajnost (koeficient Cronbah Alpha) iznosi (0,729). Pitanja koja karakterišu četvrtu grupu faktora orijentisana su oko korisnosti, koji karakterišu Facebook kao jednu od najpopularnijih društvenih mreža današnjice među studentima. Mogućnost formiranja grupa u cilju deljenja informacija sa različitim ljudima koji imaju ista interesovanja pruža mnogo koristi. Tehnička platforma koja podržava ovu društvenu mrežu je jednostavna za upotrebu pa je protok informacija jako brz, koji mogu da koriste veliki broj studenata. Unutrašnja saglasnost 7 stavki koje čine faktor korisnost iznosi (0,727). Mnogi studenti pribegavaju korišćenju ove društvene mreže zbog društvenog uticaja koji ima. Korišćenje Facebooka pomaže studentima da se lakše uklape u društvo, i razviju lične veze sa što većim brojem ljudi i na ovaj način se brže adaptiraju studentskoj kulturi. Zato petu grupu faktora čini društveni uticaj pri čemu statistička značajnost ove grupe pitanja visoka i iznosi (0,739). Rezultat faktorske analize je da je šesta grupa faktora objedinjena oko prijateljstva. Veliki broj studenata koristi Facebook za upoznavanje sa drugim studentima, na osnovu kojeg učvršćuju svoje lične kontakte. Ali isto tako mladi putem ove društvene mreže ostaju u bliskom kontaktu sa svojim prijateljima iz detinjstva, pa čak i sa roditeljima održavaju vezu ukoliko se radi o velikoj udaljenosti. Putem ove društvene mreže se mladi druže jer to predstavlja savremeni trend komunikacije koju studenti praktikuju u svakodnevnom životu. Kod ovog faktora nivo značajnosti je nešto manji od poželjne granice i iznosi (0,617). Tumačenjem rezultata faktorske analize utvrđeno je da na korišćenje Facebook-a u akademskim institucijama određuju ukupno sledećih šest faktora: edukacija; komunikacija; jednostavnost korišćenja; korisnost ; društveni uticaj; prijateljstvo.

6. ZAKLJUČAK

Društvene mreže su fenomen današnjice koji ima tendenciju daljeg rasta. Ovo istraživanje odlikava omladinu koja je spremna da prihvati korišćenje Facebook-a u svim sverama svog života. Među studentima gde je istraživanje sprovedeno ovakav način širenja informacija je već počeo da se koristi. Mnogi ispitanici smatraju da Facebook može biti veoma korisno pomoćno sredstvo studentima u spremanju ispita. Lak je za rukovanje i

informacije se brzo prenose putem mreže. Mladi ljudi tj. studenti dosta vole učenje na jedan ovako neformalan način putem zabave, i ovo u budućnosti profesorima može biti jako korisno. Naime sami profesori bi trebali da iskoriste ovu prednost koju nudi društvena mreža Facebook a na koju su studenti dosta navikli. To mogu učiniti kreirajući nove sadržaje koji su pogodni za korišćenje na Facebook-u čime profesori bukvalno „kradu“ vreme studentima. Na taj način oni više vremena provode učeći na jedan dosta zabavan i krativan način.

REFERENCE

- [1] Roberts, D. F., Foehr, U. G., & Rideout, V. (2005). *Generation M: Media in the lives of 8-18 year-olds*. Menlo Park, CA: Kaiser Family Foundation.
- [2] Tiffany A. Pempek, Yevdokiya A. Yermolayeva, Sandra L. Calvert (2009). College students' social networking experiences on Facebook, *Journal of Applied Developmental Psychology*, 30, 1-10
- [3] Vuksanović, D., (2007). *Filozofija Medija – Ontologija, Estetika, Kritika*, Fakultet dramskih umetnosti u Beogradu i Čigoja Štampa, Beograd
- [4] Chen, B., & Bryer, T. (2012). Investigating instructional strategies for using social media in formal and informal learning. *The International Review of Research in Open and Distance Learning*, 13(1), 87-104. <<http://www.irrodl.org/index.php/irrodl/article/view/1027/2073>>
- [5] <http://investor.fb.com/releasedetail.cfm?ReleaseID=736911>
- [6] <http://www.howmanyarethere.org/how-many-facebook-users-are-there-2012/>
- [7] http://en.wikipedia.org/wiki/Facebook_statisticsFacebook
- [8] http://en.wikipedia.org/wiki/Facebook_statisticsFacebook
- [9] Boyd, D. M., & Ellison, N. B. (2007). Social network sites: definition, history, and scholarship. *Journal of Computer-Mediated Communication*, 13(1).
- [10] Bosch, T. E. (2009). Using online social networking for teaching and learning: Facebook use at the university of cape town. *Communicatio: South African Journal for Communication Theory and Research*, 35(2), 185-200.
- [11] Ellison, N. B., Steinfield, C., Lampe, C. (2007). The benefits of Facebook "friends": social capital and college students' use of online social network sites. *Journal of Computer-Mediated Communication*, 12(4), 1143-1168.
- [12] Pempek, T. A., Yevdokiya, A. Y., & Calvert, S. L. (2009). College students' networking experiences on Facebook. *Journal of Applied Developmental Psychology*, 30(3), 227-238.
- [13] Sheldon, P. (2008). Student favourite: Facebook and motives for its use. *Southwestern Mass Communication Journal*, 23(2), 39-53.
- [14] Urista, M. A., Dong, Q., Day, K. D. (2009). Explaining why young adults use MySpace and Facebook through uses and gratifications theory. *Human Communication*, 12(2), 215-229.

- [15] Smith, S. D., & Caruso, J. B. (2010). The ECAR study of undergraduate students and information technology. In *Research study* (Vol. 6).
- [16] Sanchez, R. A., Cortijo, V., Javed, U. (2014). Students perceptions of Facebook for academic purposes. *Computers & Education*, 70(1), 138-149.
- [17] Mazman, S. G., Usluel, Y. K. (2010). Modeling educational use of Facebook. *Computers & Education*, 55(2), 444-453
- [18] Manasijević, D., Statistička analiza u SPSS programu, autorizovana predavanja, Bor, 2011.
- [19] <http://www.softpedia.com/progDownload/Monte-Carlo-PCA-for-Parallel-Analysis-Download-56312.html>

M-LEARNING AS AN INNOVATIVE APPROACH TO HIGHER EDUCATION: CASE STUDY – TECHNICAL FACULTY IN BOR, UNIVERSITY IN BELGRADE

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Abstract: In the coming time, M-learning is no longer a choice, but a necessity in the modern way of learning so that students were in step with time and technology. M-learning plays an increasingly important role in development of teaching methods of learning in higher education. Using mobile technology, students can easily and quickly obtain and use learning materials anytime and anywhere. The aim of this paper is to demonstrate the attitudes and opinions of students on M-learning as an innovative approach to higher education. Also, the paper will be presented how students take advantage of M-learning and how often do so. In this study, participants were students from all academic programs at the Technical Faculty in Bor, University of Belgrade. For data analysis, we used software package SPSS 18.0.

Keywords: Mobile learning, m-learning, new technology, students

M-UČENJE KAO INOVATIVNI PRISTUP VISOKOM OBRAZOVANJU: STUDIJA SLUČAJA – TEHNIČKI FAKULTET U BORU, UNIVERZITET U BEOGRADU

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Apstrakt: U vremenu koje dolazi, M-učenje više neće biti izbor već neophodnost u savremenom načinu učenja kako bi studenti bili u koraku s vremenom i tehnologijom. M-učenje ima sve značajniju ulogu u razvoju nastavnih metoda učenja u visokom obrazovanju. Koristeći mobilne tehnologije studenti mogu lako i brzo da pristupe i koriste materijale za učenje bilo kad i bilo gde. Cilj ovog rada je da pokaže stavove i mišljenja studenata o M-učenju kao inovativnom pristupu visokom obrazovanju. Takođe, u radu će biti predstavljeno da li studenti koriste prednosti M-učenja i koliko često to čine. U ovoj studiji učestvovali su studenti sa svih studijskih programa na Tehničkom fakultetu u Boru, Univerziteta u Beogradu. Za obradu podataka korišćen je softverski paket SPSS 18.0.

Ključne reči: Mobilno učenje, m-učenje, nove tehnologije, studenti

1.UVOD

Povećani interes za mobilnim uređajima i njihovim korišćenjem za učenje i istraživanje može se pripisati nizu faktora: stalnim širenjem bežičnih broadband mreža, eksplozijom

snage i kapaciteta sledeće generacije mobilnih telefona, i činjenicom da su mobilni telefoni, kao već odomaćeni uređaji za komunikaciju, duboko usađeni u svakodnevni život, kao deo naše društvene prakse[1].

Mobilno učenje omogućava učenicima da gradivo usvajaju svojim tempom, na onakav način i onoliko puta koliko to njima odgovara [2]. Popularnost ove vrste učenja je u vrtoglavom rastu u proteklih nekoliko godine, posebno nakon razvoja iPad-a i tableta koji koriste wireless tehnologiju[3].

Studija o sklonosti mladih za novim tehnologijama iz 2009. godine pokazala je da 60% mladih misli da je mobilni telefon neophodnost. Istraživanje iz 2012. godine pokazuje da 60 % mladih do 30 godina misli da ne mogu živeti bez mobilnog telefona. Takođe zaključak ove studije je i da studenti poseduju mobilne uređaje bez obzira na prihode[4].

Prema istraživanju Međunarodne telekomunikacione unije iz 2012. godine u Srbiji u proseku tri mobilna telefona idu na dva stanovnika[5]. Gotovo svaki student na Tehničkom fakultetu u Boru ima neki mobilni uređaj, cilj ovog istraživanja je da pokaže da li studenti koriste mobilne uređaje za učenje, kao i prikazivanje uticaja demografskih faktora na njihova mišljenja i iskustva o M-učenju.

2. PREGLED LITERATURE

Mobilno učenje definiše se kao učenje pomoću mobilnih uređaja: takozvanih pametnih telefona, PDA uređaja, MP3 i MP4 uređaja, tablet računara i drugih prenosivih uređaja[6]. To je manje formalan način učenja uz koji vežemo pojmove kao što su privatno, situacijsko i nestrukturirano učenje. Mobilni telefon više nije samo sprava koja služi za telefoniranje i slanje SMS poruka. Sada nam pruža mnoge pogodnosti, od stvaranja multimedijalnih sadržaja, preko pretraživanja internet stranica, do pokretanja širokog spektra aplikacija. Upravo iz tog razloga, mobilni uređaji se sve više i sve češće koriste u obrazovanju i nadomešćuju nedostatke tradicionalnog obrazovanja, upotpunjuju ga, ili ga potpuno zamenjuju [7].

Neki autori pod uređajima koji omogućavaju M-učenje ubrajaju i laptop,notebook i ultrabook računare.Grupa autora sa KPTM Univerziteta u Maleziji je dala svoju definiciju m-učenja: Mobilno učenje ili M-učenje je novi koncept učenja putem mobilnih tehnologija koji naglašava sposobnost da se olakša proces učenja. To je učenje preko prenosivih uređaja kao što su mobilni telefoni, pametni telefoni,laptop računari,notebook računari, tablet računari, PDA (Personal Digital Asistent) uređaja i drugih prenosivih uređaja[8].

Grupa autora sa Sains univerziteta u Maleziji smatra da studenti nisu ni svesni koliko koriste m-učenje. Ako studenti koriste digitron, podsetnik i sl. preko mobilnih uređaja onda su koristili m-učenje kao podršku učenju. Ako su koristili pozive na mobilnom uređaju da objase jedan drugom gradivo onda su koristili m-učenje kroz komunikaciju [9].

Ovakav način učenja ima za cilj da nastavu oslobodi prostorno-vremenskih stega, učini je svestranijom i kvalitetnijom. Broj pogodnosti koje nudi mobilno učenje daleko je veći od onog koji nudi tradicionalni način školovanja u učionici [10]. Pre svega, jedna od prednosti odnosi se na brzinu protoka informacija; učenik u svakom trenutku i na svakom mestu može imati pomoć enciklopedije, rečnika, priručnika u samo nekoliko trenutaka. Mobilni uređaji se mogu koristiti za pristup različitim sadržajima, ali i za kreiranje sopstvenih, koje će učenici potom deliti sa drugim učenicima i nastavnicima, potpuno nezavisno od trajanja nastave [11].

Primena novih informaciono-komunikacionih tehnologija u procesu obrazovanja podrazumeva kontinuirano praćenje i usvajanje novih znanja i iskustava iz navedenih oblasti. Informatička i tehnička pismenost neophodna je i za nastavnike koji ovakav način nastave treba da ostvaruju u interakciji sa učenicima/studentima. Tehnologija je danas na takvom stupnju razvoja da u potpunosti može odgovoriti na ove zahteve. Ostaje samo da se obrazovanje prilagodi novinama i iskoristi mogućnosti koje one pružaju[2,12].

Učenje preko mobilnih uređaja je podeljeno na pet osnovnih načina[13].:

- Preko osnovne komunikacije (pozivi,email poruke, sms poruke)
- Preko kreiranja sadržaja (snimanje zvuka,video, slikanjem fotografija)
- Preko socijalnih mreža (Facebook, Twiter i dr.)
- Preko pretraživanja interneta
- Preko korišćenja raznih aplikacija

Prednosti m-učenja:

- Interakcija: student može da ima interakciju sa profesorima.
- Prenosivost: mobilni uređaji su lakši od knjiga i omogućuju studentima da hvataju beleške, kucajući tekst ili snimajući zvuk.
- Saradnja: omogućavaju lakšu saradnju među studentima. Studenti mogu da saraduju čak i na udaljenim lokacijama.
- Angažovanje studenata: nove generacije vole da koriste mobilne uređaje.
- Praktičnost: Studenti mogu učiti kad god imaju vremena.
- Može da pomogne studentima sa invaliditetom.
- Brzina : tradicionalni materijali za učenje i trening uzimaju mnogo vremena da se pripreme, materijali za mobilno učenje se mogu pripremiti i biti dostupni relativno brzo.
- Zadržavanje znanja: mobilno učenje je moćan alat za učenje koje pruža mogućnost brzog podsećanja i dopune naučenog.
- Smanjuje troškove štampanja literature.
- Omogućava lakše upravljanje podacima[9,14].

Nedostaci se uglavnom odnose na veličinu ekrana i tipki koji su relativno mali kao i na konekciju i trajanje baterije. Postoji mnoštvo standarda i operativnih sistema koji ne rade na mobilnim uređajima tako da se nalaze i poteškoće prilagođavanja već postojećih sadržaja za elektronsko učenje na mobilne uređaje. Prema istraživanjima cena takođe predstavlja problem, s obzirom da su mobilni uređaji sa kvalitetnijim funkcijama obično skupi. Tržište mobilnih uređaja je brzo rastuće i ovakvi uređaji brzo zastevaju[9,15].

3. METODOLOGIJA

3.1. UZORAK I PRIKUPLJANJE PODATAKA

U ovom radu korišćeni su podaci sprovedenog istraživanja u prvoj polovini maja 2014. godine na Tehničkom fakultetu u Boru. Za potrebe istraživanja korišćena je anketa koja se sastoji iz dva dela (9 demografskih pitanja i 26 istaživačkih pitanja). U istraživanju je učestvovalo ukupno 134 studenta sa svih studijskih programa. Obrada podataka vršena je

uz pomoć softverskog paketa SPSS 18.0. Za gradaciju dobijenih odgovora korišćena je Likertova petostepena skala, gde 1 označava “potpuno netačno”, 2 “netačno”, 3 “neutralno”, 4 “tačno”, 5 “potpuno tačno”. Anketiranje je bilo anonimno.

3.2. ANALIZA PODATAKA

Tabela 1. Demografske karakteristike uzorka

Kategorije	Frekvencija	Procenat	Kumulativni procenat
Pol			
Muški	52	38,8	38,8
Ženski	82	61,2	100
Studijski program			
Rudarsko inženjerstvo	5	3,7	3,7
Tehnološko inženjerstvo	16	11,9	15,6
Metalurško inženjerstvo	7	5,2	20,8
Inženjerski menadžment	105	78,3	100
Godine starosti			
Od 18 - 21	24	17,9	17,9
22 - 25	95	70,9	88,8
26 - 30	11	8,2	97
31 i više	4	3	100
Znanje o E-učenju			
Slabo	33	24,6	24,6
Dobro	79	59	83,6
Veoma dobro	22	16,4	100
Iskustvo u korišćenju mobilnih telefona			
manje od 2 godine	0	,0	0
od 2 do 4 godine	2	1,5	1,5
više od 5 godine	132	98,5	100
Iskustvo u korišćenju pametnih telefona			
do 2 god.	77	57,5	57,5
od 2 do 4 god.	40	29,9	87,3
više od 4 god.	17	12,7	100
Da li koristite M-učenje?			
Da	56	41,8	41,8
Ne	78	58,2	100
Koliko često koristite M-usluge za učenje?			
Ne koristim	76	56,7	56,7
1-5 putadnevno	51	38,1	94,8
6-10 puta dnevno	7	5,2	100
Znanje o M-učenju			
Ništa	24	17,9	17,9
Malo	56	41,8	59,7
Dobro	50	37,3	97
Veoma dobro	4	3	100

Za empirijsku validaciju u ovom radu korišćena je metodologija One-way ANOVA test[16]. Analiza varijanse (ANOVA) je analitički model za testiranje značajnosti razlike i koristi se kada imamo više od dve grupe ispitanika. Prednost ove metode se ogleda u tome

što u model ulaze u obzir svi varijabiliteti, kao i njihov međusobni uticaj, što je nemoguće proceniti na drugi način. Upotrebom ANOVA testa može se doći do saznanja da li postoji razlika u odgovorima ispitanika u odnosu na njihove demografske podatke (pol, studijski program, godine starosti, iskustvo u korišćenju pametnih telefona ...) i da li je ta razlika statistički značajna [17].

Ispitali smo uticaj svake od karakteristika na odgovore na pitanja iz upitnika i utvrdili gde postoji statistička značajnost.

Uticaj godina starosti na odgovore ispitanika

U odnosu na godine starosti statistički značajna razlika postoji kod odgovora na pitanja OP1, OP2, NP1 ($p < 0.005$) i NP4 ($p < 0.05$). Uporedne srednje vrednosti date su u tabeli 2.

Tabela 2. Srednje vrednosti odgovora u odnosu na godine starosti

Godine starosti		OP1	OP2	NP1	NP4
18-21	Mean	3,96	4,00	3,92	3,67
	N	24	24	24	24
	Std. Deviation	,859	,933	,776	1,007
22-25	Mean	3,19	3,22	3,24	2,96
	N	95	95	95	95
	Std. Deviation	,914	,958	,986	1,175
26-30	Mean	3,73	3,36	4,09	3,64
	N	11	11	11	11
	Std. Deviation	,905	1,027	,831	1,027
31 i više	Mean	3,75	3,75	3,75	3,00
	N	4	4	4	4
	Std. Deviation	1,500	,957	,957	,000
Total	Mean	3,39	3,39	3,45	3,14
	N	134	134	134	134
	Std. Deviation	,965	,996	,985	1,151

Uticaj studijskog programa na odgovore ispitanika

U odnosu na studijski program značajna razlika postoji kod odgovora na pitanje UP3 ($p < 0.05$). Uporedne srednje vrednosti date su u tabeli 3.

Tabela 3. Srednje vrednosti odgovora u odnosu na studijski program ispitanika

UP3

Studijski program	Mean	N	Std. Deviation
Rudarsko inženjerstvo	3,00	1	.
Tehnološko inženjerstvo	3,37	16	1,310
Metalurško inženjerstvo	1,71	7	,756
Inženjerski menadžment	3,22	110	1,087
Total	3,16	134	1,143

Uticao znanja o e-učenju na odgovore ispitanika

U odnosu na znanje o e-učenju statistički značajna razlika postoji kod odgovora na pitanja PI1, PI3 ($p < 0.005$) i ON4, PI2 ($p < 0.05$). Uporedne srednje vrednosti date su u tabeli 4.

Tabela 4. Srednje vrednosti odgovora u odnosu znanje o e-učenju

Znanje o e učenju		ON4	PI1	PI3	PI2
slabo	Mean	3,39	3,61	2,27	3,55
	N	33	33	33	33
	Std. Deviation	,864	1,223	,876	1,148
dobro	Mean	4,05	3,90	2,33	3,66
	N	79	79	79	79
	Std. Deviation	,946	1,045	,970	1,061
veoma dobro	Mean	3,86	4,59	3,05	4,32
	N	22	22	22	22
	Std. Deviation	1,037	,908	,950	,716
Total	Mean	3,86	3,94	2,43	3,74
	N	134	134	134	134
	Std. Deviation	,975	1,109	,977	1,061

Uticao iskustva u korišćenju pametnih telefona na odgovore ispitanika

U odnosu na iskustvo u korišćenju pametnih telefona statistički značajna razlika postoji kod odgovora na pitanja PI1, PI3, NP5, NP3 ($p < 0.05$). Uporedne srednje vrednosti date su u tabeli 5.

Tabela 5. Srednje vrednosti odgovora u odnosu na iskustvo u korišćenju pametnih telefona

Iskustvo u korišćenju pametnih telefona		PI1	PI3	NP5	NP3
do 2 god.	Mean	3,73	2,23	3,29	3,55
	N	77	77	77	77
	Std. Deviation	1,177	,930	1,202	1,058
od 2 do 4 god.	Mean	4,30	2,72	3,52	3,87
	N	40	40	40	40
	Std. Deviation	,853	1,086	1,086	1,181
više od 4 god.	Mean	4,06	2,65	4,12	4,24
	N	17	17	17	17
	Std. Deviation	1,144	,702	,928	,831
Total	Mean	3,94	2,43	3,46	3,73
	N	134	134	134	134
	Std. Deviation	1,109	,977	1,161	1,091

Uticao učestalosti korišćenja m-učenja

U odnosu na učestalost korišćenja m-učenja statistički značajna razlika postoji kod odgovora na pitanja data u tabeli 6.

Uticao znanja o m-učenju na odgovore ispitanika

U odnosu na nivo znanja o e-učenju statistički značajna razlika postoji kod odgovora na prikazanim u tabeli 7.

Tabela 6. Srednje vrednosti odgovora u odnosu na učestalost korišćenja m-učenja

Koliko često koristite m. usluge za učenje ne koristim	OP1	OP2	OP3	ON1	ON2	ON4	NP1	NP2	NP3	NP4	NP5	KU1	KU2	KU6
Mean	3,04	3,07	3,16	3,51	3,39	3,75	3,14	3,03	3,53	2,74	3,11	3,57	3,84	3,91
N	76	76	76	76	76	76	76	76	76	76	76	76	76	76
Std. Deviation	,901	,943	,981	1,000	,925	1,008	,989	1,032	1,101	1,100	1,090	,971	,981	,897
1-5 puta dnevno	3,84	3,90	3,69	4,08	3,88	4,10	3,80	3,75	3,96	3,61	3,90	3,94	4,25	4,31
Mean	51	51	51	51	51	51	51	51	51	51	51	51	51	51
N	,834	,855	,905	,868	,816	,878	,825	,821	1,058	,981	1,118	,732	,744	,678
Std. Deviation	3,86	3,14	3,71	3,43	3,57	3,29	4,14	4,14	4,29	4,14	4,14	4,29	4,43	3,86
Mean	7	7	7	7	7	7	7	7	7	7	7	7	7	7
N	1,069	1,069	,488	,787	,535	,951	,900	,690	,756	1,069	,900	,756	,787	1,069
Std. Deviation	3,39	3,39	3,39	3,72	3,59	3,86	3,45	3,36	3,73	3,14	3,46	3,75	4,03	4,06
Mean	134	134	134	134	134	134	134	134	134	134	134	134	134	134
N	,965	,996	,965	,976	,895	,975	,985	1,014	1,091	1,151	1,161	,899	,909	,847
Std. Deviation														

Tabela 7. Srednje vrednosti odgovora u odnosu na nivo znanja o e-učenju

Znanje o m-učenju ništa	OP1	OP2	OP3	ON1	ON2	ON3	ON4	NP1	NP2	NP3	NP4	NP5	PI1	PI3	KU1	KU2	KU6
Mean	2,75	2,75	2,79	3,08	3,12	3,68	3,33	2,71	2,62	3,38	2,33	2,67	3,33	1,87	3,38	3,50	3,58
N	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24
Std. Deviation	,989	1,073	,977	,929	,992	1,100	1,129	1,160	1,056	1,056	1,090	1,204	1,239	,850	1,096	1,022	1,139
malo	3,29	3,34	3,32	3,79	3,66	4,02	3,84	3,48	3,30	3,70	3,14	3,45	4,02	2,39	3,64	4,02	4,11
Mean	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56	56
N	,868	,940	,956	,967	,859	,751	,930	,874	,989	1,060	1,069	,971	,963	,966	,883	,924	,731
Std. Deviation	3,78	3,74	3,70	3,92	3,72	4,04	4,08	3,70	3,68	3,88	3,42	3,78	4,06	2,68	4,06	4,28	4,24
Mean	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50	50
N	,864	,853	,839	,900	,834	,727	,853	,839	,794	1,136	1,071	1,166	1,132	,957	,682	,730	,744
Std. Deviation	3,75	3,50	4,00	4,25	3,75	3,25	4,50	4,25	4,50	4,50	4,50	4,50	5,00	3,25	3,50	4,25	4,00
Mean	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4	4
N	1,258	1,291	,816	,957	,957	,957	1,000	,957	1,000	,577	1,000	1,000	,000	,500	1,291	,957	,816
Std. Deviation	3,39	3,39	3,39	3,72	3,59	3,93	3,86	3,45	3,36	3,73	3,14	3,46	3,94	2,43	3,75	4,03	4,06
Mean	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134	134
N	,965	,996	,965	,976	,895	,837	,975	,985	1,014	1,091	1,151	1,161	1,109	,977	,899	,909	,847
Std. Deviation																	

4. DISKUSIJA REZULTATA

Studenti mlađi od 22 godine dali su najveću prosečnu ocenu na pitanje OP1 i OP2 "Mislim da je M-učenje korisno za moje studije" i „M-učenje će mi pomoći da brže ostvarim svoje ciljeve“. Mladi najviše koriste mobilne uređaje u svakodnevnom životu pa i za učenje.

Studenti od 26-30 godine starosi sa najvišom prosečnom ocenom su ocenili da planiraju da koriste M-učenje za potrebe studiranja. Studenti u ovoj kategoriji pored studija obično imaju posao i porodicu, nemaju mnogo vremena za učenje. Planiraju da koriste M-učenje jer bi im omogućilo da uče bilo kad bilo gde.

Studenti mlađi od 22 godine i od 26 do 30 godine najviše uživaju u korišćenju sistema M-učenja.

Studenti na studijskom programu tehnološko inženjerstvo sa najvišom prosečnom ocenom su ocenili da njihovi profesori ne pomažu studentima u korišćenju M-učenja. Dok su studenti sa Metalurškog inženjerstva dali najmanju prosečnu ocenu na ovo pitanje (1,71).

Studenti sa slabim znanjem o e-učenju sa najmanjom prosečnom ocenom su ocenili tvrdnju da M-učenje može poboljšati njihovu saradnju sa kolegama. Ovi studenti nisu upoznati sa prednostima e-učenja i M-učenja. Studenti sa veoma dobrim znanjem o e-učenju su sa prosečnom ocenom 4,32 ocenili tvrdnju da kad čuju za neku novinu u informacionim tehnologijama žele da je probaju. Ovi studenti najviše prate trendove i novine u ovoj oblasti. Studenti sa slabim znanjem o e-učenju su sa najmanjom prosečnom ocenom ocenili da su oni prvi među kolegama koji isprobaju inovacije u tehnologiji, to je možda zbog toga što ovi studenti nisu u finansijskoj mogućnosti da odmah nabave nove tehnologije ili ih ne interesuju inovacije u ovoj oblasti.

Studenti koji imaju iskustva u korišćenju pametnih telefona više od četiri godine nameravaju da povećaju korišćenje mobilnih usluga u budućnosti.

Studenti koji koriste M-učenje od 6-10 puta dnevno su u najvećoj meri saglasni da usluge M-učenja treba da budu jednostavne i lake za preuzimanje. Takođe u najvećoj meri su saglasni da M-učenje treba da bude fleksibilno i lako za korišćenje kao i da usluge M-učenja treba da budu tačne i pouzdane. Može se zaključiti da je ovim studentima važan kvalitet usluga M-učenja. Ova kategorija studenata bi u najvećoj meri preporučila drugima da koriste M-učenje, to je zbog toga što imaju pozitivna iskustva sa ovim tipom učenja.

Studenti sa veoma dobrim znanjem o M-učenju su sa prosečnom ocenom 5,00 ocenili da vole da eksperimentišu sa novim tehnologijama. Takođe ova kategorija studenata u najvećoj meri planira da poveća korišćenje M-usluga i preporučili bi i drugima da koriste sistem M-učenja.

Studenti sa veoma dobrim znanjem o M-učenju u najvećoj meri se slažu sa tvrdnjom da će im M-učenje poboljšati produktivnost učenja, to je zbog toga što znaju na dobar način da koriste ovakav vid učenja. Studenti koji ne znaju ništa o M-učenju se u najvećoj meri (prosečna ocena 1,87) ne slažu sa tvrdnjom da predavači na njihovom odseku ne pomažu u korišćenju M-učenja. Dakle, smatraju da predavači pomažu studentima u korišćenju M-učenja ali nisu zainteresovani da saznaju više ili smatraju da je tradicionalni način učenja bolji.

5. ZAKLJUČAK

M-učenja ima za cilj da nastavu oslobodi prostorno-vremenskih stega, učini je svestranijom i kvalitetnijom. Broj pogodnosti koje nudi mobilno učenje daleko je veći od onog koji nudi tradicionalni način školovanja u učionici [10].

M-učenje više neće biti izbor već neophodnost u savremenom načinu učenja kako bi studenti bili u koraku s vremenom i tehnologijom. M-učenje je počelo da igra važnu ulogu u učenju. Mogućnost da se uči u pokretu ,bilo kad bilo gde postaje sve popularnije. Na Tehničkom fakultetu u Boru 98,5% studenata ima više od 5 godina iskustva u korišćenju mobilnih telefona a samo 41,8 % koriste M-učenje. To je delom i zato što studenti ne znaju šta sve spada u M-učenje i nisu ni svesni koliko koriste mobilne uređaje za učenje.

Takođe i predavači igraju značajnu ulogu u usvajanju M-učenja. Oni mogu poboljšati odnos svih učenika prema M-učenju i ubrzati implementaciju tehnologije na svojim odsecima.

Istraživanje o M-učenju na Tehničkom fakultetu u Boru je i dalje u toku i rezultati će biti predstavljeni u nekom narednom radu.

REFERENCE

- 1) Dušan Kljakić, Dolazi vreme online učenja. Jesmo li spremni?, online učenje, Sarajevo 2010
- 2) <http://www.valentinkuleto.com/2012/12/ucenje-uz-pomoc-pametnih-telefona/>
- 3) <http://eucenje.efst.hr/tag/e-ucenje-vs-mobilno-ucenje/>
- 4) 66Aris Castillo, Clifton Clunie T., Gisela de Clunie, Kexy Rodriguez, A system for mobile learning: a need in a moving world, *Procedia – Social and Behavioral Sciences* 83 (2013), 819-823
- 5) http://www.telekomunikacije.rs/aktuelni_broj.140.html
- 6) Vinu P.V., Sherimon P.C., Reshmy Krishnan, Towards pervasive mobile learning – the vision of 21st century, *Procedia – Social and Behaviour Sciences* 15 (2011), 3067-3073
- 7) Wen-Hsiung Wu, Yen-Chun Jim Wu, Chun-Yu Chen, Hao-Yun Kao, Che-Hung Lin, Sih-Han Huang, Review of trends from mobile learning studies: A meta-analysis, *Computers & Education*, 59 (2012), 817-827
- 8) M.E. Marwan, A.R. Madar, N. Fuad, An overview of mobile application in learning for student of Kolej Poly-Tech Mara(KPTM) by using mobile phone, *Journal of Asian Scientific Research*, 3(6) 2013, 527-537
- 9) Rozhan M. Idrus, Issham Ismail, Role of institutions of higher learning towards a knowledge-base community utilising mobile devices, *Peocedia Social and Behavioral Sciences*, 2 (2010), 2766-2770
- 10) Fazile Ozdamli, Nadire Cavus, Basic elements and characteristics of mobile learning, *Procedia – Social and Behaviaral Sciences*, 28(2011), 937-942

- 11) Hamid R. Abrachi, Ghulum Muhammad, The impact of m-learning technology on students and educators, *Computer in Human Behavior*, 30 (2014), 491-496
- 12) Masoud Hasshemi, Masoud Azizinezhad, Vahid Najafi, Ali Jamali Naseri, What is Mobile Learning ? Challenges and Capabilities, *Procedia – Social and Behavioral Sciences*, 30 (2011), 2477-2481
- 13) <http://mlearningtrends.blogspot.com/2010/10/mlearning-feature-sets-possibilities.html>
- 14) Norazah Nordin, Mohamed Amin Embi, Melor Md. Yunus, Mobile Learning Framework for Lifelong Learning, *Procedia Social and Behavioral Sciences*, 7(C) (2013), 130-138
- 15) [http://web2toolstechnologies.wikispaces.com/Mu%C4%8Denje%20\(mobile%20learning\)](http://web2toolstechnologies.wikispaces.com/Mu%C4%8Denje%20(mobile%20learning))
- 16) Ho R., *Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS*, CRC Press, Boca Raton, New York, (2006).
- 17) <http://wwwold.med.bg.ac.rs/dloads/postdiplomskan/akademske%20specijalisticke%20studije/0809/anova%20za%20istrazivace.pdf>

THE IMPACT OF DEMOGRAPHIC CHARACTERISTICS OF THE EMPLOYEES TO THE PROBLEM OF ABSENTEEISM AND FLUCTUATION IN ORGANIZATIONS

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Abstract: Analysis of absenteeism and fluctuation is important activity of human resources department in organizations and it represents mechanism which is used by organizations to plan and control optimal level of human resources, and also to reduce costs connected to these problems. Efficient management of human resources means getting to know people in our organizations, their knowledge and skills, but also their wishes and needs, in order to realize problems which they are facing with. The aim of this study was to investigate the problem of turnover and absenteeism and to identify the most common factors that contribute to this problem. Survey was conducted from October to December 2011, and it includes 223 participants. For data processing software package SPSS 18.0 was used.

Keywords: absenteeism, fluctuation, human resources

UTICAJ DEMOGRAFSKIH KARAKTERISTIKA ZAPOSLENIH NA PROBLEME APSENTIZMA I FLUKTUACIJE U ORGANIZACIJAMA

Sanela Arsić

Apstrakt: Analiza apsentizma i fluktuacije je važan zadatak funkcije ljudskih resursa u organizacijama i predstavlja mehanizam kojim organizacije mogu da planiraju i regulišu optimalno stanje ljudskih resursa kao i znatne troškove koji nastaju kao posledica javljanja ovog problema. Efikasno upravljanje ljudskim resursima podrazumeva da upoznamo ljude u našoj organizaciji, njihova znanja i sposobnosti, ali i njihove želje i potrebe, kako bi blagovremeno uvideli problem sa kojima se suočavaju u organizaciji. Cilj ovog istraživanja je da se istraži problem fluktuacije i apsentizma i da se identifikuju najčešći faktori koji doprinose ovom problemu. Istraživanje je sprovedeno od oktobra do decembra 2011. godine, na teritoriji opštine Bor, i obuhvata 223 ispitanika. Za obradu dobijenih podataka korišćen je softverski paket SPSS 18.0.

Ključne reči: apsentizam, fluktuacija, ljudski resursi

1. UVOD

Sve organizacije se bave time šta bi trebalo uraditi kako bi se ostvarili ciljevi pomoću ljudi. U tom smislu, bliska pažnja usmerava se na to kako se pojedinci najbolje mogu motivisati pomoću takvih sredstava kao što su inicijativa, nagrade, vođstvo, posao koji obavljaju i organizacioni kontekst unutar koga realizuju posao. Cilj je razviti motivacione procese i radno okruženje koje će pomoći da pojedinci pokažu rezultate u skladu sa očekivanjima. Zaposleni sa nejasnim ciljevima ili bez ciljeva skloni su da rade sporo, loše izvršavaju zadatke, pokazuju nedostatak interesovanja i završavaju manje posla od zaposlenih čiji su ciljevi jasni i izazovni. Tada se pojavljuje izostajanje sa posla a potom sledi i promena posla, tj. napuštanje organizacije. Zaposleni sa jasno definisanim ciljevima su energični i produktivniji. Modifikovanje ponašanja zaposlenih podrazumeva korišćenje četiri sredstva za promenu ponašanja, označenih kao strategije intervencije. Te strategije su: pozitivan podsticaj; negativan podsticaj; kazna; izostavljanje reakcije.

Zbog specifičnosti koje određuju svaki apsentizam i svaku fluktuaciju, menadžment organizacije mora posebnu pažnju posvetiti rešavanju ovog problema. U kojoj meri će biti izraženi apsentizam i fluktuacija u nekoj poslovnoj organizaciji zavisi pre svega od integriteta ljudskih resursa te organizacije, postojanja organizacijske odnosno korporacijske kulture, stila vođstva i postojanja pozitivne radne atmosfere.

Zbog sve veće popularnosti ove teme, sproveli smo istraživanje čiji je cilj da identifikuje faktore koji imaju najveći uticaj na pojavu apsentizma i fluktuacije u organizacijama u privatnim i državnim organizacijama u Boru, kao i prikazivanje uticaja demografskih faktora na ove pojave. Zatim, ispitivanje odnosa zaposlenih prema ovim pojavama i najčešći razlozi njihovog pojavljivanja.

1.1. PREGLED LITERATURE

Apsentizam postoji u većoj ili manjoj meri u svakoj organizaciji ili instituciji. Apsentizam se definiše kao izostajanje sa posla po bilo kom osnovu i često je najvidljiviji pokazatelj problema nezadovoljstva zaposlenih sa organizacijom i njenim menadžmentom. Radi se o prekomernom apsentizmu, jer je jedan deo odsutnosti uvek neophodan, zbog bolesti i drugih objektivnih razloga. Pojam apsentizma uključuje sve oblike izostanaka, tj. odsutnosti sa posla. S poslovnog i organizacionog aspekta apsentizam je svaki propust zaposlenog da se javi ili ostane na poslu prema rasporedu, bez obzira na razloge. Oznaka „prema rasporedu“ vrlo je značajna jer automatski isključuje odmore, vikende, druge opravdane obaveze izvan organizacije i sl. [1]. U preduzećima postoje različite vrste izostanaka jer zaposleni izostaju iz različitih razloga. U osnovi se mogu podeliti na dve kategorije: 1) opravdani ili prinudni izostanci; 2) neopravdani ili samovoljni izostanci. Analiza i rešavanje problema apsentizma sastavni su deo menadžmenta ljudskih resursa.

U novije vreme apsentizam postaje posebno interesantan. Jedan od razloga je opšta tendencija smanjivanja organizacija i broja zaposlenih, često označena kao *downsizing*, koja je sastavni deo novih procesa radikalnog preoblikovanja poslovnih procesa (poznat je kao „*business process reengineering*“) i koncepcije „vitke i niske“ organizacije i promena u tom smeru. Te promene zahtevaju veću prisutnost i angažovanost na radu i veću fleksibilnost zaposlenih u smislu širine njihovih veština i znanja, mogućnosti i osposobljenosti za obavljanje više različitih poslova [2].

Troškovi preduzeća su i veći od plaćanja odsutnih radnika. Oni uključuju i plaćene zamene ako je organizacija prisiljena da je uzme, ali i čitav niz poremećaja i uticaja na rad

drugih, kašnjenje u poslu, nemogućnost isporuka na vreme, snižavanje kvaliteta, frustracije i opterećenja drugih koji često uz svoj moraju da obave i posao odsutnog radnika.

Apsentizam se smatra jednim od najkompleksnijih problema menadžmenta svake organizacije, a posebno menadžmenta ljudskih resursa. I apsentizam poput fluktuacije ima brojne razloge koje menadžeri treba da istraže i utvrde da bi mogli uticati na tu pojavu [3]. Model koji su razvili Stress i Rhodes pokazuje ključne varijante koje utiču na apsentizam. Uglavnom postoje dva osnovna uzroka izostajanja sa posla:

- nemogućnost, tj. nesposobnost da zaposleni radi usled više sile (*wis mayor*);
- nedostatak motivacije za rad.

Mnogo faktora utiče na motivaciju zaposlenog da dođe na posao i radi. Ključne su lične karakteristike, vrednosti i očekivanja zaposlenog, zadovoljstvo poslom i radnom situacijom, koje opet određuje niz faktora, i unutrašnji i spoljašnji pritisci za prisustvovanjem.

Što se tiče prvog uzroka on je objektivne prirode i uglavnom je vezan za opravdano izostajanje. Kada govorimo o drugom uzroku - nedostatak motivacije za rad, reč je pre svega o ličnim karakteristikama zaposlenog da dođe na posao, njegovo zadovoljstvo poslom, mogućnost napredovanja i razvoja u karijeri i slično. Uglavnom se može reći da je motivacija za prisustvovanje na poslu rezultat unutrašnjeg psihičkog stanja s jedne i prirode i karaktera radne sredine u prvom redu sistema rukovođenja i upravljanja s druge strane. Zaposleni koji uživa u poslu i radnoj situaciji imaće veću želju za dolazak na posao od onog koji je nezadovoljan. Zaposleni koji uživa u ono što radi, uklapa se u radni ambijent, „nalazi sebe“ u postojećoj organizaciji, sagledava mogućnosti napredovanja i razvoja u karijeri, imaće neuporedivo veću želju da radi, da ne apstinira sa posla, od onoga koji je nezadovoljan i frustriran kako samim sobom tako i sa organizacijom i sredinskim uslovima rada. Zadovoljstvo poslom zavisi od individualnih vrednosti i očekivanja. To je razlog da su ljudi u objektivno istoj radnoj situaciji i sa istim poslom različito zadovoljni. Merilo zadovoljstva su individualne aspiracije i očekivanja. Što je razlika između njih i objektivne situacije veća tada je verovatnije i nezadovoljstvo veće i obrnuto [2].

Na vrednosti i očekivanja jako deluju i individualne karakteristike ali i objektivna situacija, referentna grupa i niz drugih faktora sažetih u modelu na lične karakteristike, jer se kroz njih prelamaju. Isto tako i vrsta posla u mnogome može da utiče na stepen apsentizma u organizaciji. Brojna empirijska istraživanja ukazuju da zaposleni koji obavljaju stresne poslove u „posebnim uslovima rada“ poput poslova u građevinarstvu, zatim smenske, visinske, kesonske i podzemne poslove daleko više apstiniraju od drugih vrsta poslova, što je donekle i razumljivo ako se ima na umu činjenica da su ti poslovi „rizični“ za fizički i mentalni sklop i integritet onih koji ih obavljaju.

Istraživanja upućuju na negativnu povezanost između nivoa nezaposlenosti i stope apsentizma, a isto tako verovatnosti i pretnje smanjenja broja radnika i otpuštanja u preduzeću. Međutim, u nekim slučajevima u takvoj situaciji pokazuje povećanje apsentizma jer se bolest koristi kao izgovor za traženje novog posla.

Na motivaciju za prisustvovanje na poslu često utiče i sistem nagrađivanja, normativni rada, ponašanje radnih grupa, loša klima na radu, nepovoljna zaštita na radu i slično, što bez sumnje dovodi ne samo do pada motivacije, već i do nastanka brojnih psihosomatskih, profesionalnih i drugih zdravstvenih poremećaja.

Za menadžment je bitno da zna da su izostanci uvek simptomi različitih zdravstvenih, ličnih, socijalnih ili organizacionih poremećaja zaposlenih s jedne i alarm da u organizaciji nešto nije u redu i da se mora pristupiti analizi organizacionih, tehnoloških i upravljačkih

odnosa s druge strane ljudi različitog kulturnog „*background*“ – a i različitih obrazovnih nivoa, svako ponaosob se mora motivisati, odnosno organizacija ima zadatak da stvori takvu pozitivnu klimu u kojoj bi se svaki zaposleni osećao prijatno, motivisano i priznato, i zbog toga mora da ih pažljivo prati i istražuje.

Stopa fluktuacije zaposlenih pokazuje broj zaposlenih koji iz različitih razloga napuštaju organizaciju. Napuštanje organizacije se može definisati kao prestanak članstva zaposlenog u organizaciji [4] i može biti rezultat inicijative kako na strani samog zaposlenog – voljno napuštanje organizacije (npr., raskid radnog odnosa od strane zaposlenog, penzionisanje), tako i na strani poslodavca – nevoljno napuštanje organizacije (npr., davanje otkaza zaposlenom, otpuštanje zaposlenih koji su tehnološki višak i sl.). U određenim slučajevima zaposleni odlaze iz organizacije nezavisno od svoje volje i volje poslodavca, po sili zakona, kao, na primer, u slučaju trajnog gubitka radne sposobnosti i sl. Poslednjih godina sa jačanjem konkurencije, svetskom finansijskom krizom, ekonomskom recesijom, restrukturiranjem kompanija i brzim tehnološkim promenama, mnoge organizacije suočile su se sa potrebom da sistematski upravljaju ovim aspektom zaposlenosti. S druge strane, poslednjih godina povećala se i mobilnost radno sposobnog stanovništva na tržištu rada usled traganja za izazovnijim poslovima, višom zaradom ili boljim beneficijama, što je dodatno pojačalo potrebu za ozbiljnijim pristupom upravljanju fluktuacijom zaposlenih.

Za efikasno upravljanje fluktuacijom zaposlenih i kontrolu troškova fluktuacije u dugom roku od posebne važnosti jeste analiza voljne fluktuacije, odnosno voljnog napuštanja organizacije od strane zaposlenih. Iako je i nevoljna fluktuacija važan aspekt ukupne fluktuacije, najčešće nije uključena u različite modele istraživanja fluktuacije zaposlenih. Voljna fluktuacija je za organizacije posebno značajna, budući da zaposleni koji ostvaruju dobre rezultate na radnom mestu imaju više mogućnosti za zaposlenje izvan organizacije, pa su i skloniji da je napuste [5], zbog čega visoke stope voljne fluktuacije mogu imati pogubne efekte na organizacione performanse [6].

Voljna fluktuacija je dugo zaokupljala pažnju velikog broja istraživača u oblasti menadžmenta ljudskih resursa sa ciljem da se identifikuje proces kroz koji prolaze oni koji napuštaju organizaciju i analiziraju razlozi i motivi koji utiču na zaposlene da donesu odluku o napuštanju organizacije. Osnovni razlog posebnog interesovanja za voljnu fluktuaciju je činjenica da voljno napuštanje organizacije predstavlja trošak za organizaciju i da stoga stopu voljne fluktuacije zaposlenih treba držati na što nižem nivou. Do sredine 1980-ih godina razvijen je veliki broj modela koji su nastojali da objasne proces fluktuacije na individualnom nivou kroz koji prolaze pojedinci koji donose odluku da napuste organizaciju [7,8]. Tako, na primer, March i Simon (1958) su sugerisali da dva faktora, percepcije o poželjnosti i lakoći napuštanja organizacije utiču na motivaciju zaposlenog da napusti organizaciju, pri čemu individualne razlike u pogledu sposobnosti i biografskih podataka (kao što su pol, starost, dužina radnog staža) direktno utiču na percipiranu lakoću napuštanja organizacije, dok zadovoljstvo poslom utiče na percipiranu poželjnost napuštanja organizacije. Porter i Steers (1973) su kreirali model fluktuacije u kojem je stepen zadovoljenja očekivanja zaposlenih glavni faktor koji utiče na odluku o napuštanju organizacije. Jedan od možda najpoznatijih modela je Moblijev model fluktuacije zaposlenih [9] koji polazi od pretpostavke da pojedinac rano donosi odluku o napuštanju organizacije, ukoliko je nezadovoljan sadašnjim poslom. Pojedinac počinje da razmišlja o napuštanju organizacije, računa troškove napuštanja starog i nalaženja novog posla. Posledično, pojedinac počinje da traga za alternativnim zaposlenjem, da alternativne

poslove poredi sa sadašnjim sa aspekta troškova i koristi, razvija nameru da da otkaz i konačno donosi odluku i daje otkaz.

Na osnovu Moblijevog procesnog modela, [10] su predložili alternativni model koji objašnjava ponašanje zaposlenog kada počne da razmišlja o davanju otkaza i oceni očekivanu korisnost napuštanja organizacije. Prema ovom modelu zaposleni će ili početi da traga za novim poslom ili će odmah dati otkaz.

Nešto nekonzvencionalniju teoriju fluktuacije – model katastrofe - predložili su Šeridan i Abelson [11]. Prema ovom modelu [12] odluka o davanju otkaza je posledica izuzetno male promene u stepenu zadovoljstva ili nivou stresa zaposlenog. U situaciji kada zaposleni oseća neko unutrašnje nezadovoljstvo poslom ili organizacijom a još uvek ne razmišlja ozbiljno o davanju otkaza i beznačajan problem, konflikt ili drugo neprijatno iskustvo na poslu može biti povod da donese odluku o napuštanju organizacije. Zaključci koji se mogu izvući iz modela voljne fluktuacije na individualnom nivou analize su da [13] : 1) važan faktor donošenja odluke o napuštanju organizacije jeste da li pojedinac ima ponudu za drugi posao ili ne; 2) neki zaposleni planiraju unapred da napuste organizaciju i ponašaju se u potpunosti u skladu sa svojim planom; 3) neki zaposleni imaju plan da napuste organizaciju, ali su ti planovi zavisni od nekih neizvesnih budućih događaja; 4) neki zaposleni impulsivno donose odluku o napuštanju organizacije, pa je proces odlučivanja izrazito kratak.

Kasnija istraživanja, do sredine 1990-ih, uglavnom su se fokusirala na kontekstualne varijable (na organizacionom i grupnom nivou analize) koje mogu uticati na voljnu fluktuaciju, kao što su: organizaciona kultura [14], kohezija grupe, sistemi zarada, polna struktura, demografija, usklađenost pojedinca sa organizacijom [15,16], mentorstvo [17,18] uklopljenost pojedinca u socijalne mreže. Najzad, mnogi istraživači su se bavili i istraživanjem posledica fluktuacije na nivou pojedinca i na nivou organizacije. U poslednjih deset godina istraživanja fluktuacije su doživela ekspanziju i uglavnom se fokusirala na sledeća pitanja [19]: istraživanje individualnih razlika između zaposlenih u funkciji predviđanja voljne fluktuacije; istraživanje stavova zaposlenih o stresu i prihvatanju promena; empirijska istraživanja razvijenih modela fluktuacije; pojačan fokus na analizu konteksta, sa akcentom na interpersonalnim odnosima; istraživanje faktora koji pozitivno utiču na odluku zaposlenih da ostanu u organizaciji (npr., posvećenost organizaciji); modeliranje procesa fluktuacije u vremenu.

U razvijenim zemljama u kojima je niska stopa nezaposlenosti logično je da će stopa voljne fluktuacije biti niža, budući da su pojedincima koji odluče da napuste kompaniju u većoj meri dostupni alternativni poslovi. Na percepcije zaposlenog o lakoći napuštanja organizacije svakako će od najpresudnijeg uticaja biti njegova percepcija o stanju ponude i tražnje na tržištu rada za njegovim profilom stručnosti, odnosno dostupnost različitih alternativnih zaposlenja za njega lično. Neka istraživanja pokazuju da čak i u situaciji kada su uslovi na tržištu rada veoma nepovoljni, ako pojedinac koji razmišlja o napuštanju sadašnjeg posla dobije ponudu za novi posao, ponuda posla kao faktor značajno prevazilazi snagu uticaja visokog nivoa nezaposlenosti i nepovoljnih uslova na tržištu rada [20,21]. Pored navedenih faktora, na percepcije zaposlenog o lakoći napuštanja organizacije utiče i sam posao, odnosno percepcije zaposlenog o karakteristikama posla koji obavlja, zaradi koju prima, stres kojem je izložen, kao i od stepena njegovog unutrašnjeg zadovoljstva poslom. Zaposleni će lakše doneti odluku o napuštanju organizacije ukoliko je stepen njegovog generalnog zadovoljstva nizak, izloženost stresu velika, ukoliko njegov posao karakteriše monotonija i uska horizontalna specijalizacija i ukoliko je stepen nezadovoljstva zaradom visok. Na njegovu percepciju o lakoći napuštanja organizacije

uticaje i neki individualni faktori, kao što su: dužina radnog iskustva, stepen i profil njegovog obrazovanja, bračni status, starost, pol, broj izdržanih članova porodice, ekonomska snaga njegove porodice, lakoća nalaženja prvog posla, realnost očekivanja u pogledu posla, posvećenost poslu i sl. [22].

2. METODOLOGIJA

2.1. UZORAK I PRIKUPLJANJE PODATAKA

Istraživanje za potrebe ovog rada sprovedeno je od oktobra do decembra 2011. godine, pomoću anketnog upitnika koji se sastoji od 20 pitanja. Veličina uzorka je N=223, a u analizu je uključeno više preduzeća sa teritorije Bora, kako iz privatnog sektora tako i iz državnog sektora. Cilj istraživanja je da se izvrši analiza i ukaže na saznanje o postojanju problema apsentizma i fluktuacije. Da se ukaže na uticaj demografskih faktora na ove pojave u organizacijama i da se istakne napor organizacije da zadrži dobre radnike, smanji nepotrebnu fluktuaciju i apsentizam, kontroliše troškove koje ima prilikom ovih pojava a sve kroz dosledno sprovođenje funkcija ljudskih resursa. Za gradaciju dobijenih odgovora korišćena je Likertova petostepena skala, gde 1 označava "potpuno se ne slažem", 5 "potpuno se slažem". Anketni listić je sačinjen iz dva dela. Prvi deo se sastoji od 8 pitanja kojima se dolazi do demografskih podataka, a drugi deo se sastoji od 12 pitanja, koja su vezana za ispitivanje apsentizma i fluktuacije zaposlenih po različitim kategorijama. Anketirano je ukupno 223 ispitanika, od kojih je 217 listića ispravno popunjeno (97,31 %). Anketiranje je bilo anonimno.

2.2. ANALIZA PODATAKA

Tabela 1. Demografske karakteristike uzorka

Demografske varijable	Kompozicija uzorka	
	Kategorije	Procenat (%)
<i>Pol</i>	Muški	41.0
	Ženski	59.0
<i>Obrazovanje</i>	Osnovna škola	2.8
	Srednja - trogodišnja škola	12.4
	Srednja - četvorogodišnja škola	41.0
	Viša škola	16.1
	Fakultet	27.2
<i>Godine starosti</i>	Od 18 - 25	11.1
	26 - 35	32.7
	36 - 45	29.0
	46 - 55	21.2
	56 i više	6.0
<i>Bračno stanje</i>	Neudata / neoženjen	37.3
	Udata / oženjen	62.7
<i>Radno iskustvo</i>	Manje od 3 godine	18.0
	Od 3 - 10 god.	33.6
	Od 11 - 20 god.	22.6
	Od 21 - 30 god.	18.0
	Preko 30 godina	7.8
<i>Period zapošljenja u trenutnoj kompaniji</i>	Od 1 - 5 god.	48.8
	Od 5 - 10 god.	20.7
	Preko 10 god.	30.4
<i>Vlasništvo nad kapitalom</i>	Privatno preduzeće	41.5
	Državno preduzeće	58.5
<i>Vrsta delatnosti</i>	Zdravstvo	12.9
	Uslužna delatnost	60.8
	Administracija	7.8
	Obrazovanje	17.5
	Javna preduzeća	0.9

Za empirijsku validaciju u ovom radu korišćena je metodologija One-way ANOVA test [23]. ANOVA je ekstenzija nezavisnog t testa. Koristi se kada istraživača zanima da li se aritmetičke sredine više od dve nezavisne grupe (skupa) razlikuju međusobno. Dakle, upotrebom ANOVA testa može se doći do saznanja da li postoji razlika u odgovorima ispitanika u odnosu na njihove demografske podatke (pol, godine, obrazovanje, radni staž...) i da li je ta razlika statistički značajna.

Uslovi koji su ispunjeni su: postoji samo jedna nezavisna varijabla, nezavisna varijabla ima više od dve vrednosti, postoji samo jedna zavisna varijabla.

Ispitali smo uticaj svake od karakteristika na odgovore na pitanja iz upitnika i utvrdili gde postoji statistička značajnost.

Uticaj pola na odgovore ispitanika

U odnosu na pol ispitanika statistički značajna razlika ($p < 0,05$) postoji samo kod odgovora na pitanje Q4. Uporedne srednje vrednosti date su u Tabeli 2.

Tabela 2. Srednje vrednosti odgovora u odnosu na pol ispitanika

Q4			
Pol	Mean	N	Std. Deviation
Muski pol	3,6322	87	1,67134
Zenski pol	3,2000	130	1,23514
Total	3,3733	217	1,43818

Uticaj godina starosti na odgovore ispitanika

U odnosu na godine starosti ispitanika statistički značajna razlika postoji kod odgovora na pitanje Q5 ($p < 0,05$). Uporedne srednje vrednosti date su u Tabeli 3.

Tabela 3. Srednje vrednosti odgovora u odnosu na godine starosti ispitanik

Q5			
Godine starosti	Mean	N	Std. Deviation
18-25	2,6800	25	1,34536
26-35	3,4306	72	1,12371
36-45	3,7302	63	1,18057
46-55	3,5000	46	1,14988
56 i vise	3,5455	11	1,29334
Total	3,4516	217	1,20904

Uticaj obrazovanja na odgovore ispitanika

U odnosu na obrazovanje ispitanika statistički značajna razlika postoji kod odgovora na pitanje Q6, ($p < 0,005$); Q1, Q3, Q7 ($p < 0,05$). Uporedne srednje vrednosti date su u Tabeli 4.

Tabela 4. Srednje vrednosti odgovora u odnosu na obrazovanje ispitanika

Obrazovanje		Q1	Q3	Q6	Q7
osnovna skola	Mean	4,500	3,0000	4,1667	3,8333
	N	6	6	6	6
	Std. Deviation	2,9496	,89443	,75277	,98319
srednja trogodisnja-skola	Mean	3,964	2,0714	3,3929	3,2143
	N	28	28	28	28
	Std. Deviation	2,8993	,81325	1,25725	1,39728
srednja-cetvrogodisnja skola	Mean	3,233	1,8889	3,3889	3,2000
	N	90	90	90	90
	Std. Deviation	2,6396	,69419	1,44327	1,53022
visa skola	Mean	4,059	1,9706	3,9118	4,1176
	N	34	34	34	34
	Std. Deviation	2,6849	,86988	1,46407	1,20012
fakultet	Mean	2,271	1,9153	4,2203	3,5254
	N	59	59	59	59
	Std. Deviation	2,3106	,62390	1,01824	1,39403
Total	Mean	3,230	1,9631	3,7189	3,4516
	N	217	217	217	217
	Std. Deviation	2,6706	,74444	1,34690	1,44296

Uticaj radnog iskustva na odgovore ispitanika

U odnosu na radno iskustvo statistički značajna razlika postoji kod odgovora na pitanja Q13 ($p < 0.01$), Q5 ($p < 0.05$). Uporedne srednje vrednosti date su u Tabeli 5.

Tabela 5. Srednje vrednosti odgovora u odnosu na radno iskustvo ispitanik

Radno iskustvo		Q5	Q13
manje od 3 godine	Mean	2,9500	1,5000
	N	40	40
	Std. Deviation	1,28002	,50637
od 3-10 god	Mean	3,4730	1,5000
	N	74	74
	Std. Deviation	1,13744	,50341
od 11-20 god	Mean	3,7347	1,5306
	N	49	49
	Std. Deviation	1,30345	,50423
od 21-30	Mean	3,6667	1,8718
	N	39	39
	Std. Deviation	,95513	,33869
preko 30 god	Mean	3,2000	1,8667
	N	15	15
	Std. Deviation	1,32017	,48795
Total	Mean	3,4516	1,5853
	N	217	217
	Std. Deviation	1,20904	,49382

Uticaj iskustva u trenutnoj organizaciji na odgovore ispitanika

U odnosu na iskustvo ispitanika u trenutnoj organizaciji statistički značajna razlika postoji kod odgovora na pitanja Q9, Q13, ($p < 0.005$). Uporedne srednje vrednosti date su u Tabeli 6.

Tabela 6. Srednje vrednosti odgovora u odnosu na vreme provedeno u sadašnjoj organizaciji

Vreme provedeno u sadašnjoj organizaciji		Q9	Q13
od 1-5	Mean	3,5463	1,4815
	N	108	108
	Std. Deviation	1,37660	,50199
od 5-10	Mean	3,5333	1,6222
	N	45	45
	Std. Deviation	1,34164	,49031
preko 10 god	Mean	4,2344	1,7344
	N	64	64
	Std. Deviation	1,09461	,44516
Total	Mean	3,7465	1,5853
	N	217	217
	Std. Deviation	1,32473	,49382

Uticao vlasništva nad kapitalom na odgovore ispitanika

U odnosu na vlasništvo nad kapitalom statistički značajna razlika postoji kod odgovora na pitanje Q5, ($p < 0.001$); Q1, Q7, Q13 ($p < 0.05$). Uporedne srednje vrednosti date su u Tabeli 7.

Tabela 7. Srednje vrednosti odgovora u odnosu na vlasništvo nad kapitalom

Vlasništvo nad kapitalom		Q1	Q5	Q7	Q13
privatno preduzece	Mean	3,723	3,0745	3,2128	1,4787
	N	94	94	94	94
	Std. Deviation	2,7056	1,25501	1,45818	,50223
drzavno preduzece	Mean	2,854	3,7398	3,6341	1,6667
	N	123	123	123	123
	Std. Deviation	2,5915	1,09273	1,40997	,47333
Total	Mean	3,230	3,4516	3,4516	1,5853
	N	217	217	217	217
	Std. Deviation	2,6706	1,20904	1,44296	,49382

Uticao vrste delatnosti na odgovore ispitanika

U odnosu na vrstu delatnosti koju ispitanik obavlja u organizaciji statistički značajna razlika postoji kod odgovora na pitanja Q2, Q11, Q13, ($p < 0.05$). Uporedne srednje vrednosti date su u Tabeli 8.

Tabela 8. Srednje vrednosti odgovora u odnosu na vrstu delatnosti koju ispitanik obavlja

Vrsta delatnosti		Q2	Q11	Q13
zdravstvo	Mean	4,6786	3,5000	1,8571
	N	28	28	28
	Std. Deviation	1,30678	1,34715	,35635
usluzna delatnost	Mean	5,0840	3,0992	1,5038
	N	131	131	131
	Std. Deviation	1,91367	1,16919	,50190
administracija	Mean	3,7368	2,6842	1,5789
	N	19	19	19
	Std. Deviation	2,51312	1,10818	,50726
obrazovanje	Mean	5,2973	2,9189	1,6486
	N	37	37	37
	Std. Deviation	,77692	1,11501	,48398
javna preduzeća	Mean	6,0000	1,0000	2,0000
	N	2	2	2
	Std. Deviation	1,41421	,00000	,00000
Total	Mean	4,9585	3,0645	1,5853
	N	217	217	217
	Std. Deviation	1,79844	1,20011	,49382

3. DISKUSIJA REZULTATA

Već duži niz godina stanje radnih organizacija u Republici Srbiji je loše i preči da bude još gore. Stanovništvo je generalno nezadovoljno sve težim uslovima života, koji nastaju kao rezultat političke nestabilnosti. I kada se takvo nezadovoljstvo prenese na radno mesto, praćeno lošim uslovima rada onda se radne organizacije suoćavaju sa velikim brojem neopravdanog odsustvovanja sa posla i visokom stopom fluktuacije od strane zaposlenih.

Danas se apsentizam i fluktuacija sa pravom smatraju masovnom bolešću društva u celini. U organizacijama gde je istraživanje sprovedeno ne beleže se troškovi koji nastaju kao posledica apsentizma i fluktuacije, a verovatno bi ta brojka bila velika. Kao najčešći razlog čestog odsustvovanja sa posla se javljaju loši uslovi rada, loši odnosi sa kolegama i sa nadređenima, nemogućnost napredovanja u organizaciji zato što se nadređeni postavljaju na osnovu partijske pripadnosti, a ne na osnovu zasluga prema obavljenom radu. U radnim organizacijama ne postoji adekvatan sistem kontrole nad radnicima koji često odsustvuju, ne sprovode se nikakve kaznene mere, i na taj način zaposleni koji redovno dolaze na posao bivaju preopterećeni poslom i gube motivaciju za rad, a sve se to negativno odražava na profitabilnost organizacije.

Na osnovu sprovedenog istraživanja između maškaraca i žena nema bitne razlike u najčešće navedenim razlozima odsustvovanja sa posla, zbog toga što u organizacijama gde je istraživanje sprovedeno ne postoji podela na ženske i muške poslove.

Ispitanici sa osnovnom školom su pokazali dobro poznavanje termina apsentizam (pitanje Q1), ali se to može uzeti sa rezervom, zbog vrlo malog broja ispitanika (svega 6). Generalno ispitanici sa trogodišnjim i četvorogodišnjim obrazovanjem su pokazali sličnost u zadovoljstvu prema odgovorima na pitanja Q1 i Q6. Ispitanici sa višom školom izrazili su najveći stepen zadovoljstva u odnosu na pitanje Q7, gde su se izrazili da im neopravdano izostajanje sa posla izuzetno smeta. Ispitanici sa završenim fakultetom su najzadovoljniji u odnosu na pitanje Q6 tj., većina smatra da neopravdano odsustvovanje sa posla nemoralno.

U odnosu na starost ispitanika (Tabela 3), grupa od 36-45 godina je najvećom ocenom ocenila uticaj pitanja Q5 da njihove kolege na poslu neopravdano izostaju. To su ljudi koji imaju već duži radni staž u organizaciji, realno sagledavaju činjenično stanje, a u postojećoj organizaciji vide mogućnost da napreduju i obezbede sebi bolju poziciju. Najmanju ocenu dali su ispitanici iz grupe od 18-25 godina, jer su na početku karijere, oni tek treba da se dokazuju u postizanju rezultata, objašnjenje za to može biti raznoliko, mnogi u tim godinama treže sebe i gube mnogo vremena u potrazi za drugim interesantnijim poslom, nemaju još uvek dobro razvijenu radnu obavezu i čestim odsustvovanjem beže od odgovornosti na poslu. Dok su ispitanici iz grupa od 46-55 i od 56 i više godina sličnog mišljenja da veliki broj zaposlenih neopravdano odsustvuju sa posla.

U odnosu na radno iskustvo ispitanika (Tabela 5), na osnovu odgovora može se zaključiti da su radnici od 11-20 godina iskustva dali najveće ocene za neopravdano odsustvovanje sa posla, to su ljudi koji imaju dobro ustanovljene radne navike, dok radnicima koji imaju manje od tri godina radnog iskustva najmanje smeta neopravdano izostajanje svojih kolega. Na pitanje Q13 zaposleni su podeljenog mišljenja, što je rezultat nesigurnosti zaposlenih zbog loše političko-ekonomske situacije u našoj zemlji. Zaposleni nisu preterano zadovoljni uslovima i poslovima koje obavljaju ali su svesni da i taj posao mogu lako izgubiti zbog visoke stope nezaposlenosti u našoj zemlji.

Ispitanici koji imaju više od 10 godina radnog iskustva smatraju da često odsustvovanje pojedinih kolega utiče na efikasno obavljanje radnih zadataka, jer se tom prilikom radnici koji redovno dolaze na posao suoćavaju sa većom kolićinom posla, a

nadoknada za izvršeni rad im je ista. Takođe, kod odgovora na pitanje Q13 zaposleni sa 10 i više godina radnog iskustva provedenog u trenutnoj organizaciji nisu čak ni razmišljali o promeni postojećeg posla.

Kada se pogledaju prosečne ocene veći broj ispitanika radi u državnim preduzećima ali u manjoj meri poznaje termin apsentizam. Na pitanje Q5 radnici državnih preduzeća daju veći značaj neopravdanom odsustvovanju sa posla za razliku od onih koji rade u privatnim preduzećima. Kada je reč o pitanju Q7 radnicima koji rade u državnim preduzećima više smeta neopravdano odsustvovanje za razliku od privatnog sektora, to je zbog toga što je sistem kontrole slabiji i posao je sigurniji za razliku od privatnog sektora gde se takvi radnici brzo zamenjuju novim (Tabela 7).

U odnosu na vrstu delatnosti ispitanika (Tabela 8), na osnovu odgovora može se zaključiti da su zdravstveni radnici u najvećoj meri saglasni sa tvrdnjom da je plaćeno odsustvo sa posla razlog što zaposleni neredovno dolaze na posao - pitanje Q11. Na pitanje Q13 radnici zaposleni u obrazovanju su se izjasnili u nešto većoj meri u odnosu na ostale da bi promenili postojeći posao. Dok su radnici zaposleni u administraciji pokazali najslabije poznavanje termina fluktuacije.

4. ZAKLJUČAK

Ova studija pokazala je da su zaposleni u Boru, generalno, zadovoljni uslovima koji vladaju na poslu bez obzira na brojne poteškoće sa kojima se svakodnevno suočavaju, i da su posvećeni organizacijama za koje rade. Uprkos tome, što brojni faktori doprinose pojavama kao što su neopravdano odsustvovanje sa posla i česta promena radnih mesta, ovim istraživanjem smo probudili svest kod zaposlenih koliko je pojava apsentizma i fluktuacije važan segment poslovanja. Danas pomoću statističkih paketa obrada podataka je mnogo lakša, a rezultati dobijeni u istraživanjima mogu poslužiti menadžmentu i vlastima (ako se radi o javnim preduzećima) da otkriju šta predstavlja usko grlo u organizaciji.

Za dalja istraživanja bilo bi interesantno proširiti uzorak, ili uzeti neki drugi region u Srbiji, te uporediti dobijene rezultate sa rezultatima iz ovog rada, ne bi li videli postoji li razlika u percepciji. Možda je to objašnjenje za dobijene rezultate, a možda i strah od otvorenog iskazivanja nezadovoljstva, bilo jedno ili drugo, dobijene rezultate ćemo uzeti sa rezervom, a buduća istraživanja će pokazati da li su to pravi podaci i da li se odnose na celu populaciju.

REFERENCE

- [1] Cascio W., Costing Human Resources: The Financial Impact of Behavior in Organizations, 4th ed. Cincinnati, OH: Southwestern, (2000).
- [2] Urošević S., Sajfert Z., Menadžment ljudskih resursa, Beograd, (2012).
- [3] Carell R.M., Elbert N.F., Hatfield R.D., Human Resource Management; Global Strategies for Managing a Diverse Work Force, Ehglewod Clifts, NJ, Prentice Hall, (1995), pp. 780

- [4] Polsky D., Changing consequences of job separation in the United States, *Industrial and Labor Relations Review*, Vol. 52: (1999), pp. 565-580
- [5] Trevor C.O., Interactions among actual ease-of-movement determinants and job satisfaction in the prediction of voluntary turnover, *Academy of Management Journal*, No. 44: (2001), pp. 621-638
- [6] Glebbeek A.C., Bax E.H., Is high employee turnover really harmful? An empirical test using company records, *Academy of Management Journal*, No. 47: (2004), pp. 277-286
- [7] March J.G., Simon H.A., *Organizations*, New York: John Wiley, (1958).
- [8] Porter L.W., Steers R.M., Organizational, work, and personal factors in employee turnover and absenteeism, *Psychological Bulletin*, No. 80: (1973), pp. 151-176
- [9] Mobley W.H., *Employee Turnover: Causes, Consequences, and Control*, Addison-Wesley Publishing Company, (1982).
- [10] Hom P.W., Griffeth R.W., Sellaro C.L., The validity of Mobley's 1977 model of employee turnover, *Organizational Behavior and Human Performance*, No. 34: (1984), pp. 141-174
- [11] Sheridan J.E., Abelson M.A., Cusp catastrophe model of employee, (1983).
- [12] Staw B.M., The Consequences of Turnover, *Journal of Occupational Behavior*, No. 1: (1980), pp. 253-273
- [13] Maertz C.P., Campion M.A., Profiles in quitting: integrating process and Content turnover theory, *Academy of Management Journal*, Vol. 47, No. 4: (2004), pp. 566-582
- [14] Abelson M.A., *Research in Personnel and Human Resource Management, Turnover cultures*, (1993).
- [15] O'Reilly C.A., Chatman J., Caldwell D.F., People and organizational culture: A profile comparison approach to assessing person-organization fit, *Academy of Management Journal*, No. 34: (1991), pp. 487-516
- [16] Kristof A.L., Person-organization fit: An integrative review of its conceptualizations, measurement and implications, *Personnel Psychology*, No. 49: (1996), pp. 1-49
- [17] Viator R.E., Scandura T.A., A study of mentor-protégé relationships in large public accounting firms, *Accounting Horizons*, No. 5: (1991), pp. 20-30
- [18] Payne S.C., Huffman A.H., A longitudinal examination of the influence of mentoring on organizational commitment and turnover, *Academy of Management Journal*, No. 48: (2005), pp. 158-168
- [19] Holtom B.C., Mitchell T.R., Lee T.W., Eberly M.B., Turnover and Retention Research: A Glance at the Past, a Closer Review of the Present, and a Venture into the Future, *The Academy of Management Annals*, Vol. 2, No. 1: (2008), pp. 231-274
- [20] Steel R., Griffeth R.W., The Elusive Relationship Between Perceived Employment Opportunity and Turnover Behavior: A Methodological and Conceptual Artifact? *Journal of Applied Psychology*, Vol. 74, No. 6: (1989), pp. 846-854
- [21] Gerhart B., Voluntary Turnover and Alternate Job opportunities, *Journal of Applied Psychology*, Vol. 75, No. 5: (1990), pp. 467-476

[22] Cotton J.L., Tuttle J.M., Employee Turnover: A Meta-Analysis with Implications for Research, *Academy of Management Review*, Vol. 11, pp. (1986).

[23] Ho R., *Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS*, CRC Press, Boca Raton, New York, (2006).

INNOVATIVE TECHNOLOGIES IN THE MERCEDES-BENZ COMPANY

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Abstract: Mercedes – Benc is one of the main pioneers in automotive industry. With long history of 130. Years, Mercedes has advanced technology in automotive industry. Innovations of Mercedes – Benc with strong quality are presented in all world market. Vehicles of this company could be find in every country and every continent. Factories of this global corporation of automotive industry are built in these countries: Argentina, Bosnia and Herzegovina, Brasil, Canada, China, Egypt, Finland, Hungary, India, Indonesia, Malaysia, Mexico, Phillipines, Spain, South Africa, South Korea, Thailand, Turkey, England, America and Vietnam. Vehicles have a strong quality and safety systems in driving. Also, Mercedes has a offer of his vehicles which divided in classes. Every class has a target market and customers. Naturally, some of classes are assigned a lot of numbers of customers, but some of them are assigned for specific groups. In this assortment we have a classes of passenger cars, luxury cars, racing and sports cars, jeeps (middle and luxury class of jeeps), coupe and vans. Innovative technology is the key for this global corporation and every year we have a new innovations and this company is more concurrent.

Keywords: Carl Benc, Gottlib Daimler, Technology innovations, Mercedes – Benc C class, Mercedes – Benc E class, Intelligent Drive systems.

INOVATIVNE TEHNOLOGIJE U KOMPANIJI MERCEDES-BENC

Nemanja Najdenov

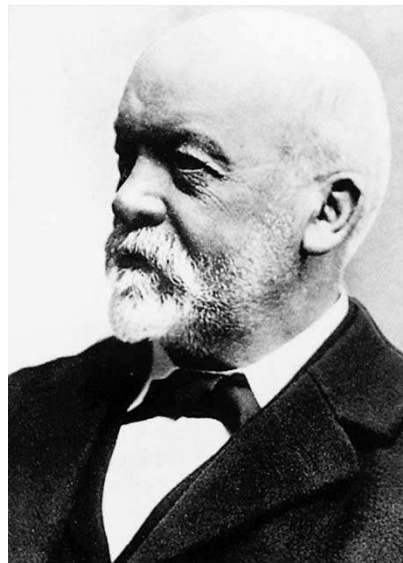
Apstrakt: Mercedes – Benc je svakako jedan od glavnih pionira u automobilskoj industriji. Sa svojim dugim stažom od 130. godina, Mercedes je stalno usavršavao i unapređivao svoju tehnologiju u automobilskoj industriji. Kompanija Mercedes – Benz je sa svojim inovacijama osvojila gotovo celokupno svetsko tržište. Mercedesova vozila su prisutna u svakoj državi i na svakom kontinentu. Fabrike ovog velikog giganta automobilske industrije se nalaze po celom svetu uključujući države kao što su: Argentina, Austrija, Bosna i Hercegovina, Brazil, Kanada, Kina, Egipat, Finska, Mađarska, Indija, Indonezija, Malezija, Meksiko, na Filipinima, u Španiji, Južnoj Africi, Južnoj Koreji, na Tajlandu, u Turskoj, Engleskoj, Americi i Vijetnamu. Ono što karakteriše vozila ove kompanije su izuzetan kvalitet i brojni bezbednosni sistemi u vožnji. Takođe, Mercedes ima pravu i adekvatnu ponudu svojih vozila koja su podeljena u nekoliko klasa. Svaka klasa ima svoje ciljno tržište i svoje kupce. Naravno, neke klase su namenjene velikom broju kupaca, neke su pak određene za specifične društvene grupe. U asortimanu ponude

imamo klase običnih putničkih automobila, luksuznih automobila, trkačkih i sportskih automobila, džipova (srednja i luksuzna klasa džipova), kupea, kombija. Inovativna tehnologija je jedan od ključnih elemenata za ovu veliku korporaciju i svake godine se dodaje nešto novo automobilima i na taj način korporacija postaje konkurentnija.

Ključne reči: Karl Benc, Gotlib Dajmler, Tehnološke inovacije, Mercedes – Benc C klasa, Mercedes – Benc E klasa, Inteligent Drive vožnja.

1. ISTORIJAT KOMPANIJE MERCEDES – BENZ

Veoma su interesantni istorijati nastanka pojedinih fabrika automobila, ali nijedan nije tako fascinantno kao što je slučaj sa Mercedes-Bencom. A uz to, van svake sumnje, nijedna druga oznaka nije toliko popularna kao što je trokraka zvezda. Istorijat započinju dva čoveka, Gotlib Daimler (1834-1900) i Karl Benc (1844-1929) koji su istovremeno konstruisali prve automobile sa benzinskim motorom. Dajmler je na svom izumu radio u Karlsruhu a Benc na svom u Manhajmu, udaljenom samo 100 kilometara, a pri tome nisu znali ništa jedan o drugome.



Slika 1. Gotlib Dajmler

Emil Jelinek (1853-1918) postao je klijent Daimlera 1896. godine. Bio je to imućni biznismen, rođen u Austriji, koji je živio u Nici na francuskoj Rivijeri. Jelinek je bio ljubitelj brzine: u svojoj 19. godini morao je da napusti uspešnu karijeru na železnici nakon organizovanja trke lokomotiva. I tada, pošto su se automobili pojavili na tržištu, kupio je najpre tricikl de dion-buton, potom Leon Bolle i Benc dok nije čuo za Dajmlera. Posetio je fabriku i kupio auto, ali je bio veoma razočaran maksimalnom brzinom od samo 25 km/h. Zahtevao je 40 km/h. Jelinek je isto tako zahtevao da automobil koji je on "konstruisao" ponese ime Mercedes, barem u Francuskoj, Austriji i SAD gde je raspolagao isključivim pravom prodaje proizvoda Daimlera. Daimler je odlučio da sve svoje automobile prodaje pod imenom Mercedes po kćerci čuvenog biznismena Emila Jelineka. Ime Mercedes zvanično je registrovano 23.6.1902. Jelinek je bio toliko oduševljen sa imenom Mercedes

da je u 1903. promenio svoje prezime u Mercedes-Jelinek. Pri tome se i hvalio da je postao “prvi covek koji je uzeo ime svoje kćerke”.

Međutim, sama istorija nastanka čuvenog giganta u automobilskoj industriji vezuje se za devetnaesti vek. Rodonačelnici čuvenog Mercedes – Benza jesu Gotlib Dajmler i Karl Benc. Oba inžinjera i izumitelja su imali svoje posebne fabrike. Fabrika Gotliba Dajmlera se zvala „Daimler Motoren Geselfhaft“ i ona je na samom početku proizvodila automobile marke „Daimler“. Međutim, kada je fabriku preuzeo Emil Jelinek kao akcionar, onda je fabrika počela da proizvodi automobile pod imenom „Mercedes“ do 1926.godine. Drugi izumitelj je bio Karl Benc koji je imao svoju fabriku koja se zvala „Benz Cie“. Fabrika Karla Benca je proizvodila automobile pod imenom „Benz“. Ta fabrika je pod ovim imenom proizvodila ondašnje automobile takođe do 1926.godine. Međutim, 1926. godine zbog ekonomske krize koja je bila prisutna u skoro celom svetu, te dve kompanije su odlučile da se spoje u jednu jedinstvenu kompaniju kako bi opstale na tržištu. Na taj način, nastala je nova kompanija koja se zvala „Daimler – Benz“ koja je krenula u proizvodnju nove marke automobila pod imenom „Mercedes – Benz“ koji se proizvodi do današnjeg dana.



Slika2. Karl Benc

Takođe, treba reći nešto i o mercedesovom znaku koji je poznat kao trokraka zvezda i kako se došlo na ideju njegovog korišćenja za ovaj veliki brend. Najme, Gotlib Dajmler je umro 1900.godine pre nego što se pojavio prvi mercedes. Pre njegove smrti sinovi su ga podsetili na razglednicu koju je svojevremeno poslao svojoj ženi. Na razglednici je bila ucrtana zvezda i Gotlib je nagovestio svoju nadu da ce “jednog dana ta zvezda svetleti iznad njegove fabrike”. Tako je zvezda postala simbol kompanije. Međutim, tek 1909. Godine Daimler je i zvanično uveo zvezdu. Osim toga u pocetku je bilo i izvesnih razmimoilaženja u pogledu oblika zvezde, da li sa tri ili četiri kraka, tako da su jedno vreme korišćena oba tipa. Konacno je usvojena trokraka zvezda kao najbolje rešenje pošto simbolizuje korišćenje motora Daimler na zemlji, moru i u vazduhu. Pola veka kasnije pojavila se na linkolnu kontinental četvorokraka zvezda i na krajslerima petokraka. Nema sumnje da su obe bile inspirisane mercedesovom zvezdom. Tako su automobili mercedesa sa trokrakom zvezdom i bencevi sa vencem proizvođeni nezavisno sve do 1926. Kada je u Nemackoj automobilska industrija i citava privreda zapala u veliku ekonomsku krizu.



Slika3. Logo kompanije Mercedes – Benz kroz istoriju

2. INOVATIVNE TEHNOLOGIJE U KOMPANIJI MERCEDES – BENZ

Kompanija Mercedes – Benz je sa svojom inovativnom tehnologijom i mukotrpnim radom osvojila gotovo celokupno svetsko tržište. Mercedesova vozila su prisutna u svakoj državi i na svakom kontinentu. Fabrike ovog velikog giganta automobilske industrije se nalaze po celom svetu uključujući države kao što su: Argentina, Austrija, Bosna i Hercegovina, Brazil, Kanada, Kina, Egipat, Finska, Mađarska, Indija, Indonezija, Malezija, Meksiko, na Filipinima, u Španiji, Južnoj Africi, Južnoj Koreji, na Tajlandu, u Turskoj, Engleskoj, Americi i Vijetnamu.

Ono što karakteriše vozila ove kompanije su izuzetan kvalitet i brojni bezbednosni sistemi u vožnji. Takođe, Mercedes ima pravu i adekvatnu ponudu svojih vozila koja su podeljena u nekoliko klasa. Svaka klasa ima svoje karakteristike kao što su: potrošnja goriva, karoserija, bezbednosni sistemi, emitovanje CO₂, motor i drugo. Inače, kompanija Mercedes – Benz u svom asortimanu ponude ima čak 17 klasa svojih automobila. Svaka klasa ima svoje ciljno tržište i svoje kupce. Naravno, neke klase su namenjene velikom broju kupaca, neke su pak određene za specifične društvene grupe. U asortimanu ponude imamo klase običnih putničkih automobila, luksuznih automobila, trkačkih i sportskih automobila, džipova (srednja i luksuzna klasa džipova), kupea, kombija. Naravno, sve te klase treba da navedemo:

- A klasa – mali automobili,
- B klasa – mali automobili,
- C klasa – limuzina, karavan i kupe,
- E klasa – limuzina, karavan, kupe i kabriolet,
- CL klasa – kupe
- CLA klasa – kupe,
- CLS klasa – kupe, shooting brake,
- G klasa – džipovi, kabriolet džipovi, cros country vehicles,
- GL klasa – džipovi, offroader,
- GLK klasa – džip, offroader,
- M klasa – džip, offroader,
- R klasa
- S klasa – luksuzne limuzine,
- SL klasa – roadster, sportski,

SLK klasa – roadster, sportski,
SLS AMG klasa – kupe, roadster, sportski,
Viano – kombi.

2.1. PET NEVEROVATNIH INOVACIJA MERCEDES – BENZA

Cam – Touch – Pad - Postoji jedan osnovni problem sa ekranima osetljivim na dodir. Kada upotrebljavate displej ovog tipa u automobilu, vaši prsti i šaka uvek zaklanjaju deo ekrana. To može otežati bavljenje navigacionim menijem. Međutim, Mercedesov Cam-Touch-Pad koncept rešava ovaj problem sa dvostrukom hardverskom solucijom. Sistem koristi dodirnu tablu, sličnu onoj na laptopu, smeštenu na srednjoj konzoli. Razlika je u tome što je ova tabla delimično prozirna, omogućavajući kameri postavljenoj iza table da prati pokrete prstiju. Transparentna slika vaših prstiju se pojavljuje na displeju, tako da možete videti vrhove prstiju kako se pomeraju na ekranu dok manipulišete različitim kontrolama. Prikaz šake ne zaklanja virtuelne dugmiće, a dodirna tabla vam dozvoljava da sklanjate, rotirate, aktivirate sve živo, od mapa do kontrole klima uređaja. Cam-Touch-Pad je originalno prikazan na F800 Style konceptu, i ukoliko dobije „zeleno svetlo“ za serijsku proizvodnju, mogao bi se pojaviti u novoj S Klasi, predstavljajući više nego opasnog konkurenta Audijevom MMI Touchu.

Magic Body Control - Ovaj sistem posmatra put ispred vozila iz dve perspektive analizirajući podatke, koji se dalje šalju Advanced Body Control (ABC) sistemu oslanjanja da bi se izborio sa neravninama. Sistem koristi par stereo kamera postavljenih na vetrobranu, slično kao što je slučaj sa Traffic Jam Assist sistemom. Oslanjanje na sva četiri točka funkcioniše nezavisno, pružajući mogućnost vozilu da bez napora „pliva“ preko udarnih rupa i pukotina na putu. Prva implementacija Magic Body Controla će se u serijskim modelima pojaviti u toku ove godine.

Personalni asistent „Gloria“ - Komanda glasom je veoma napredovala u poslednjih nekoliko godina, ali u Mercedesu smatraju da je šira upotreba ometena zbog nedostatka prirodnog govora. Mercedesovo rešenje se zove „Gloria“, digitalni avatar koji se vidi na COMAND ekranu, spreman(na) da usliši vaše verbalne sugestije. Mercedesovo rešenje je jasno. Tera korisnika da govori prirodno, kao da se obraća drugom čoveku, a ne da govori „glasno u prazno“. Kada vidite Glorijino lice, znate da je spremna da ispuni vaše komande koje se mogu odnositi na instrukcije u vezi sa navigacijom, željenim lokacijama i tako dalje. Mercedes se ovde ipak malo ograđuje, smatrajući da su verbalne komande još uvek tri do pet godina daleko što se tiče masovne upotrebe, uz osvrt da verovatno nikada neće moći u potpunosti da bude rešen problem različitih dijalekata i akcenata.

Traffic Jam Assist (asistencija u saobraćajnoj gužvi) - Traffic Jam Assist sistem može da analizira kretanje vozila koje se nalazi ispred (do daljine od 50 m i pri brzini do 40 km/h), te upravlja automobilom bez intervencije vozača. Ukoliko vozač skloni ruke sa upravljača u vremenu dužem od 8 sekundi, alarm upozorava da će sistem biti deaktiviran ako se odsustvo kontrole nad upravljačem nastavi. Nakon dodatne tri sekunde, Traffic Jam Assist se isključuje. Inače, dovoljan je dodir dlanom da senzor prepozna kontrolu, dok isto to urađeno prstom ne obavlja posao.

Virtuelni autoput – U Mercedesovom testnom centru postoje pet simulatora koji služe za simulaciju vožnje. Podaci iz vožnje se skladište, analiziraju i šalju kompjuterskom programu kompanije, koji je spojen sa hidrauličnom platformom. Svaka izbočina, rupa, i neravnina na putu se detektuje, a „efekat“ se preko platforme šalje u „pozadine“ ljudi koji

testiraju. Baš kao u realnim uslovima vožnje. Simulator se upotrebljava za razvoj vozila, ali i za testiranje finalnih proizvoda, i to sa običnim vozačima koji dolaze da testiraju fizičke limite vozila bez rizika od povrede i oštećenja vozila. Dakle, ukoliko vas neko zove iz Mercedesa i zamoli da vozite neki model nove generacije, mogli biste provesti neko vreme u najnaprednijem simulatoru vožnje na svetu.

2.2. TEHNOLOŠKE INOVACIJE KOD MERCEDES – BENZA C KLASE

Mercedes-Benz je predstavio potpuno novu C klasu, koja je značajno redizajnirana spolja i iznutra, 100kg lakša nego do sada i opremljena efikasnijim motorima, uključujući agregat koji emituje manje od 100g/km CO₂, što je prvi ovakav rezultat u segmentu kompaktnih premijum limuzina. Nova C klasa je dugačka 4686mm, široka 1810mm i visoka 1442mm, što znači da je porasla u dužinu i širinu za po 95mm i 40mm u odnosu na dosadašnji model. Struktura nove C klase skoro 50% je napravljena od aluminijuma, što je doprinelo smanjenju ukupne težine automobila za 100kg. To je rezultovalo smanjenjem potrošnje goriva, poboljšanjem čvrstoće za oko 20% i unapređenjem komfora, uz sportskije i dinamičnije vozne osobine. Izgled kabine je moderan, enterijer je luksuzan i još hrabrije dizajniran od eksterijera. Putnici na zadnjim sedištima zbog dužeg međuosovinskog razmaka imaju 25mm više prostora za noge, a produženje automobila je donelo više sveukupnog prostora. Kapacitet prtljažnika povećan je za 5l, na 480l. Svi motori nove C klase ispunjavaju Euro 6 standard, opremljeni su stop-start sistemom i troše oko 20% goriva manje nego do sada bez gubitka performansi. Iz S klase preuzeti su sistemi autonomne vožnje pri nižim brzinama i u saobraćajnim gužvama, detekcija umora vozača, pomoć pri upravljanju, držanje saobraćajne trake i višestruka asistencija pri parkiranju.

Među sistemima kojima će biti opremljen Mercedes C klase za 2014. su "Collision Prevention Assist Plus", "Distronic Plus" u kombinaciji sa "Steering Assist" i "Stop&Go Pilot" sistemima, zatim "Pre-Safe Brake", "Brake Assist Plus", "Active Blind Spot Assist" i "Active Lane Keeping Assist sistem".

Collision Prevention Assist Plus - Ovaj sistem pri brzinama iznad 7 km/h aktivira zvučni signal koji ukazuje na opasnost od sudara sa vozilom koje se kreće ispred. U slučaju da vozač ne reaguje na vreme, ili da ne pritisne kočnicu dovoljno snažno, sistem je programiran da automatski zakoči vozilo. Osim toga, kada se automobil pri brzinama većim od 30 km/h previše približi vozilu koje se kreće ispred, sistem vizuelnim signalom daje do znanja vozaču da je preblizu drugom automobilu. Novi sistem je projektovan tako da reaguje pri brzinama čak do 200 km/h. Ako zbog prevelike brzine kretanja nije u stanju da potpuno zaustavi automobil pre sudara, on će ipak svojom aktivacijom doprineti da se posledice sudara minimizuju, kažu u Mercedesu. Collision Prevention Assist Plus aktivira se i prilikom nailaska na nepokretnu prepreku ili zaustavljen automobili, i to pri brzinama do 50 km/h.

"Distronic Plus" u kombinaciji sa "Steering Assist" i "Stop&Go Pilot" sistemima omogućava vozaču da zadrži odgovarajuće, bezbedno rastojanje u odnosu na vozilo ispred, čak i u uslovima saobraćajnih gužvi i pri čestom stani-kreni režimu vožnje. Tehnologija obuhvata i mogućnost blagih korekcija pravca kretanja vozila kako bi se izbegao bočni kontakt sa drugim vozilima u saobraćaju.

"Pre-Safe Brake" funkcija obezbeđuje automatsko kočenje u slučaju nailaska na pešaka ili zaustavljeno vozilo, pre svega u uslovima gradske vožnje, u slučaju da vozač ne reaguje na vreme i ne zakoči automobil. Pri brzinama do 50 km/h, sistem je u stanju da zaustavi automobil pre kontakta, dok kod brzina 50-70 km/h ublažava posledice udara.

"Brake Assist Plus" u kombinaciji sa "Cross-Traffic" asistencijom pojačava silu kočenja ako sistem proceni da je vozač nedovoljno jako pritisnuo papučicu, kako bi se izbegao eventualni sudar. Sistem se aktivira i u slučaju ako drugo vozilo nailazi s boka, kao što je to slučaj na raskrscima i ukrštanjima sa drugim saobraćajnicama.

"Active Blind Spot Assist" aktivira zvučno i vizuelno upozorenje na prisustvo drugog vozila u mrtvom uglu i sprečava eventualni bočni kontakt korekcijom pravca kretanja i kočenjem.

"Active Lane Keeping Assist sistem" upozorava vozača vibracijom volana u slučaju da automobil pređe točkovima u susednu traku. Ako vozač na ovo ne reaguje i automobil pređe liniju koja razdvaja dve saobraćajne trake, sistem koriguje pravac kretanja i po potrebi koči vozilo kako bi se ono zadržalo unutar svoje trake.

Okretnost

Okretnost je ključna osobenost C-Klase Limuzina. Redizajniran model se ponosi brojnim tehničkim inovacijama i velikim izborom varijanti motora koji su u stanju da odgovore na praktično sve zahteve kada je reč o performansama i efikasnosti. Teško ćete pronaći drugi automobil koji je u stanju da se tako brzo prilagodi vašim sklonostima i načinu vožnje. Kao deo dodatne opreme, Paket dinamičnog upravljanja sa sportskim modom pruža izvanredno uživanje u vožnji. Jednim pritiskom na taster izaberite komforno podešavanje ili uzbuđljivu sportsku vožnju. Vrhunac Mercedes-Benz tehnologije menjača je novi 7G-TRONIC PLUS automatski menjač optimizovane efikasnosti. Sedam stepeni prenosa za vožnju unapred obezbeđuje optimalnu brzinu motora uz gotovo neprimetnu promenu stepena prenosa. Zahvaljujući mogućnosti promene u više nižih stepena prenosa zaredom 7G-TRONIC PLUS može da preskoči pojedinačne stepene prenosa i omogući bržu promenu. Standardna oprema, AGILITY CONTROL oslanja se na selektivni sistem prigušenja, potpuno automatski i za svaki točak zasebno prebacuje sa mekšeg na tvrde podešene amortizere i obrnuto u zavisnosti od situacije u vožnji.

Ekološki usklađen koncept

Mercedes-Benz **BlueEFFICIENCY** predstavlja pionirsku tehnologiju efikasnosti zajedno sa inovativnim paketima mera zasnovanih na optimizaciji potrošnje goriva i nivoa emisije izduvnih gasova. C klasa limuzina je, u zavisnosti od motora, opremljena brojnim BlueEFFICIENCY odlikama i ekološki odgovornim tehnologijama. To su, na primer:

1. ECO start/stop funkcija,
2. uputstva za energetske štedljivu vožnju,
3. optimizacija mase vozila,
4. inteligentno upravljanje energijom,
5. optimizacija pneumatika na otpor pri kretanju,
6. poboljšana aerodinamika,
7. optimizovana promena stepena prenosa.

Poslednja generacija CDI motora na dizel gorivo ima odlične performanse sa izraženom niskom potrošnjom. Pojačan je pritisak ubrizgavanja, gladak rad motora, optimizovan je nivo buke, dok smanjena kompresija smanjuje emisiju izduvnih gasova. Rezultat direktnog ubrizgavanja, pojačane kompresije i turbo punjenja kod novih motora

na benzin je izvanredni obrtni momenat, snaga i smanjen nivo buke. Inovativna tehnologija omogućava značajno smanjenje izduvnih gasova i potrošnje goriva u odnosu na prethodne modele.

2.3. TEHNOLOŠKE INOVACIJE KOD MERCEDES – BENZA E KLASE

Teško da ćete naći neki auto koji nudi više luksuznu vožnju od E Klase. Svojim elegantnim izgledom, superiorno komfornom vožnjom i izuzetno sofisticiranim imidžom, ovaj auto zasnjuje sve ljubitelje i nije iznenađenje što je brzo stekao veliku popularnost. Njegovi glavni konkurenti su Audi A6 i Bmw serije 5 - ali nijedan od njih ne može adekvatno ugroziti čvrstu poziciju ove limuzine. Naravno, sve ovo ima i svoju cenu, pogotovo ako kupujete novo vozilo E klase. Naravno, izbor motora je veliki, i trebalo bi da zadovolji sve želje probirljivih kupaca. Kabina je prostrana, pogotovo pozadi, putnici imaju jako mnogo mesta. Promene iz 2006.godine stavile su tačku na probleme sa elektronikom ranijih automobila, ali i donele neke nove tehnologije i nove motore.

Komfor: Zahvaljujući "pokornosti" u toku vožnje, E Klasa je pravi izbor za one koji često putuju i prevaljuju velika rastojanja. Kabina je odlično izolovana od spoljašnje buke (motor, vetar, gume), a neravnine i izbočine na putu za E Klasu nisu nikakav problem. Enterijer je prostran (Audi A6 ima za nijansu više mesta za putnike na zadnjim sedištima). Klima, električni podizači prozora ulaze u standardnu opremu, dok dodatna oprema obuhvata uređaje i opremu koje će kupci itekako ceniti. Jednom rečju, ceo enterijer je dizajniran sa jednim ciljem, da zadovolji i najprobirljivije putnike. Masaža u sedištu, samopodesiva sedišta u smislu dodatnog potpora tokom skretanja itd. Sa kapacitetom prtljajnika od 510L zaostaje za svojim glavnim konkurentima a to su Audi A6 i BMW serije 5.

Sigurnost: E klasa je na crash testu osvojila maksimalnih 5 zvezdica, dok modeli izrađeni posle 2006.godine dolaze sa opcijom PreSafe, koja je prvi put viđena u Mercedes S Klasi iz 2002.godine. Ovaj sistem zajedno sa kontrolom stabilnosti, pomaže vozaču i dovodi automobil u najbezbedniji položaj u opasnim situacijama: namešta sedišta u bezbedan položaj, zatvara prozore ili stakleni krov, zateže pojaseve za vezivanje. Još jedna zanimljivost je prisutna, automatska kočnica koja pomaže prilikom pokretanja vozila na uzbrdicama.

S novim, efikasnim motorima, novim sistemima za pomoć tokom vožnje i novim dizajnerskim izrazom, "Mercedes" je sveobuhvatno modernizovao "E klasu", dodatno naglašavajući njen vodeći položaj u segmentu luksuznih vozila. "Sistemi za pomoć" objedinjuju mnogobrojne funkcije za unapređenje komfora i bezbednosti tokom vožnje, koje u "Mercedesu" nazivaju "intelligent drive" ("pametna vožnja"). To su sistemi koji prvi put pružaju pomoć u sprečavanju nezgoda s vozilima koja dolaze sa bočne strane, ili sa pešacima, zatim aktivan sistem za nadgledanje kolovozne trake koji pomaže u sprečavanju nezgoda s vozilima koja vam dolaze u susret... Novu "E klasu" odlikuju "izbrušen" dizajn, prefinjen, elegantan sportski izgled, značajno unapređen komfor, visokokvalitetna oprema, efikasnost i uživanje u vožnji. Prednji deo vozila je u potpunosti redizajniran novim svetlima koja obuhvataju sve funkcionalne elemente u jednom sočivu, a oborena i dnevna svetla su opremljena parcijalnim LED svetlima, i deo su standardne opreme. Potpuna LED svetla sada su dostupna kao deo dodatne opreme.

Mercedes-Benz je izuzetno temeljno revidirao sve serijske modele E-Klase omogućavajući primenu najnovijih tehničkih dostignuća u ranoj fazi. Zbog toga su

primenjene napredne tehnologije i dostignuća iz buduće S-Klase. Osim toga, novu E-Klasu odlikuje izbrušen dizajn, prefinjen, elegantan sportski izgled, značajno unapređen komfor, visokokvalitetna oprema, efikasnost i uživanje u vožnji. Zbog svega toga nova E-Klasa je dodatno učvrstila svoj vodeći položaj u klasi luksuznih vozila.

"Intelligent drive" sa novim sistemima za pomoć tokom vožnje - Ono što je počelo sa PRE-SAFE sistemom, a nastavilo se sa DISTRONIC PLUS sistemom dovelo je do potpuno nove dimenzije vožnje u Mercedes-Benz vozilima, do ujedinjenja komfora i bezbednosti. Mercedes-Benz to naziva "intelligent drive". E-Klasa premijerno predstavlja obilje novih ili optimizovanih sistema za pomoć tokom vožnje koji će se naći u budućoj S-Klasi čineći vožnju komfornijom i bezbednijom. Deo standardne opreme je i **ATTENTION ASSIST** – sistem za prepoznavanje zamora vozača, koji je u mogućnosti da upozori vozača u slučaju gubitka koncentracije i zamora i moguće ga je podesiti na širi opseg brzine. Obaveštava vozača o stepenu zamora i vremenu koje je proteklo od poslednje pauze. Moguće ga je podesiti na željeni nivo osetljivosti.

Savremeni informacioni sistem i sistem za zabavu omogućava vozaču da bude u toku sa događajima u svetu ili kancelariji. Sistemi omogućavaju preslušavanje muzike, upotrebu sofisticiranog sistema navigacije ili povezivanja na internet. Deo standardne opreme, limuzine i karavana E-Klase je Audio 20 CD Radio. Raspolože duplim tjunerom, mp3 plejerom, USB ulazom na centralnom osloncu za ruke, TFT displejem u boji od 14.7 cm na kom je moguće prikazivanje SMS tekstualnih poruka i Bluetooth uređajem za povezivanje.

3. ZAKLJUČAK

Mercedes – Benc je svakako jedan od glavnih pionira u automobilske industriji. Sa svojim dugim stažom od 130. godina, Mercedes je stalno usavršavao i unapređivao svoju tehnologiju u automobilske industriji. Ova kompanija sa svojih 17 klasa automobila definitivno ima najraznovrsniji asortiman svojih proizvoda koje stalno unapređuje. Sa ovakvim načinom poslovanja, kompanija pokriva gotovo sva svetska tržišta. Takođe, svaka klasa mercedesa je namenjena za određenu grupu kupaca. Mercedes pravi male automobile, limuzine, kupe, džipove, sportske automobile i luksuzne automobile. Na svakom kontinentu, Mercedes ima na desetine svojih fabrika. Inovativna tehnologija je jedan od ključnih elemenata za ovu veliku korporaciju i svake godine se dodaje nešto novo automobilima i na taj način korporacija postaje konkurentnija. Iz svega navedenog, može se lako zaključiti da je Mercedes veoma ozbiljna kompanija koja pažljivo prati sva dešavanja u spoljnom okruženju i želje kupaca pretvara u stvarnost. Isto tako i unutrašnja organizacija je usklađena na adekvatan način. Ovo je jedan od razloga zašto je Mercedes veoma konkurentan i zbog čega ni jedna druga kompanija ne može da se takmiči sa njim.

REFERENCE

1. [www.mercedes – benc.srbija](http://www.mercedes-benc.srbija)
2. www.mercedesklub.rs

3. www.autoexclusive.rs
4. www.vrelegume.rs
5. www.automobilizam.net
6. www.brendovi.net
7. www.nacionalnaklasa.com

STRATEGY OF GROWTH AND DEVELOPMENT OF VIRTUAL ENTERPRISE FOR SHOE PRODUCTION

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Abstract: The objective of this study is to present the virtual enterprise which is engaged in the production and sale of safety equipment and shoes. The implementation of environment analysis and internal analysis, using of many management tools, it was decided to apply appropriate strategies that will contribute to the development of products, to achieve a competitive advantage in the marketplace. Creating a Business Plan was observed the economic feasibility of business and achievement in practice.

Keywords: Virtual enterprises, Strategies, SWOT analysis

"MISSION - VISION" TODAY FOR TOMORROW - CASE STUDY OF VIRTUAL COMPANY

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Abstract: This paper presents: the mission, vision, strategic objectives and Quality Policy Statement. Application of tools for testing the internal and external environment, define a strategy whose successful implementation of the company is to make a profit. The obtained results are final business plan, which is expected to equal the value of the net profit.

Keywords: Mission, Vision, Strategic objectives

„GREEN INNOVATION” IN FUTURE TECHNOLOGY DESIGNED FOR REGIONAL DEVELOPMENT

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Abstract: This paper proposes a subject that is considered an important way and also a big step for a future sustainability in regional development using the „*Green Innovation*” which has on it base new technologies. It is very important in our days to understand the unlimited chances to implement innovation for a better regional development, because this is what we need, we really need to evolve on the social ladder and technological. Not even the technological resources are an obstacle, because now, in our day it is important to understand the environment, to see it needs and to make everything possible but in a better way.

Making innovation to be the source of new regional development will be the biggest step that human kind will have to pass. This will be possible just if we will understand how the environment „works” and how to involve the technology without paying with the „life of nature”.

„*Green Innovation*” will be the way that we can use the technology to give an upgrade in the process of regional development.

„*Green Innovation*” means to combine technology with ecology and to save earth resources.

This paper contains a case study that will show you how „*Green Innovation*” can help us to redefine our needs when we talk about resources.

To introduce the „*Green Innovation*”, we’ll need to follow those *four steps**:

1. Create huge experiences
 2. Share dreams
 3. Change a life, not just a path
 4. Think different. Do different. Be different
- *All those steps will be detailed in the paper.*

Create huge experiences. We must create something that will remain in history, something that our childrens will be proud.

Share dreams. We have to make something that the others will say: „Yes! This is what I’ve been expected”.

Change a life, not just a path. We have to change the life of a nation, we must not just show how to do things, we must take action.

Think different, do different, be different. We have to think, do and be different in changing world, we can not think, do and be same old, we must think, do and be innovative.

Keywords: Green innovation, management of resources

To demonstrate what we said before, about those 4 steps, first me must see what is about being innovative and what „*Thompson Green*” is going to do. “*Thompson Green*” is not a real, company or organization, it is a concept, but if it will be, it will act like this:



“Thompson Green” wants to introduce a new way to produce energy using *SOLAR PHOTOVOLTAICS* system.

This is not something new, but how we want to change the way of producing solar energy is something innovative, something extraordinary for the entire planet.

Can have benefits by using this type of modern way of solar energy producer:

- local community;
- residents who leaves in high buildings;
- companies who wants publicity
- the good view of the city

“Thompson Green” wants to put the solar panels outside the building, not on the roof, but on the face of the building, and over those solar panels to put an image which can represent everything, maybe a company wants to make publicity, an advertising campaign.

1. COSTS FOR SOLAR PANELS

According to a recently published bulletin from California’s Employment Development Department (EDD) photovoltaic (PV) solar installations are increasing around the country, with some areas like California experiencing dramatic increases. Some reasons for this relate to perpetually increasing energy costs, rebates, federal tax incentives and a gradual decrease in the pricing of solar modules to smaller dealers, installers and DIY customers. Bottom line is that the cost per watt is becoming more affordable.

In the past, the “economies of scale” concept was firmly established with PV module purchases. Smaller entities paid around \$4 per watt while discounts of up to 50% were given to larger firms placing major orders.

In the last couple years, a trend of web based sales started balancing the paradigm. As larger scale solar business still continues to grow, web based suppliers are now making the market more competitive for the little guy. The market appears to be healthy, competitive and better diversified. At this point in time, high quality poly and mono crystal modules with 25 year warranties can be purchased in single home orders for \$1.75 – 2.00 per watt (some even include shipping!). With modules generally being the lion’s share of the job cost, this is a significant break for small businesses getting started in solar as well as DIY folks who are on the fence due to initial cost concerns.

Another major consideration and expense are inverters. They convert the solar DC power to household AC and condition the power to maximize efficiency and sync with grid frequency (60 Hz). The inverter business is becoming more competitive with new players entering the market on a regular basis. Most traditional PV solar inverters used to come with a 10 year warranty. Manufacturers are now beginning to increase the length of warranties. This benefit to the consumer allows manufacturers to better compete with each other as well as micro-inverter companies that offer 25 year warranties on new models.

For those looking for a smaller system, micro-inverters offer a cost effective solution. A micro-inverter is mounted directly below each module and converts the DC power to AC on the roof. This “plug and play” technology makes installation easier and faster while forcing others in the market to evolve.

Although some state rebates have dramatically fallen in places like California, the 30% federal tax credit is still available through 2016. Hopefully this will be extended. For those interested in a solar system, now is definitely a good time to consider having one installed.

How do I know if I'm getting a good deal?

The best way to compare solar quotes is apples to apples, essentially cost per watt or kilowatt (1 kilowatt = 1000 watts). Many states offer rebates. These states also have their own system of measuring realistic system output. Specifications on software based forms are a good way to compare systems.

They prevent bait and switch tactics. Once the form is filled out and submitted, field verification is required (in order to validate the rebates) to ensure that modules, inverters, tilt and azimuth are as stated by the installer. The installer is not allowed to substitute other major components at the last minute.

System warranty is another major factor to consider. In California, installers must warranty all system components and the roof for a minimum of 10 years, including labor.

For the DIY installer, a solar savvy, certified electrician should always determine the maximum system sizing based upon main load panel specifications. They can also assist with wire sizing, disconnects and other electrical interconnection components since they are familiar with the National Electric Code (NEC). They should be the one to do the final connections at the service panel. It's great to save money and learn about the system installed on your home. And safety should always be the most important thing considered for both you and your family.

2. LIMITLESS OF SOLAR POWER

Life without the sun is unimaginable. The sun gives life to this lonely planet in the midst of the universe. Aside from the natural light that it provides, the power of the sun can also be utilized to provide the masses with the electricity they need. Solar energy can be used to power anything that requires electricity. Your appliances, cellular phones, and even your cars, can all run by harnessing energy from the sun.

2.1. CONCENTRATING SOLAR POWER (CSP)

Concentrating Solar Power (CSP) is the method of focusing sunlight using mirrors, converting the energy of the sun into high-temperature heat, and channeling it through a

generator that will produce electricity. This process combines converting heat from solar energy collection with producing electricity from steam produced through the heat energy. There are several CSP plants within the United States that produce over 350 megawatts (MW) of energy. Many of them have been in operation for over 15 years.

2.2. PHOTOVOLTAIC (PV)

Photovoltaic (PV) is often referred to as light electricity. PV energy is created by converting the light energy of the sun into electricity using photovoltaic materials. A silicon photovoltaic cell is a common type of semi-conducting material used to convert the sun's energy. This material is often used in typical home applications. A surprising fact is this technology was first used in 1890. Unfortunately, it has taken many years to become popular.

For example, in 2007, when the Nellis Solar Power System opened its 14 MW solar power plant, it was the largest in North America. Since then, the DeSoto Next Generation Solar Energy Center in Florida has surpassed capacity producing 25 MW. As solar continues to increase in popularity, new projects are underway. Targeted to open in 2011, the Rockford Solar Project in Illinois is projected to produce 62 MW, enough energy to power more than 10,000 homes and reduce carbon dioxide emissions by over 100,000 tons a year.

2.3. SOLAR HEATING

Solar heating systems are another way of utilizing the sun's power. The system uses a solar collector facing the sun, which absorbs the sun's energy. This collector then heats water directly. The system can also be used for water heating in homes and other buildings.

Although solar heating systems only act as a supplement to existing water heating systems powered by gas or electricity, they can account for about 80% of home water-heating needs.

2.4. ADVANTAGES

Being a renewable energy source is just one of the many benefits of solar power. Increased utilization of solar energy will help to reduce the use of fossil fuels. Since fossil fuels are diminishing non-renewable resources, their conservation is imperative. Large scale solar energy implementation will help to reduce air pollution created by other energy sources. Solar power will also help to lower utility bills over the entire lifecycle of the panels. In many cases these panels carry a 25 year warranty.

Bear in mind the installation of a solar energy system is a fixed cost, unlike the volatile cost of energy. Let's face it how often do we hear about rate decreases. Moreover, as more consumers implement solar the overall cost to purchase will decrease.

3. TECHNOLOGY-BASED "GREEN INNOVATION" ENTREPRENEURSHIP FOR REGIONAL DEVELOPMENT

This is an important phenomenon in term of regional growth which involves new technology-based firms (NTBFs), spin-off processes, R&D and technology development in green energy with solar photovoltaic panels.

With the regional perspective the requirement by businesses to source technology and innovation causes firms to join innovation in green energy.

Very often "high-tech" clusters will be created and these are important for NTBFs and can be influenced by the changing of methods to make innovation in green energy producing.

University spin-off companies will enhance learning processes and knowledge development through managerial and technological expertise being transferred within a region for a new development by using new methods in solar energy.

Both human and technological resources will be required if technology-based enterprises are to become successful in producing "*green innovation*".

Part of local interaction involves mobility and recruitment, know-how and technological expertise and the diffusion of technological competences for collective learning between businesses and universities which have a crucial role for renewal of regional technology in the way of green energy producer.

Buildings represent a large percentage of all the energy consumed in the world.

That's why increasing the energy efficiency of buildings, especially existing ones, has become a major priority for many cities throughout the countries. In addition to enhancing overall quality of life, transforming commercial and industrial properties combats climate change and fosters innovation that ultimately strengthens our economy.

This push for high-performance buildings has created a market ripe with innovations in building technology. Building technologies such as high-efficiency replacement motors, variable frequency drives (VFDs), lighting and controls for heating and cooling equipment are rapidly improving.

As these technologies continue to advance at an enormous pace, so must our approach to keeping building systems optimized and efficient. Keeping abreast of building technology has become much like staying on top of a business' IT infrastructure. We don't wait 10 years to upgrade computers because the technology improves at exponential rates. The same concept applies to building systems today. The longer a business waits to upgrade, the more that business ends up paying down the road.

The good news is that capital costs for energy-efficiency upgrades are declining and incentives are available to help businesses make smart investments in energy efficiency. In New York City and Westchester County, for example, commercial and industrial customers with a Con Edison electric or natural gas account may be eligible for the following incentives from Con Edison's Commercial and Industrial Energy Efficiency Program:

- Payment of up to 50% of costs, with a cap of \$67,000, for a Level 3 energy audit
- Rebates for high-efficiency electric and gas equipment including lighting fixtures and LED exit signs, packaged heating, ventilation and air-conditioning systems, motors, chillers, and water and steam boilers
- Performance-based custom incentives for installing high-efficiency equipment or energy-saving solutions not eligible for equipment rebates

3.1. INTRODUCTION TO LEED

It is actually an acronym for Leadership in Energy and Environmental Design, which is an internationally recognized green building certification system. Green buildings refer to structures that have eco-friendly materials and designs. Old buildings, if not updated,

consume huge amounts of energy and water resources. According to the U.S. Environmental Protection Agency (EPA), reducing the rate of consumption of these buildings is vital for future sustainability.

In the mid-1990's, the U.S. Green Building Council (USBGC) developed the *LEED* certification program which aims to provide the building developers and owners particular guidelines on sustainable construction methods, eco-friendly designs, and the use of green materials in building and construction. The USGBC is a non-profit organization that promotes the development of environmentally friendly buildings.

3.2. WHAT DOES LEED DO?

The green building concept does not refer only to the aesthetics of the structure, but also includes its ability to conserve available resources in an efficient manner. In fact, it also includes various methods and techniques used in constructing the building. It makes use of available renewable resources like sunlight to illuminate areas within by reflecting natural light inside. Another example is constructing overhangs at a proper length. This allows the sun's warmth through windows in the winter and shading of the windows in the summer when the sun is high.

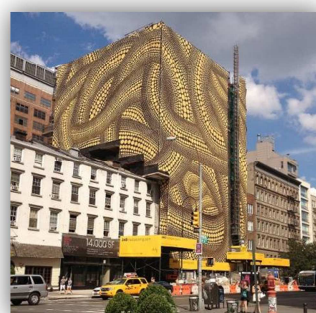
In order to gain a *LEED* certification, a construction project should be committed to the *LEED* process early in the planning stages. It must be verified during construction as well as after construction is complete. *LEED* certified buildings enjoy a host of benefits by way of government incentives, which will further boost the appeal of the building.

The *LEED* certification is issued by the Green Building Certification Institute (GBCI) once application, review, and satisfactory compliance are verified. To ensure that a building project adheres to *LEED* standards, most developers hire the services of *LEED* accredited professionals. They can provide essential insights on how to meet a building project's environmental goals.

3.3. HOW CAN LEED HELP YOU?

Living in an eco friendly home can greatly improve your health and enhance your living comfort. Studies have shown that occupants of *LEED* certified buildings are less likely to develop respiratory ailments compared to those who live in older and non-*LEED* certified buildings. This means that *LEED* certified buildings can even bring you financial benefits in the long run by averting possible medical expenses brought about by an unhealthy environment.

Examples for how it should look like this project with solar panels placed on the face of the building:



REFERENCES

- (2010) Intro - What LEED Is. Retrieved August 27, 2010.
- (2010) A Case Study Of the Kansas City Science & Technology Center. Retrieved August 27, 2010.
- (2010) Leadership in Energy & Environmental Design (LEED) Rating System. Retrieved August 27, 2010.
- (2010) LEED Certification Information. Retrieved August 27, 2010.
- (2010) Building Certification. Retrieved August 27, 2010.
- (2010) Green Building Rating System. Retrieved August 27, 2010.

HISTORICAL DEVELOPMENT THEORY OF THE SISTEM

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Abstract: Even in the earliest moments of human kind man has realized that its infestation is kind of system that behaves in accordance with certain natural laws. The sistem like this is requestig management. The earliest forms of management of simple systems are are created accordingly. Theory of the systems is actually a theory of model through which is possible to form a virtual reality in which significantly fits reality. More over it is possible to examine the behavior of the system before making the fateful management decisions. The science of systems through a general idea of the system structure and management systems effectively provides a methodology for the calculation of various systems, regardless of their specific physical nature and behavior. That is one reason why, from the very beginning, systems theory, which treats the structure and cybernetics and the theory of management, developed a scientific discipline in the completeness and custom predestined to include and affect all courses in economics, marketing, management, organizations, politics, sociology and many other fields. In this paper, the historical development of the science and the first application of its principles in a simple systems toward the emergence of a complex scientific disciplines whose theoretical and methodological foundations used for research, study and creation of complex systems are presented.

Keywords: Historical development, systems theory, modeling of complex systems, steering systems

ISTORIJSKI RAZVOJ TEORIJE SISTEMA

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Apstrakt: Još u najranijim momentima ljudske vrste čovek je shvatio da je njegovo okuženje svojevrstan sistem koji se ponaša u skladu sa izvesnim prirodnim zakonitostima. Kao takav, sistem je zahtevao upravljanje. Tako su nastale najranije forme upravljanja jednostavnim sistemima.

Teorija sistema zapravo je teorija modela preko kojih je moguće formirati virtuelnu stvarnost koja u značajnoj meri odgovara realnosti. Preko nje je moguće ispitivati ponašanje sistema pre donošenja sudbonosnih upravljačkih odluka.

Ova nauka o sistemima kroz opštu zamisao strukture sistema i upravljanja sistemima pruža delotvornu metodologiju za proračun različitih sistema, bez obzira na njihovu posebnu fizičku prirodu i način ponašanja. To je jedan od razloga zbog čega su se, već od samog početka, teorija sistema koja tretira strukturu, i kibernetika koja tretira teoriju upravljanja, razvile u celovitu naučnu disciplinu prilagođenu i predodređenu da se uključuju i utiču na

sve kurseve iz ekonomije, marketinga, menadžmenta, organizacije, politike, sociologije i brojnih drugih oblasti.

U ovom radu prikazan je istorijski razvoj ove nauke od prvih primena njenih zakonitosti na jednostavnim sistemima do izrastanja u jednu složenu naučnu disciplinu čije se teorijske i metodološke osnove koriste za istraživanje, izučavanje i stvaranje kompleksnih sistema.

Ključne reči: Istorijski razvoj, Teorija sistema, modelovanje složenih sistemi, upravljanje sistemima

1. UVOD

Svrha i cilj *Teorije sistema* je pronalaženje metoda, pristupa i načina, pomoću kojih se mogu sagledati i pojednostaviti i vrlo složene i komplikovane pojave, i time učiniti dostupnim naučnom posmatranju i praktičnom rešavanju. Jedan od glavnih zadataka Teorije sistema je pronalaženje sistemskih metoda pomoću kojih će se i najsloženiji problemi moći pojednostaviti i učiniti dostupnim organizovanom istraživanju i rešavanju.

Sistem je relativno odvojeni skup međusobno povezanih pojava koji se ponaša prema nekim svojim zakonima.

Čovečanstvo je kroz čitavu istoriju pokušavalo da upravlja svetom u kojem živi. Prvenstveno je te pokušaje usmeravalo ka promenama sopstvenom okruženja. Ponekad su te promene bile male i gotovo zanemarljive, dok su u pojedinim momentima te promene bile radikalno velike i sa sobom nosile revolucionarne izmene u funkcionisanju celokupne ljudske zajednice. Od najranijih dana svoje istorije čovek je shvatio da njegova fizička snaga nije velika u odnosu na svet oko njega. Jedini način koji je ljudskom biću omogućavao bezbednost i opstanak bio je u upotrebi mudrosti i lukavstva. Najveća, u odnosu na sva ostala živa bića na Zemlji, bila je njegova lična ali i kolektivna inteligencija. I jedna i druga se kroz evoluciju ljudske vrste uvećavala. Prva (lična-individualna) je rasla kao posledica razvoja i uređenja ljudskih društvenih sistema a druga (kolektivna) je rasla kao posledica tehnološkog razvoja i sve veće sprege ljudskih bića kao kolektiva (tzv. sinergetski efekat). [1]

2. PRVA NAUČNA MISAO

Naučna misao se razvijala zasnovano na *Dekartovim* „naučnim metodama“ i razvijala se

prema dvema povezanim pretpostavkama. Prva je da se sistem može dekomponovati na pojedine komponente tako da se svaka komponenta može analizirati kao nezavisna celina, dok je druga pretpostavka da se komponente mogu linearno dodavati da bi se opisala ukupnost sistema.[1]

Dekart bio duboko nezadovoljan znanjima koja je primio kroz sholastičku filozofiju. Zbog toga je došao na ideju da sva njemu poznata znanja podvrgne sistematskoj (metodičkoj) sumnji, ne bi li možda tako našao nešto u šta se ne može sumnjati. *U potrazi za primerom sigurne istine, Dekart se, dakle, pita: Šta se dešava ako posumnjam u ono što sam naučio od drugih, i u ono što mi kazuju čula, pa čak i u matematičke istine – šta ostaje kao istina u koju se ne može sumnjati? Odgovor je bio da čak iako sumnjam u sve, ne*

mogu sumnjati da postojim ja koji sumnjam. Ovu istinu on je izrazio u čuvenom stavu: Mislim, dakle jesam (na latinskom: Cogito ergo sum). [5]

Tako on ustanovljava četiri pravila metode kojih se treba pridržavati u nauci:

1. Treba prihvatati samo one istine koje saznajemo potpuno jasno i razgovetno.
2. Složenije probleme treba razložiti na jednostavne i lakše shvatljive delove.
3. Ono što ostane neobjašnjeno treba objasniti pomoću ovih prostijih stvari.
4. Na kraju treba još jednom preći ceo proces, da bi se izbegle moguće greške.

Još u najranijim momentima ljudske vrste čovek je shvatio da je njegovo okuženje svojevrsan sistem koji se ponaša u skladu sa izvesnim prirodnim zakonitostima. Kao takav, sistem je zahtevao upravljanje.[1]

2.1. ČOVEK KAMENOG DOBA

Čovek kamenog doba je razvio alate i oružja od kamena, drveta i kostiju životinja. Izradom prvih primitivnih alata i oruđa , ljudi su u prvobitnim društvenim formacijama poboljšavali uslove života ali su se povećavale i opasnosti kojima je čovek zbog te upotrebe bio izložen .

Takođe je otkrio da može naučiti životinje da slušaju njegove naredbe. Tako su nastale najranije forme upravljanja jednostavnim sistemima. Potom je čovek *spoznao metale* i načine za njihovu ekstrakciju, kao i mogućnosti njihove primene. Zatim su uvedene zaprege kao svojevrsna sprega transportnog sredstva i životinja, kojima je upravljao čovek. Ipak, prošlo je puno vremena pre no što je čovek naučio da životinje zameni mašinama.[1]

Razvoj društva je počeo uvodjenjem mašine.

To je bila najave industrijske revolucije. I već tada su se javili problemi vezani za upravljanje tim masinama. Problem sa kojim su se suočili rukovodioci mašina tog vremena bio je kako upravljati brzinom obrtaja mašine bez stalnog prisustva čoveka. Bili su učinjeni brojni pokušaji u pravcu

rešenja ovog problema. Najuspešniji postupak bio je upravljanje kupastog klatna, čiji je ugao nagnjanja bio funkcija (nelinearna) od ugaone brzine osovine. Ovaj princip iskoristio je Džems Vat (*James Watt*) 1769 godine prilikom konstrukcije centrifugalnog regulatora brzine. Ovo se ujedno i smatra **prvim sistemom za automatsko upravljanje masinom**.

▪*Džems Vat* nije posvetio mnogo vremena analizi ove tehnoloske inovacije ali je primetio da se masina ponasa neprihvatljivo pod određenim uslovima. To se manifestovalo u oscilaciji brzine osovine oko određene željene vrednosti i nedovoljna preciznost u regulaciji brzine obrtaja. Eliminacija oscilacija, ili kako je mnogo šire poznato, nestabilnosti, važan aspekt projektovanja svih sistema upravljanja.

▪*Maksvel (Maxwell)*, je u radu objavljenom 1868, obisao ponašanje centrifugalnog regulatora sistemom diferencijalnih jednačina. Potom je linearizovao ovaj model u okolini ravnotežnog stanja i pokazao da stabilnost sistema zavisi od toga da li koreni karakteristične jednačine imaju negativne realne delove. Ovo je bio i temelj naučnom razmatranju stabilnosti sistema.

Osnovni matematički okvir za teorijsku analizu razvili su *Laplas (Laplace, 1749-1827)* i *Furije (Fourier, 1748 – 1830)*.

3. OPŠTA TEORIJA SISTEMA

Opštu teoriju sistema prvi je kao naučnu disciplinu predložio

1956. godine u SAD Bertalanffy osniva naučno društvo

▪ Society for General Systems Research (SGSR) -(Društvo za opštu teoriju sistema) sa suosnivačima:

- Keneth Boulding (ekonomista)
- Anatole Rappaport (biomatematičar)
- Richard Gerard (psiholog)

Smatra se da je osnivanjem tog Društva zapravo osnovana Teorija sistema kao naučna disciplina. ▪ *Američki biolog Ludwig von Bertalanffy - 1937.*

Bertalanffy je tada pod pojmom “sistem” podrazumevao ono što se podrazumeva pod pojmom funkcionalna celina, a sama ideja nije imala posebnog odjeka. Po Bertalanffy-ju zamišljena i osnovana Teorija sistema najčešće se naziva Opšta teorija sistema (General System Theory) ili Teorija otvorenih sistema (za razliku od Kibernetike koju nazivaju Teorijom zatvorenih sistema)

Prve njegove publikacije iz opšte teorije sistema javljaju se sa pojavom radova Noberta Vinera iz oblasti kibernetike . Tumačenje povratne sprege kao princip veze i regulacije koji je zajednički za mašine , čoveka i žive organizme , tj. za tehnočke , biološke i društvene sisteme , poslužio je kao osnova za naučno proučavanje u oblasti upravljanja . Saznanjem da je sistem regulacije u principu istovetan kod svih sistema dovodi do toga da se formira nova naučna oblast koju je Vener nazvao kibernetika ili regulacija i komuniciranje u živom organizmu i mašini . Sistematski pristup predstavlja opšti metodološki pravac u cilju analize i razrade specifičnih metodoloških pristupa teoriskog realizovanja i saznanja o celinama objekta kao sistema . Opšta teorija sistema proistekla je iz potrebe razvoja posebnih naučnih disciplina kao što su : kibernetika , teorija informacija , teorija upravljanja , izgrađujući nov metodološki pristup u biologiji , ekonomiji i tehnici . U tim naukama prvi put se javljaju i definicije sistema , zato su neujednačene definicije pojma sistema . Postoji veliki broj definicija sistema . (2)

Pored **Opšte teorije sistema** razvili su se i drugi pogledi i pravci proučavanja i tumačenja sistemskih pojava i zakonitosti, od kojih je najznačajnija **Kibernetika**.

Osnivač kibernetike je Norbert Viner. On se posvetio teorijsko i eksperimentalnim istraživanjima, neposredno povezanim s teorijom automatskog upravljanja.

U to vreme Viner je shvatio opštost principa negativne povratne sprege kako za sisteme automatskog regulisanja tako i za žive organizme .

Kibernetika ne proučava izolovane sisteme već neki njihov skup , u koji uopšte govoreći, ulazi citava vasiona .Ovo nauka treba da uzme obzir, a ona i uzima u obzir, te raznovrsne veze koje se zakonito uspostavljaju među pojedinim delovima složenih sistema i određuju njihova svojstva , ponasanje, njihov razvoj, propast i obnavljanje .[4]

Dalji razvoj ove teorije učinio je *Kuhn* (1964). Prema njemu, sistemi mogu biti kontrolisani (kibernetiski) ili nekontrolisani. U kontrolisanim sistemi informacija je detektovana, i promene se javljaju kao efekat odgovora na tu informaciju. Kuhn ove funkcije sistema definiše kao *detektor*, *selektor* i *efektor*. Detektor se bavi komunikacijom informacija između sistema. Selektor se definiše pravilima koja sistem koristi kod donošenja odluka, a efektor su sredstva kojima se vrše transakcije između sistema. *Komunikacija* i *transakcija* su jedine moguće međusistemske interakcije. Komunikacija je razmena informacija, dok transakcija uključuje razmenu materije-energije. Sve organizacione i socijalne interakcije uključuju komunikaciju i/ili transakciju. Kuhn-ov model ističe da je uloga odlučivanja u pomeranju sistema ka ravnotežnom stanju. Komunikacija i transakcija obezbeđuju prenosno sredstvo preko koga sistem dostiže ravnotežu.

Rad se pojavljuje kao uslov čovekove egzistencije. Ali rad čoveku omogućava da ne egzistira samo kao prirodno biće već kao ljudsko, prirodno biće, jer mu sa jedne strane obezbeđuje materijalnu i društvenu egzistenciju, a sa druge strane rad je oblik čovekove samorealizacije, njegova bit s obzirom da čovek kao element strukture različitih sistema proizvodi i izvan svojih materijalnih potreba i materijalne nužde koja je potrebna za očuvanje biološke egzistencije egzistenciji opstanka. Opstanak čoveka uslovljava stalne promene stanja i te promene čovek obavlja planski tj. prema predhodno utvrđenoj misaonoj konstrukciji željenog stanja i načina ostvarivanja tog željenog stanja. (2)

Teorija sistema je nauka tj. naučna disciplina, koja se bavi proučavanjem složenih pojava koje nazivamo sistemima. Teorija sistema i njen pristup u velikom broju slučajeva su vrlo uspešno sredstvo naučnog istraživanja i stručnog rešavanja problema, ali nisu univerzalno sredstvo za rešavanje svih mogućih problema. Teorija sistema je nastala iz potrebe pronalaženja takvih naučnih i praktičnih metoda pomoću kojih bi se na naučni način mogli rešavati i oni problemi kod kojih tradicionalne i uobičajene naučne metode razvijene u drugim naučnim područjima ne daju zadovoljavajuće rezultate.

Osnovni zadatak Teorije sistema je otkrivanje i definisanje u razumljivom obliku tzv. *Sistemskih zakonitosti*, tj. zakonitosti koje se javljaju u složenim pojavama koje nazivamo sistemima i primena tog saznanja u rešavanju naučnih i praktičnih problema. Poznavanje sistemskih zakona omogućuje da se projektuju bolji, savršeniji sistemi, odnosno da se postojeći sistemi usavrše.

4. DIVERGENTNA SHVATANJA TEORIJE SISTEMA

- teoriju sistema treba shvatiti kao jedan način posmatranja i razumevanja prirodnih i apstraktnih pojava, tj. kao jedan vid filozofije;
- treba je shvatiti kao praktičnu apstraktnu teoriju, tj. Kao skup naučnih postulata, metoda i postupaka za rešavanje naučnih i praktičnih problema.

Već na početku razvoja nauke pojedini naučnici su uočili da postoje tzv. *zakonitosti celina*, tj. Zakonitosti koje se ne mogu neposredno identifikovati kao zakonitosti delova koji čine celinu.

Količina informacija koju nam može dati posmatranje delova nije dovoljna da bismo shvatili i spoznali svojstva celine.

Primer slova i reči: - pomoću slova A, E, K, P i T može se napisati PETAK ili PAKET;

Primer reči i teksta: - popis reči i njihove učestalosti u nekom tekstu ne omogućava identifikaciju teksta kojem te reči pripadaju.(6)

Filozof Aristotel: “Celina je više od sume delova”

Kibernetika danas predstavlja opštu teoriju upravljanja, koja može da se primeni na svaki sistem. Pod sistemom se porazumeva sjedinjenje bilo kojih elemenata, koji se posmatraju kao skladna celina. Skladnu celinu čine elementi sjedinjeni u svetu koji nas okružuje, a koji je strogo posmatrajući jedini i sistem.

Izučavajući procese upravljanja u sistemima metodama kibernetike, čovek teži da upozna objektivne zakonitosti svojstvene procesima upravljanja i da ih iskoristi za poboljšanje prirodnih i stvaranje veštačkih sistema za upravljanje radi ostvarenja svojih ciljeva.

Svako upravljanje proizilazi iz informacije o izboru dejstva upravljanja, a sama dejstva upravljanja se formiraju na osnovu informacije koja se sadrži u komandama upravljanja.

5. CILJEVI I ZADACI KIBERNETIKE

Sušтина kibernetike je jedan novi pogled na komponente koje sačinjavaju okolinu koja nas okružuje. Klasična predstava o svemiru, da se sastoji iz materije i energije, morala je da ustupi mesto predstavi o svetu sastavljenom iz tri komponente: energije, materije i informacije. [4]

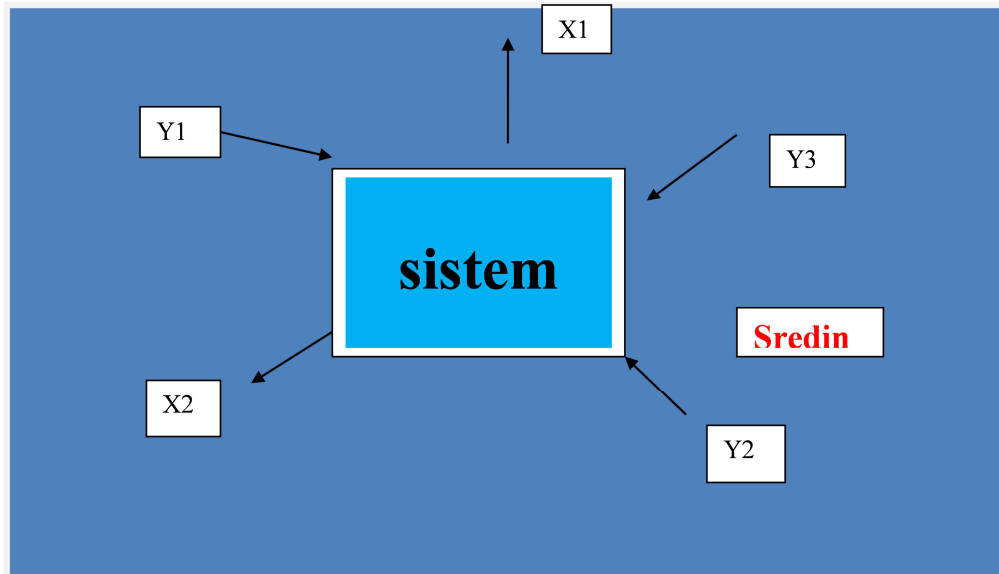
Bez informacije organizovani sistemi nisu mogući, a živi organizmi koje opažamo u prirodi i sistemi upravljanja koje je stvorio čovek predstavlja organizovane sisteme. Jedna od osobina kibernetike je da ona ne proučava sistem u statičkom stanju, već u njihovom kretanju i razvoju.

Karakteristična osobina upravljanog sistema je sposobnost da menja svoje kretanje, da prelazi u različita stanja pod uticajem raznih dejstava.

Uvek postoji mnoštvo kretanja iz koga se vrši izbor kretanja koje se daje prednost, a ako se govori o upravljanom sistemu.

Gde nema izbora tamo nema i ne može biti upravljanja. [4]

Na slici 1. Šematski je prikazan sistem u vidu nekog dela prostora u kome su usredsređeni svi njegovi elementi i veze sistema sa okolnom sredinom. Strelice na linijama, koje prikazuju veze, ukazuju na smerove u kojima se prenose dejstva. Sa X su označena dejstva sistema na sredinu, a sa Y dejstva sredine na posmatrani sistem. [4]



Slika 1. Sistem I sredina : Y –ulazna dejstva, X-izlazna dejstva [4]

6. SISTEM DUBOKOG ZNANJA

W. Edwards Deming je opisao novi način upravljanja i u svojoj knjizi on opisuje Sistem dubokog znanja –znanja neophodnog za prelazak na novi način upravljanja.

Sistem dubokog znanja je teorija za transformaciju. Integralan deo sistema dubokog znanja jeste shvatanje i uvažavanje sistema. Kada pojedinac shvati sistem dubokog znanja primenjivaće njegove principe u svakoj vrsti odnosa i veza sa drugim ljudima Imace osnovu za prosuđivanje spostvenih odluka i za transformaciju organizacija kojima pripada .Sklop dubokog znanja javlja se u 4 dela koja su u medjusobnoj vezi i odnosu. To su:

- *uvažavanje sistema*
- *znanje u vezi sa variranjem i varijacijama..*
- *teorija znanja*
- *psihologija*

Što je snažnija medjuzavisnost komponenata, veća će i biti potreba za komunikacijom i saradnjom izmedju njih. Takodje će biti snažnija i potreba za sveukupnim upravljanjem, rukovodjenjem.

• **Život je varijacija** –varijacije će uvek postojati i izmedju ljudi i u uslugama u bilo kojoj vrsti sistema. Neki proces može biti pod statičkom kontrolom a neki ne. U stanju statičke kontrole , varijacije koje treba očekivati u budućosti su predskazive. Ukoliko proces nije stabilan, onda je nestabilan. Upravljanje ljudima se u potpunosti razlikuje i ta dva stanja. Ne razumevanje ova dva stanja dovodi do propasti.

• **Teorija znanja** nam pomaže da razumemo da je rukovodjenje u bilo kom obliku ustvari predvidjanje. Racionalno predvidjanje zahteva teoriju a gradi znanje kroz sistematsko revidiranje i proširivanje teorije zasnovano na poredjenju predvidjenog sa opaženim.

Informacije nisu znanje

Informacije, svedjedno koliko su potpune i brze, nisu znanje. Znanje se širi u vremenu. Znanje potiče iz teorije. Besmisleni rezultati i gubici mogu da proisteknu iz uzastpne primene nasumičnih poriva ili nasumce sprovedenih promena koje mogu biti nevažne pojedinačno, same po sebi.[3]

Proširivanjem neke komisije ne dolazi se obavezno do boljih rezultata.

Psihologija nam pomaže da shvatimo ljude, dejstva i uticaje izmedju ljudi i okolnosti, medjudejstva i uticaje koji vladaju izmedju potrošača i dobavljača, odnose izmedju nekog menadzera i njegovih ljudi i bilo kom sistemu rukovodjenja.

7. ZAKLJUČAK

Pod sistemom se danas podrazumeva veliki broj pojava i fenomena koji se ispoljavaju u društvu ,privredi, tehnologiji i d r. u tom smislu govori se o drustvenim, ekonomskim, politickim, upravljackim, informacionim, biloškim, filozofskim I drugim sistemima. Sama nauka nije nista drugo nego jedna Celina znanja, u kojoj su utvrdjeni principi i činjenice, stvoren kompleks ideja i zakona koji čine nesumljivo koherentnu celinu. Reč sistem je najčešće usko povezana sa pojmom reda ili poretka, tj. nečega u čemu vlada nekakav red i neka sistematičnost. Pojam sistem je vrlo usko povezan sa pojmom ustrojstva ili organizacije.

Sistem je mreža povezanih i zavisnih komponenata koji rade u sprezi u nastojaju da ostvare cilj sistema. Sistem mora da ima cilj, svrhu. Bez svrhe – nema sistema. Upravljanje sistemom zahteva poznavanje medjusobnih veza i odnosa izmedju svih komponenata u sistemu, kao i ljudi koji u njemu funkcionišu. Posao rukovodstvene strukture je jasan – ostvariti rezultate koji su za svakog najbolji i tako su svi na dobitku.[3]

Vreme će donositi promene kojima mora da se upravlja i koje moraju da se predvidjaju što je moguće pre i što daljim sagledavanjem. Rast sistema po veličini i složenosti. Kao i promene koje vremenom nastaju u spoljasnjim silama i uticajima traže sveukupno upravljanje nastojanjima i naporima komponenata. Za upravljanje sistemom potrebna je i imaginacija, maštovitost.

Pripreme za budućnost podrazumevaju da ljudi nikada ne prestaju da uče. To učenje uključuje stalno posmatranje okruženja (tehničkog, društvenog, ekonomskog) kako bi se osetila potreba za inovacijom ili inoviranjem metoda. Jedan važan posao rukovodstva je da prepozna i uvaži medjuzavisnost koja vlada medju komponentama i da njom upravlja.

REFERENCE

1. Osnove teorije sistema, Dr Ivan Mihajlovic, Djordje Nikolic, Dr Aca Jovanovic, Bor 2009.g.

2. Osnovi organizacije preduzeća, Dr Živko K.Kostić, 1990, savremena administracija, Beograd.
3. Nova ekonomska nauka, W.Edwards Deming, Beograd 1996.
4. Principi kibernetike, A.J. Lerner ,Beograd 1975.
5. (<http://kif.filozofijainfo.com/rene-dekart/>)

APPLICATION OF PROMETHEE GDSS MODEL ON THE EXAMPLE OF A SWOT ANALYSIS OF THE TECHNICAL FACULTY IN BOR

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Abstract: Specific objectives of the management structure of the Faculty serve as a basis for decision-making, as a guide to increase the overall efficiency of the work process as a basis for assessing the performance of the work process. We present a system for group decision making (GDSS) for SWOT analysis at the Faculty. The proposed system decomposes the process of selection of elements of SWOT analysis in multiple steps. The system combines the strengths, weaknesses, opportunities and threats with PROMETHEE and GAIA methodology. The reason for the application to process the results lies in the particular advantage of this method compared to other " outranking " methods , which are reflected in the way of structuring the problem , the amount of data to be processed , the possibilities of quantifying qualitative size, good software support and presentation of the results obtained through GAIA plane.

Keywords: SWOT analysis, MCA, PROMETHEE GDSS, GAIA plane.

THE STRATEGY OF MARKET DEVELOPMENT OF VIRTUAL ENTERPRISE FOR SELLING CHILDREN'S EQUIPMENT

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Abstract: Through the application of modern strategic options, the virtual company aims to develop its business in existing markets and win new markets that will enable the company to achieve additional value and develop their business. The trading company whose core business is selling children's equipment is performing the research of the market opportunities using SWOT and BPEST analysis, and for making the ultimate decisions it is using multi-criteria decision-making tool.

Keywords: Strategy, Market, SWOT, BPEST, Multi-criteria decision-making tool

APPLICATION OF MONTE CARLO SIMULATION MODEL FOR PRODUCT ASSEMBLEMENT

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Abstract: In the world there are many problems and systems whose operation can not be solved by analytic methods, so the simulation was introduced as a logical method that can simulate the operation of the system and point out the shortcomings. One of the most used approaches to simulation is Monte Carlo simulation, because it is used for a stochastic processes which are difficult to analyse with other methods. The goal of this paper is to demonstrate the application of Monte Carlo simulations on a complex model. The paper consists of two parts. The first part gives a theoretical background of simulation and simulation models, and the second part presents the practical application of the Monte Carlo simulation model for assembly of product parts.

Keywords: Monte Carlo simulations, models, system, experiment.

UTICAJ INFORMACIONO-KOMUNIKACIONE TEHNOLOGIJE NA ALOKACIJU PRAVA ZA DONOŠENJE ODLUKA: ERA VELIKIH PODATAKA

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Apstrakt: Ključno pitanje sa kojim se suočava menadžment organizacija jeste centralizovati ili decentralizovati prava za donošenja odluka. Menadžment organizacija, prilikom određivanja optimalne alokacije prava za donošenje odluka, biva suočen sa izazovom da li prava za donošenje odluka treba da budu koncentrisana na vrhu i rezervisana za top menadžment ili trebaju biti decentralizovana na menadžere nižih organizacionih delova. Ovo pitanje još više dobija na svome značaju u eri velikih podataka koju karakteriše ogromna količina raznovrsnih izvora podataka koji mogu biti izvor konkurentske prednosti ukoliko se iskoriste na pravi način.

Cilj ovog rada bio je da ukaže da li primena informaciono-komunikacionih tehnologija u organizaciji uzrokuje centralizaciju ili decentralizaciju prava za donošenja odluka i da identifikuje izazove koje pred menadžment organizacija stavlja era velikih podataka u procesu donošenja odluka.

Kao zaključak se nametnula činjenica da informaciono-komunikaciona tehnologija svim svojim karakteristikama i potencijalnim prednostima deluje dvojako na alokaciju prava za donošenje odluka. Sa jedne strane, IKT omogućava decentralizaciju jer pruža pristup informacijama i podacima svim organizacionim nivoima i delovima, obezbeđuje da svi

budu upoznati sa pravilima i procedurama organizacije, ali i osigurava da donosioci odluka budu pod kontrolom i konstantnim nadgledanjem od strane nadređenih, usled čega se stvaraju uslovi za donošenje odluka koje su u interesu cele organizacije. Sa druge strane, IKT može podstaći i centralizaciju jer top menadžment ima na raspolaganju sve neophodne informacije u realnom vremenu što je ključni input za proces donošenja odluka, posebno u slučaju kada postoji nepoverenje u podređene i briga da donete odluke neće biti u interesu cele organizacije.

Odluke o alokaciji prava za donošenje odluka donose se ne samo na osnovu raspoloživosti informacija, već i na osnovu znanja zaposlenih, posebno u eri velikih podataka kada dolazi do izražaja značaj zaposlenih koji poseduju posebna znanja i veštine, koji su u stručnim krugovima poznati kao istraživači podataka.

Ključne reči: informaciono-komunikaciona tehnologija, alokacija prava za donošenje odluka, centralizacija, decentralizacija, era velikih podataka.

METODE KOMUNIKACIJE INFORMACIONO KOMUNIKACIONIH TEHNOLOGIJA U VISOKOOBRAZOVNIM INSTITUCIJAMA

Vladimir Aleksić, Dragana Trifunovic, Mirjana Tankosic

Apstrakt: Razvoj visokoobrazovnih institucija prate nove metode komunikacije pod uticajem informaciono komunikacionih tehnologija. Da bi se uspostavio efikasan sistem savremenog obrazovanja, potrebno je razviti sofisticirane metode komunikacije. Informaciono komunikacione tehnologije nude poboljšanje mogućnosti umrežavanja, stvaraju uslove za nove ambijente za učenje i nude nove platforme za distribuciju znanja to doprinosi boljem imidžu visokoobrazovnih ustanova. Autori rada će prikazati i promene koje su sprovedene u visokoobrazovnim institucijama u poslednjih nekoliko godina nastale pod uticajem novih informaciono komunikacionih tehnologija i inovacija.

Ključne reči: komunikacija, inovacije, visokoobrazovne institucije, informaciono komunikacione tehnologije, imidž

KORIŠĆENJE SIMULACIONOG MODELA ZA OPTIMIZACIJU RADA HITNE SLUŽBE, STUDIJA SLUČAJA: SLUŽBA HITNE MEDICINSKE POMOĆI U BORU

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Apstrakt: U okviru ovog rada snimljen je proces rada Službe hitne medicinske pomoći u Boru po SIPOK modelu i formirana karta procesa rada. Na osnovu prikupljenih podataka primenjene su metode vremenske serije sa ciljem da se utvrdi trend broja intervencija

Službe hitne medicinske pomoći. Takođe identifikovana je značajna statistička razlika u vremenima reakcije i vremenima prehospitalne intervencije za razmatrani vremenski period u radu u odnosu na prethodne periode.

U drugom delu istraživanja razvijen je simulacioni model sistema Službe hitne medicinske pomoći u Boru u cilju analize i optimizacije svih procesa pružanja hitne medicinske pomoći sa ciljem da se da doprinos u unapređenju pružanja usluga.

Ključne reči: Hitna služba, vremenske serije, simulacija, simulacioni model

THE SPIN OFF AND THE OPPORTUNITIES FOR UNIVERSITIES IN CREATING SPIN OFFS

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Abstract: Spin off is becoming quite a common way for enterprising. Most of the Universities have some kind of cooperation with enterprises, companies up to these times. However students' quality works and intellectual resources and the existing, great knowledge of Institutions incorporate greater possibilities to be utilized, exploit. In this study I focus mainly on how to capitalize further and more efficient the student work and furthermore thinking in creating such a companies linked to the Institutes which aren't based on high cost researches but simply serves economic reasons or provides prestige.

Keywords: Spin off, entrepreneurship

In the recent decades, the technology transfer activity of universities, and also the roles of university spin-off companies have increased all around the world. Certain types of cooperation with corporations are found at most universities, and during such cooperation, efforts are taken to share the technological developments and research results generated at the university with the market, and to introduce them thereto.

Technology companies originating from universities may significantly contribute to local economic development. They produce products and services with high added value, create quality jobs, contribute to regional economic growth, have a favourable effect on competitiveness and strengthen the region's innovative system. The introduced innovations can revolutionise a whole industry or sector. Also, these companies create value for the university as well, since they increase the prestige and improve the image of the university, and also provide significant additional research resources.

The economic role of spin-off companies:

Massachusetts Institute of Technology / Stanford

4000 companies, a revenue of 232 billion dollars

1 million jobs

18% are companies on the stock exchange

Hungary, estimate

150 university spin-offs

A revenue of 10 billion forints (45 million dollars)

Although international sources have an increasing number of articles on spin-off companies, the definition is quite widely construed, as there is no established, generally accepted definition yet. Under the term, we usually mean new, knowledge-intensive companies with a high level of technology, which have intellectual capital that originates from a university or a public research institute in some form.

According to Pirnay et al., a phenomenon shall be considered a "spin-off" in case it meets all of the following three criteria:

- it is performed within an already existing organisation (a parent organisation),
- the participating persons have certain positions within the parent organisation,
- and they leave the parent organisation in order to create a new entity.

There is a certain common element in the wide range of definitions: the result of the spin-off process is a profit-oriented company. In addition to this, three central elements shall be clearly defined regarding university spin-off companies:

1. the participants involved in the process
2. the basic elements transferred during the process
3. the relationship with the parent institution

Some definitions exclusively accept researchers as subjects of the process, while less restrictive definitions also list the university's research and educational faculty, and also other employees and students of the university as possible founders. With regard to the resources, intangible assets provided to the new undertaking, the importance of technology is most frequently highlighted (Djokovic-Souirais), but wider definitions also include the technical and other types of scientific know-how accumulated during the university work of the founder.

Based on some definitions of university spin-off found in the studies of the field (Clarysse-Morey; Shane; Nicolau-Birley; Rasmussen) it is clear that a wider interpretation exists, which claims that a spin-off is a new company, founded partially or entirely by lecturers, researchers, employees or students of a university, which exploits any type of knowledge generated at the university, regardless of the relationship of the company and the parent organisation, or whether the founders leave the parent organisation. According to the more restrictive interpretation, the company is partially or entirely founded by researchers in a legal relationship with the university. It exploits technology created at the university, falling under the scope of intellectual property.

Utilising the scattered empirical evidences, let us see the four main types of university spin-offs.

Table 1. The main features of the 4 types of spin-off companies

	Academic, product-oriented spin-off	Academic, service-oriented spin-off	Students', product-oriented spin-off	Students', service-oriented spin-off
Type of the involved knowledge	Codified and implicit	Implicit only	Codified and implicit	Implicit only
Type of activity	Industrial technology	Consultancy-type	Technological	Services-type
Expected rate of growth	High	Low (niche market)	Medium-High	Low (niche market)
The potential market	International	Local, national	National-International	Local
Innovator	Team of researchers	Individual	A team of researchers or students	Individual
Required financing	High	Low-Medium	Medium-High	Low-Medium

Source: Makrai Zs. Based on Pirnay et al. 2003

There are also numerous other methods to distinguish and categorise spin-off companies:

Based on Wright et al.:

- the relationship of the parent institution and the spin-off company
- distinction based on resources
- based on the business model

Further classifications:

- Spin-off companies financed by a venture capitalist
- Research spin-off companies
- Spin-off companies for the purpose of subsistence or, based on the role of the

support from the university, and the university's role in the establishment of the company

- Supported or not supported
- University, University-industry or start-up companies associated with the university

The number and endurance of spin-off companies can be considered an indicator of the industrial connections with science and the knowledge base. The spin-off companies established in the economic sector are specific indicators of how the network of public research institutions in a country can provide commercial value for the knowledge generated in their network, and also of how intensive the technological transfer is between the public and the private business sphere.

Ideas for establishing a spin-off company

This part of the study is practically an essay. I would like to emphasise that I have only recently started to research the topic and I have not performed in-depth analysis which would clearly support or negate the verity of my claims. I plan to verify my assumptions and their feasibility during my later research activities.

Obviously, not all Universities have a history of several hundred years and lecturers who are members of the Academy. However, such universities also provide valuable education and research, although they do not focus on disruptive technological developments. Such universities probably require other types of financing even more, since institutions with a higher prestige are more likely to be awarded government and other public tenders and grants. Unfortunately, higher education obviously lacks the spirit of entrepreneurship, and other types of non-governmental, EU funds are scarcely received by the institutions. The joint university-industry type undertakings (which are not required by the conditions of the funding) are also very rare.

In such cases, the importance of university spin-off companies increases, as well as the need to acquire any other type of extra funding. Naturally, the development of a spin-off company based on university research takes more time, and it very often proves unsuccessful. Such types of innovative small and medium enterprises typically do not exceed a staff number of 50, and remain in the vicinity of the university or the research facility.

In case of a market approach however, a university is an institution operating with several hundred/thousand students and dozens of lecturers. With just controlling student work and a certain degree of usage thereof, it is able to generate such partially and completely trained "workforce" that would take enormous costs for a corporation under classical market circumstances.

Obviously, students may only be considered workforce in case they specifically give their consent. And I am not referring to exploiting students' work. Work requires motivation and both the students and the teachers have to be happy to undertake the tasks.

Student participation in spin-off companies operating at universities (and mostly focusing on research-based activities) is very restricted and usually temporary. However, in case the university operates an undertaking that is able to use the works of students performed in accordance with the curriculum, and also the free-time of students, it will be able to gain several competitive advantages. It provides an advantage from the perspective of the competition among universities (since students are able to gain experience on top of

the courses, that is related indirectly or directly to their studies and also their perspective professions), which is - although not necessary - clearly an advantage over other graduates. (graduate unemployment)

In addition to student work, it also provides job opportunities to lecturers (if it succeeds). This would also decrease the academic distance of university lecturers from the market, and it would provide extra, surplus incomes.

In case such a spin-off company is successful, the results are shared by the university, the lecturer and also the students participating in the projects. A successful undertaking related to the university would also increase the prestige of the institution, and the advantages thereof are absolutely clear.

Remark

I plan to create a simulation that would present the operation of a company as a university spin-off under the current economic and legal conditions. Therefore, it will be important to examine the legal background, the legal opportunities of establishing a university company or participation as shareholder in a business association, with the related terms and conditions on the budget.

Basically, I would like to present two examples in my paper on what opportunities universities have for establishing companies. Neither is a typical spin-off company, as they are not based on a specific technological development or research. Although in both cases the know-how is provided, and the involvement of students or lecturers is also present, and the university is partially or entirely the owner of the company, and therefore I would categorise them as spin-off companies. Also, both ideas - and this is probably the most important - help and support the further establishment and operation of other spin-off companies based on research or licence.

I would primarily emphasise the generation and extension of relationships with the competitive market. During the operation of the companies, a strong economic network of companies can be established, which helps acquiring extra funding or the incorporation of joint corporation-university companies.

1. RECRUITMENT COMPANY

A medium size university in Hungary has approximately 4-5000 students. About two-third are full-time students. The Óbuda University has approximately 13 thousand students. The first thing to do for 2000 graduates a year is to visit recruitment companies. 2000 graduates a year face having no experience required for their desired job positions.

It seems to be trivial idea to establish a recruitment company for such a large, continuously increasing base of employees.

Know-how

An internal system could be created that provides access to the university works, examination results and participation in research programmes, in an assessment program, that could be uses by both the recruitment company and the graduate student during their job-seeking processes.

There several solutions to establishing the company:

- University-Industry joint venture: Association with an already existing human resources management company. The university is a shareholder and it is entitled to receive dividends. The operative tasks are performed by the existing employees of the company.
- A start-up related to and supported by the university: With graduate students, and lecturers or their supervision (if required), etc. The shares of shareholders can be customised as required. The costs of incorporation and the initial capital (or also the location) are provided by the university.

Advantages

Increased student activity; promotes the establishment of industrial, corporate and also commercial relationships; provides extra income to the universities and other participants; provides primary information on the job market and its expectations; and other related values.

2. ESTABLISHMENT OF AN ECONOMIC RESEARCH AND CONSULTANCY FIRM

In the previous example, the students were merely the objects of the undertaking. The participation of teachers was not necessary either. Let us examine a case in which both students and teachers can be employees of the spin-off company.

The company's primary activities would include economic and corporate consultancy, in areas the lecturers of the university are the most skilled and experiences, such as workforce extension, profile-change, business development, HR, etc. Obviously, I imagine establishing an industrial, technological consultancy firm on the same analogy. The competitive advantage is provided by students, in this case as well.

The major part of consultancy and research (professional work) would be performed by lecturers or leased workforce (at least initially). Students would be mostly involved in gathering secondary information.

Research and analysis of a greater magnitude requires a lot of collection and research work. Students would be able to help in achieving these. They would be provided a wage for their work, but only the typical wages for student work. The research would be a part of the curriculum of the faculty of business and economics. Therefore such research works can be closely related to the curriculum.

Type of spin-off:

- University-Industry joint venture: Association with an already existing consultancy firm. The university is a shareholder and it is entitled to receive dividends. The operative tasks are performed by the existing employees of the company. There is an overlap between lecturers and consultants.

Operation (this could be the know-how):

- The largest share of work (especially in case of research activities) would be performed by students. The collection of secondary type information can also be performed without the supervision of teachers. Students would also be involved in primary research, as volunteers and partially with the provision of a small remuneration.
- Initially, the teachers - or according to my vision - the only employee would be responsible for market relationships (to be elaborated: legal relationship, wages, etc.).
- The lecturers would be responsible for the organisation and professional compliance of the research activities.

The involvement of students in competitive work

Ideally, the students involved in the specific project would receive some type of remuneration, but we cannot promise that in the initial stages.

Before the company would prepare for actual business orders, the university would offer a speciality course (a research group, or defined otherwise) for students in their 4th-5th years of study (initially). Selection would be based on the average of grades and possibly also other professional, study-related tests.

The University shall select the students to participate in the research from this (continuously updated) range. Therefore, students would be enabled to gain real experiences during their university years, and they could also become eligible to work in the spin-off company. (Experience-career)

These are just two examples how Universities are able to create start-ups and entering to the market. I do believe creating a flagship company which can bring awareness and prestige to the parent institution would help in establishing other technology related spin-offs.

If there is no found, we have to create found! If there is not enough business relations we have to build it up. Somehow I found the motivation is the one missing...

REFERENCES:

Makrai Zs. (2012) Az egyetemi spin-off vállalkozások fogalma, létrejöttének folyamata és lehetséges kategorizálásai. IBS, Budapest

Makra Zs. (2009) A technológia-intenzív vállalkozások létrejötte, növekedése és gazdasági szerepe a szakirodalom tükrében. Közgazdasági Szemle,

Wright, M., Clarysse, B., Mustar, P., Lockett, A. (2007) Academic Entrepreneurship in Europe. Edward Elgar, Cheltenham

Rasmussen, E. (2006) Spin-off venture creation in a university context - An entrepreneurial process view. Bodo Graduate School of Business.

Pirnay, F., Surlemont, B. és Nlemvo, F. (2003) Toward a typology of university spinoffs. Small Business Economics,

Shane, S. A. (2004) Academic Entrepreneurship: University Spinoffs and Wealth Creation. Edward Elgar, Cheltenham.

Clarysse, B., Moray, N. (2004). A process study of entrepreneurial team formation: the case of a research-based spin-off. Journal of Business Venturing.

CONTENTS:

**INTERNATIONAL MAY CONFERENCE ON STRATEGIC MANAGEMENT -
IMKSM2014**

Plenary lectures

**INTERNATIONAL MANAGEMENT AND ENTREPRENEURSHIP: CASE OF
SLOVAK ENTERPRISES**

Ladislav Mura, Mária Igazová..... p1

**HUMAN RESOURCE MANAGEMENT AT THE LOCAL SUBSIDIARIES OF
MULTINATIONAL COMPANIES IN LIGHT OF TWO RESEARCH SURVEYS
IN CEE COUNTRIES**

József Poór, Katalin Szabó, Marzena Stor, Adam Suchodolski, Kinga Kerekes, Monica Zaharie, Agnes
Slavic, Ruth Alas, Renata Machova, Allen Engle p7

CONTEMPORARY ASPECTS OF STRATEGIC PROJECT MANAGEMENT

Dejan Petrovićp16

BEE COLONY OPTIMIZATION

Dušan Teodorović.....p25

Conference papers

**MOTIVATING MANAGERS EXPECTATIONS AND REALITY (POLISH
EXPERIENCE)**

Joanna M. Moczydłowska¹, Urszula Widelska² 1

**CHALLENGES IN MILK PROCESSING SECTOR IN ALBANIA (TIRANA
REGION)**

Sadete Patushi, Vasilika Kume 11

**ETHICS OF INTELLECTUAL PROPERTY IN BUILDING A RECOGNIZABLE
IMAGE FOR COMPETITIVE ADVANTAGE**

Gordana Tasevska; Goce Dzukleski 22

STRATEGIC PLANNING BY MANAGING STRATEGIC ISSUES AND WEAK SIGNALS IN THE ENVIRONMENT	
Lidija Stefanovska, Mende Soluncevski	32
MANAGEMENT OF ENVIRONMENTAL SECURITY IN LIBYA	
Gamal Juma Ali Aboulgasem	40
DEVELOPMENT AND POSITIONING STRATEGY OF A TOUR PRODUCT	
Safronova Natalia, Petrova Irina	48
DIFFERENTIATING MICROCREDITING SERVICES IN BOSNIA AND HERZEGOVINA	
SašaVujić, Slobodan Vujić, Aida Abduzaimović,Ibrahim Obhodaš.....	52
OPERATION MANAGERS IN COMPANIES WITH MANUFACTURING ACTIVITY	
Toni Soklevski	61
CANDIDATES RANKING FOR THE PROJECT MANAGER JOB POSITION: ABSOLUTE MEASUREMENT	
Violeta Cvetkoska, Marko Danilov.....	68
MEASURING THE EFFICIENCY OF CERTAIN EUROPEAN COUNTRIES IN TOURISM: DEA WINDOW ANALYSIS	
Violeta Cvetkoska,Petra Barisic.....	77
STRATEGIC MANAGEMENT OF THE INNOVATION AND THE INNOVATION ACTIVITY IN THE SMES IN THE DANUBE REGION OF THE REPUBLIC OF BULGARIA	
Daniela Ilieva	87
INNOVATE OR DIE? BOB BEAMON VS SERGEY BUBKA	
Vasilij Kovalev	96
PARTICIPATION OF EMPLOYEES IN COMPANY MANAGEMENT - LEGAL BASIS FOR ITS IMPLEMENTATION IN THE REPUBLIC OF MACEDONIA	
Ljupcho Petkukjeski, Marko Andonov, Zoran Mihajloski, Kristina Misheva	101
INSIDE ORGANIZATION MARKETING: THEORETICAL APPROACH	
I. V. Kotlyarevskaya, L.I.Arnautova, E.V.Yazovskikh.....	113

„STRATEGIC DRIFT” AND STRATEGIC CRISIS MANAGEMENT OF ORGANIZATION

Tzveta Zafirova118

APPLICATION OF IFRS FOR THE PREPARATION OF FINANCIAL REPORTS IN THE OIL SECTOR IN LIBYA

Abdelaziz Hussin Mohammed128

CLUSTER FOR INNOVATION AND GREEN TECHNOLOGIES

Anna Zaušková, Zuzana Bezáková137

OPEN “GREEN” INNOVATION AS CHALLENGE FOR GLOBAL DEVELOPMENT IN THE 21 CENTURY

Anna Zaušková, Adam Madleňák145

MODERN TEACHING METHODS FOR PART-TIME STUDIES IN HIGHER EDUCATION

Daniela Velkova152

EUROPEAN MARKET AND MACEDONIAN FOOD PROCESSING COMPANIES

Ljupco Veleski, Makedonka Dimitrova; Krum Efremov;161

ENVIRONMENTAL COST MANAGEMENT IN FOOD RETAIL

Vojteski-Klijenak Dragana, Sljivic Slavoljub, Pavlovic Milenko171

BOST AS THE INNOVATIVE RESEARCH METHODOLOGY IN THE STRATEGIC DEVELOPMENT FACTORS ANALYSIS

Renata Stasiak-Betlejewska, Stanisław Borkowski180

STRATEGY FOR CLEANER PRODUCTION IN INDUSTRY AS PART OF THE SUSTAINABLE DEVELOPMENT CONCEPT

Dragana Tančić190

ABSOLUTE COST LEADERSHIP STRATEGY IN PRODUCTION OF OILSEEDS IN VOLGOGRAD REGION

Timofeyeva Galina Vladimirovna, Belikina Anna Vasil’evna199

THE IMPLEMENTATION OF LENIENCY PROGRAM IN POLAND AND ITS IMPACT ON MANAGEMENT OF COMPANIES

Agnieszka Barcik, Piotr Dziwiński204

VERIFICATION OF LINEAR MODEL FOR PREDICTING THE MOVEMENT OF STEEL PRICES IN THE WORLD MARKET

Ivica Nikolić, Ivan Mihajlović, Nenad Nikolić.....212

DEVELOPING EFFICIENT AND EFFECTIVE E-LEARNING MODULE

Emhemed Omran Khalifa218

THE IMPACT OF STRATEGIC HUMAN RESOURCE MANAGEMENT ON ORGANIZATIONAL PERFORMANCE

Irena Ashtalkoska, Savo Ashtalkoski.....227

MARKETING 3.0 – NEW ISSUES IN MARKETING

Maja Kocoska, Elena Doneva237

MEASURING SOCIAL MEDIA RETURN ON INVESTMENTS

Stosic M., Petrovska I., Tomovska A., Pachovski V., Dimitrova M.....245

MBTI PERSONALITY TYPES ANALYSIS, IN A VEHICLE SERVICE CENTRE

Vasil Stamboliski, Vancho Donev, Radmil Polenakovik.....255

THE INFLUENCE OF THE GLOBAL FINANCIAL CRISIS ON THE ANTI-CRISIS STRATEGY OF FOOTBALL CLUBS

Kolyshkin Alexander, Nesterenko Natalia265

CLARIFICATION OF THE LIMITATIONS OF APPLYING OF MASS CUSTOMIZATION IN THE INDUSTRIAL ENTERPRISES

Mariyan Genchev.....270

TESTING HERZBERG’S DUALITY THEORY: ANALYZING JOB SATISFACTION AMONG STATE ADMINISTRATION EMPLOYEES

Miodraga Stefanovska – Petkovska, Marjan Bojadziev, Vesna Velik - Stefanovska.....277

STRATEGIC POSITION OF SERBIAN ECONOMY AND INTERNATIONAL COMPETITIVENESS RANKING

Dubravka Škunca287

SWOT ANALYSIS OF SERBIAN ECONOMY

Dubravka Škunca294

CLUSTERS – AN EFFECTIVE FORM OF ENHANCING THE COMPETITIVENESS OF SMALL AND MEDIUM-SIZED ENTERPRISES

Sibel Ahmedova ¹, Darina Pavlova ²300

**FINANCIAL STATEMENTS AS THE BASIS FOR MODERN ENTERPRISES
MANAGEMENT**

Nemanja Damjanović.....310

DUE DILIGENCE AND FINANCIAL ANALYSE

Milan Majernik, Stefan Majernik.....317

**THE ROLE OF CONSUMER PROTECTION IN RISK MANAGEMENT IN THE
FOOD FIELD**

Ardelean Dorina, Anghelina Andrei *Romania*323

**SHOULD I BECOME AN ENTREPRENEUR OR AN EMPLOYEE: DILEMMAS
OF STUDENTS IN MACEDONIA AND SLOVENIA?**

Makedonka Dimitrova, Jaka Vadnjal, Ilijana Petrovska.....334

FOOD QUALITY MANAGEMENT SYSTEM

Milovanović Ružica343

**BUILDING AN AIR QUALITY MANAGEMENT SYSTEM – APPROACHES
AND CHALLENGES**

Beti Angelevska, Aleksandar Markoski.....349

**CHARACTERISTIC FEATURES IN MANAGEMENT OF THE BUSINESS
PROCESSES OF THE ORGANIZATION**

Ivaylo Stoyanov357

**HARMONIZATION OF MANAGEMENT SYSTEMS ACCORDING TO THE
REQUIREMENTS OF ANNEX SL**

Dragana Tančić363

THE TYPICAL PRODUCTS AND SERVICES FOR ISLAMIC BANKS IN LIBYA

Hatim Zgheel.....371

CONTEMPORARY INFORMATION SYSTEMS IN ACCOUNTING

Alseddig Ahmed Almadani381

**FUTURE VISION TO LIBYAN FOREIGN POLICY TOWARDS AFRICAN
COUNTRIES**

Mohyedein Ahmed Almadaney.....389

**PROGRAM MANAGEMENT OF THE PROJECT ON FILLING IN THE
"JAMA" BOR IN ORDER TO PRESERVE THE GROUND SURFACE**

Valentina Velinov, Slavica Miletić, Bojan Stojcetovic.....398

Proceedings of papers in Serbian

FUZZY MODEL OF DETERMINING THE OPTIMAL PRODUCTION LEVEL

Duška Pešić, Aleksandar Pešić, Slavko Ivković.....409

ENVIRONMENTAL SAFETY AND ENVIRONMENTAL MANAGEMENT

Aleksandra Ljuština.....419

INNOVATIONS IN BANKING SERVICES

Aleksandra Đurić, Slađana Đurić, Stanka Đurić.....427

THE ROLE OF QUALITY IN CONCEPT OF VALUE CHAIN IN TOURISM

Jovana Gligić – Dumonjić, Anja Gligić – Savić.....437

**PHENOLIC RIPENESS GRAPE AS A SOURCE OF COMPETITIVE
ADVANTAGE IN THE WINE MARKET**

Vladimir Radovanović, Snežana Đekić, Blaga Radovanović.....445

**SWQI AS AN INDICATOR OF ENVIRONMENTAL PROBLEMS ALONG THE
RIVER TOPLICA**

Kristina Smiljković, Ivan Krstić, Amelija Đorđević.....454

**APPLICATION OF EIA AND SEA DIRECTIVES ON THE SYSTEM WORKING
AND LIVING ENVIRONMENT**

Kristina Smiljković.....459

**DETERMINATION OF ECONOMIC GROWTH SERBIAN EXCHANGE RATE
CHANGES**

Ljiljana Stošić Mihajlović, Petronije Jevtić.....465

**PUBLIC PROPERTY AS THE ECONOMIC DEVELOPMENT OF LOCAL
GOVERNMENT**

Zoran Antić, Svetlana Trajković, Ljiljana Mihajlović.....473

ORGANIZATION GUIDED BY STRATEGY

Ljiljana Savić, Vladimir Radovanović.....480

FINANCIAL MANAGEMENT AND BANKING MARKETING

Kristijan Ristic, Zarko Ristic.....489

**QUALITY MANAGEMENT AS A GENERATOR OF INCREMENTAL NEW
PRODUCT DEVELOPMENT**

Radovan Vladisavljević, Dragan Janjušić, Marina Simin, Bogdan Ivković.....499

**THE ROLE OF TQM AND BPR CONCEPTS IN ERA OF KNOWLEDGE
ECONOMY**

Ernad Kahrović, Ivana Jovanović.....512

**TRUST ACQUIRED KNOWLEDGE - IN WORLD ORGANIZATION GOOD
BOSS IS A LEADER**

Ljiljana Stošić Mihajlović, Petronije Jevtić, Vaso Pajic³.....524

TOP MANAGEMENT'S STAFF OPERATIONS

Petronije Jevtić, Ljiljana Stošić Mihajlović, Jasmina Starc³.....532

**SMALL AND MIDDLE ENTREPRENEURSHIP AS A FACTOR OF
COMPETITION GROWTH**

Adriana Radosavac, Dunja Demirović, Sanja Đukić.....539

**IMPORTANCE OF LEADERSHIP IN THE MANAGING OF
ORGANIZATIONAL CULTURE IN CRISIS BUSINESS CONDITIONS**

Ivana Jošanov-Vrgović, Jelena Vemić-Đurković, Nebojša Pavlović.....548

AUTHENTIC LEADERSHIP AND ORGANIZATIONAL CULTURE

Ivana Jošanov-Vrgović, Nebojša Pavlović.....558

**SOCIAL RESPONSIBILITY OF COST - BENEFIT ANALYSIS (CBA) - THE
EXAMPLE OF ENVIRONMENTAL PROTECTION**

Slađana Plačkov, Vukica Majstorović, Jelena Vojnović.....566

**IMPACT OF QUALITY TOOLS APPLICATION ON BUSINESS PROCESSES
AND PERFORMANCE OF THE COMPANY**

Marija Savic, Predrag Djordjevic, Tanja Randjelovic, Zivan Zivkovic.....576

**INFRASTRUCTURE QUALITY DEVELOPMENT AND IMPACT ON
REGIONAL DEVELOPMENT**

Slaviša Moljević, Ranka Gojković, Marko Lalović.....586

POPULATION AND CADRES AS THE FACTORS OF DEVELOPMENT

Slobodan N. Bracanović.....595

**APPLICATION OF CONTEMPORARY METHODS FOR PROJECTS
SELECTION AND PRIORITIZATION IN PORTFOLIO**

Nenad Milijić, Dejan Bogdanović.....606

RATING AND EMPIRICAL MODELS

Sladana Neogradi618

**THEORETICAL CONCEPT OF IDENTIFYING POSSIBLE DEVELOPMENT
OPPORTUNITIES OF ENTREPRENEURSHIP IN SERBIA**

Saveta Vukadinović, Jovanka Popović, Vlado Radić.....628

**INFORMATION SUPPORT FOR THE LEAN CONCEPT OF COST
MANAGEMENT**

Vojteski-Klijenak Dragana, Sljivic Slavoljub, Pavlovic Milenko.....636

INNOVATIVE CONCEPTS IN STRATEGIC MANAGEMENT

Aleksandar Dejanović, Slavka T. Nikolić, Jelena Stanković.....645

**STABILIZATION OF ORGANIZATIONAL CHANGES THROUGH BY
CHANGING THE ORGANIZATIONAL CULTURE**

Radmila Micić654

CULTURE AND LEADERSHIP IN PROJECT GLOBE

Radmila Micić663

**E-MAINTENANCE MANAGEMENT IN E-BUSINESS PROCESSES OF
DIGITAL COMPANIES**

Ramona Markoska, Aleksandar Markoski, Mitko Kostov, Mile Petkovski.....673

**STRATEGIES FOR THE USE OF SOCIAL NETWORKS IN PUBLIC
RELATIONS**

Saša Perić, Tamara Uroš682

**EFFECTIVE LEADERSHIP – ONE OF THE PRINCIPLES OF TOTAL
QUALITY MANAGEMENT FOR ACQUIRING COMPETITIVE ADVANTAGE
OF ORGANIZATIONS IN THE REPUBLIC OF MACEDONIA**

Katerina Kareska.....691

**AN EXAMINATION OF THE DETERMINANTS AND EFFECTS OF RETAIL
CUSTOMER SATISFACTION**

Tamara Rajić, Isidora Milošević, Dejan Riznić,702

**THE STRATEGIC IMPORTANCE OF COMMITMENT IN THE CUSTOMER –
SUPPLIER RELATIONSHIP**

Isidora Milošević, Tamara Rajić713

LOW-TEMPERATURE GEOTHERMAL WATERS IN SOUTHERN SERBIA

Njegoš Dragović, Milovan Vuković, Nada Štrbac.....722

**SECURITY AND ECOLOGICAL ASPECTS OF USING OF GEOTHERMAL
ENERGY**

Njegoš Dragović, Milovan Vuković, Nada Štrbac, Ivana Ilić-Krstić733

**ADAPTING THE CURRICULUM OF MANAGEMENT STUDY PROGRAM TO
CONDITIONS OF DISTANCE LEARNING**

Milan Krstić, Ana Skorup, Marija Marković-Blagojević.....743

**RELATION AND INTERACTION BETWEEN ENTREPRENEURSHIP AND
MANAGEMENT**

Goran Babić751

CRITERIA FOR SELECTION OF CRM SOFTWARE SOLUTIONS

Ana Skorup, Milan Krstić.....758

STRATEGIC MANAGMENT OF TOURIST DESTINATION

Srđan Borić, Ivana Andrić, Jovan Rudež766

**ANALYSIS AND FACTORS AFFECTING THE SERBIAN BALANCE OF
PAYMENTS**

Vojnović Jelena, Plačkov Sladjana, Koós László.....773

PUBLICITY IN THE MARKETING ACTIVITIES OF SERBIAN RAILWAYS

Dejan Riznić, Milovan Vuković, Tamara Rajić782

**PARTNERSHIP OF TOURISM AND AGRICULTURE – BASIS FOR
COMPETITIVE ADVANTAGE**

Slobodanka Krivokapić.....794

ANALYSIS OF ENVIRONMENTAL AWARENESS IN URBAN AREAS

Milovan Vuković, Snežana Urošević, Nada Štrbac.....803

**THE IMPLICATION OF BUSINESS STRATEGY IN HUMAN RESOURCE
MANAGEMENT**

Ljiljana Savic, Jelena Bozovic.....815

**ANALYSIS OF THE SOURCES OF SO₂ AND ASPECT OF SOME OF THE
ENVIRONMENTAL IMPACT**

Slobodan Radosavljević Milan Radosavljević, Jovana Radosavljević.....823

QUALITATIVE APPROACH IN RISK ANALYSIS MINING AND ENERGY

Slobodan Radosavljević Milan Radosavljević, Jovana Radosavljević.....838

**FACTORS THAT CONTRIBUTE TO SME INNOVATIVENESS IN
TRANSITION ECONOMY, SERBIA**

Milica Arsić*, Aleksandra Fedajev, Marija Savić, Danijela Voza.....851

Milica Arsić, Aleksandra Fedajev, Marija Savić, Danijela Voza.....851

**ANALYSIS OF PROGRESS IN TRANSITION PROCESS AND ITS IMPACT ON
ECONOMIC DEVELOPMENT AND EXPORT ACTIVITY OF TRANSITION
COUNTRIES**

Aleksandra Fedajev, Radmilo Nikolić.....856

**BENCHMARKING ANALYSIS IN FUNCTION TO IMPROVE HIGHER
EDUCATION IN MONTENEGRO**

Boban Melović, Marija Cimbalević.....867

**DECISION MAKING IN PRODUCTION PROCESS MANAGEMENT IN ORDER
TO OPTIMIZE PRDUCTION CAPACITIES**

Laslo Koš, Slađana Plačkov, Jelena Vojnović.....877

SAFETY CLIMATE MODELING IN THE METALLURGICAL SECTOR

Nenad Milijić, Ivan Mihajlović, Isidora Milošević.....887

COMPARATIVE TECHNO-ECONOMIC ANALYSIS OF TECHNOLOGIES FOR CREATION OF PERSONALIZED OSTEO-FIXATION MATERIALS	
Dalibor Djenadic, Dejan Tanikic, Jelena Djokovic.....	900
LEASE QUALITY SUPPORT SERBIAN ECONOMY	
Silvana Ilić, Srđan Žikić, Aleksandra Cvetković	911
MANAGEMENT OF PUBLIC - PRIVATE PARTNERSHIPS IN SERBIA	
Silvana Ilić, Srđan Žikić, Aleksandra Cvetković	920
ASSESSMENT OF HUMAN RESOURCES ABILITIES AS PART OF HUMAN RESOURCES MANAGEMENT	
Mladen Mitrović, Marija Stefanović	929
ULOGA TOP MENADŽMENTA U UPRAVLJANJU PROJEKTIMA IMPLEMENTACIJE ERP SISTEMA	
Nebojša Denić, Boban Spasić, Momir Milić.....	939
ANALYSIS OF EXPERIENCE IN IMPLEMENTATION OF SIX SIGMA METHODOLOGY	
Saša Spasojević	950
METODOLOŠKA ANALIZA RIZIKA U UPRAVLJANJU ERP PROJEKTIMA	
Nebojša Denić, Momir Milić, Boban Spasić.....	956
THE ROLE OF MANAGEMENT IN DESIGNING ORGANIZATIONAL STRUCTURE AT THE EXAMPLE OF COMPANY “METALAC”	
Srdjan Zikic, Silvana Ilic Aleksandra Cvetkovic,.....	966
QUANTITATIVE APPROACH IN RISK ANALYSIS ON THE PROJECT “CONSTRUCTION OF THE FIBER OPTIC CABLES NETWORK FOR THE MSAN DEVICE CONNECTION”	
Ivan Jovanović	975
VERIFICATION OF LINEAR MODELS FOR PREDICTING THE MOVEMENT OF THE DOW JONES GLOBAL INDEX	
Ivica Nikolić, Ivan Mihajlović, Aleksandra Fedajev, Predrag Đorđević, Nenad Nikolić	987
DEVELOPMENT OF THE ALGORITHM FOR SELECTION OF APPROPRIATE NUMERICAL MODELING APPROACH	
Ivan Mihajlović*, Živan Živković, Isidora Milošević, Predrag Đorđević.....	987

ECONOMIC DEVELOPMENT IN LIBYA

Abdalghani Mohamed Ashkal.....988

APPLICATION OF THE AHP METHOD IN MODELLING CRITERIA FOR RANKING AUDIT FIRMS IN SERBIA

Dragan Nedeljković, Marko Jovanović, Katarina Simićević.....988

CHALLENGES OF AGGREGATE PLANNING - EXAMPLE OF SERBIA

Mimoza Allaraj, Vladimir Simić, Dragana Životić, Susanne Lind-Braucher989

CONTEMPORARY STRATEGIES OF THE CONSTRUCTION INDUSTRY ON THE POLISH CONSTRUCTION EXAMPLE

Renata Stasiak-Betlejewska990

THE CONSTRUCTION ENTERPRISE IMAGE MANAGEMENT WITH INTERNET TECHNOLOGY APPLYING IN VISEGRAD COUNTRIES

Renata Stasiak-Betlejewska991

COMPETITION AND MARKET UNIVERSE

Leposava Jovanovic.....991

STRATEGIC PLANNING ORGANIZATIONAL STRUCTURE MARKETING DEPARTMENT RAILWAYS

Zoran Pavlovic.....992

REGIONAL COMPETITIVENESS AND CLUSTER APPROACH

Sibel Ahmedova, Darina Pavlova993

BUILDING CODE MYTH OR REALITY: EVIDENCE FROM THE WESTERN BALKANS

Makedonka Dimitrova, Ognen Dimitrov, Viktorija Eremeeva Naumoska, Maksim.....993

THE NATURE OF BANKING MANAGEMENT

Elena Doneva, Biljana Bjraktarova.....994

OTVORENE INOVACIJE KAO FAKTOR KONKURENTNOSTI

Katarina Lukić, Jelena Lukić.....994

THE INFLUENCE OF UNIT COSTS OF LABOUR ON CONCURRENT POSITION OF ECONOMY

Ivan Marković.....995

Students Symposium on Strategic Management

BEHAVIOUR OF PEOPLE IN ORGANIZATIONS

Jelena Ristić 1009

BENCHMARKING AND BUSINESS ETHICS

Nikolić Miloš..... 1015

GROUP FOCUS: COOPERATION, HARMONY AND TEAM BEHAVIOUR IN DIFFERENT CULTURES

Ivana Vasić, Ana Jurčić, Nikolina Vrclj..... 1021

PERFORMANCE OPTIMIZATION OF PROFESSIONAL WEB SITE BY USING SEO METHODS

Nenad Nikolić, Ivan Mihajlović, Ivica Nikolić 1022

SYSTEMS ENGINEERING (SE)

Marija Kostić 1031

INNOVATION IN MODERN CONSTRUCTION INDUSTRY USING YTONG MATERIALS

Darko Velojić..... 1043

POSSIBILITIES OF IMPROVING BUSINESS ENVIRONMENT IN SERBIA

Danijela Rutović, Vuk Bevanda 1055

THE CREDIT RATING AGENCIES

Jasmina Džafić, Alma Zildžić 1065

CLASSICAL AND SYSTEMATIC WAY OF THINKING IN THE MANAGEMENT OF ORGANIZATION

Cvetkovic Vidosava 1077

KLASIČAN I SISTEMSKI NAČIN RAZMIŠLJANJA UPRAVLJANJA ORGANIZACIJOM

Cvetković Vidosava1077

IMPACT OF THE SOCIAL NETWORK FACEBOOK AS AN AID TO LEARNING IN ACADEMIC INSTITUTIONS

Sanela Arsić, Danijel Nikolić.....1086

M-LEARNING AS AN INNOVATIVE APPROACH TO HIGHER EDUCATION: CASE STUDY – TECHNICAL FACULTY IN BOR, UNIVERSITY IN BELGRADE

Danijel Nikolić, Sanela Arsić.....1097

THE IMPACT OF DEMOGRAPHIC CHARACTERISTICS OF THE EMPLOYEES TO THE PROBLEM OF ABSENTEEISM AND FLUCTUATION IN ORGANIZATIONS

Sanela Arsić1107

INNOVATIVE TECHNOLOGIES IN THE MERCEDES-BENZ COMPANY

Nemanja Najdenov1120

STRATEGY OF GROWTH AND DEVELOPMENT OF VIRTUAL ENTERPRISE FOR SHOE PRODUCTION

Marko Todorović, Dušan Zdravković.....1130

"MISSION - VISION" TODAY FOR TOMORROW - CASE STUDY OF VIRTUAL COMPANY

Zvezdana Petruconić, Milena Vladić.....1130

„GREEN INNOVATION” IN FUTURE TECHNOLOGY DESIGNED FOR REGIONAL DEVELOPMENT

Muntean Lucian Gabriel.....1131

HISTORICAL DEVELOPMENT THEORY OF THE SISTEM

Ana Marjanovic1138

APPLICATION OF PROMETHEE GDSS MODEL ON THE EXAMPLE OF A SWOT ANALYSIS OF THE TECHNICAL FACULTY IN BOR

Milan Miljuš1147

THE STRATEGY OF MARKET DEVELOPMENT OF VIRTUAL ENTERPRISE FOR SELLING CHILDREN'S EQUIPMENT

Bili Petrović, Sanela Đoković, Milica Krstić1147

APPLICATION OF MONTE CARLO SIMULATION MODEL FOR PRODUCT ASSEMBLEMENT

Vuk Mihajlović..... 1148

UTICAJ INFORMACIONO-KOMUNIKACIONE TEHNOLOGIJE NA ALOKACIJU PRAVA ZA DONOŠENJE ODLUKA: ERA VELIKIH PODATAKA

Jelena Lukić..... 1148

METODE KOMUNIKACIJE INFORMACIONO KOMUNIKACIONIH TEHNOLOGIJA U VISOKOOBRAZOVNIM INSTITUCIJAMA

Vladimir Aleksić, Dragana Trifunovic, Mirjana Tankosic..... 1149

KORIŠĆENJE SIMULACIONOG MODELA ZA OPTIMIZACIJU RADA HITNE SLUŽBE, STUDIJA SLUČAJA: SLUŽBA HITNE MEDICINSKE POMOĆI U BORU

Iva Ogrenjac..... 1149

THE SPIN OFF AND THE OPPORTUNITIES FOR UNIVERSITIES IN CREATING SPIN OFFS

Viktor Való 1151