

**XI INTERNATIONAL MAY CONFERENCE ON
STRATEGIC MANAGEMENT**

**XI STUDENTS SYMPOSIUM ON STRATEGIC
MANAGEMENT**

B O O K O F P R O C E E D I N G S

Bor, 29-31 May 2015



**Conference is financially supported by
the Ministry of Education and Science of
the Republic of Serbia**

**Konferencija je finansijski podržana od
Ministarstva prosvete i nauke
Republike Srbije**

Scientific Board (SB) of the Conference:

Prof. dr Živan Živković, University in Belgrade, Technical faculty in Bor, **President of the SB.**

Members of SB:

Prof. dr Aljaž Ule, University of Amsterdam, Faculty of Economics and Business, CREED - Center for Research in Experimental Economics and political Decision-making, The Netherlands, **vice-president of the SB .**

Prof. dr Darko Petkovic, University of Zenica, Bosnia and Herzegovina

Prof. dr Peter Schulte, Institute for European Affairs, Germany

Prof. dr Michael Graef, University of Applied Sciences Worms, Germany

Prof. dr Jaka Vadnjal, GEA College Ljubljana, Slovenia

Prof. dr Dragana Živković, University of Belgrade, Technical faculty in Bor

Prof. dr Geert Duysters, ECIS (Eindhoven Centre for Innovation Studies), Eindhoven University of Technology, Eindhoven, The Netherlands

Prof. dr Michale. D. Mumford, The University of Oklahoma, USA

Prof. dr John. A. Parnell, School of Business, University of North Carolina-Pembroke, Pembroke, USA

Prof. dr Antonio Strati, Dipartimento di Sociologia e Ricerca Sociale, Universities of Trento and Siena, Italy

Doc. dr Aca Jovanović, University of Belgrade, Technical faculty in Bor

Prof. dr Rajesh Piplani, Center for Supply Chain Management, Nanyang Technological University, Singapore

Prof. dr Musin Halis, University of Sakarya, Business and Administration Faculty, Serdivan, Turkey

Prof. dr Rekha Prasad, Faculty of Management Studies, Banaras Hindu University, India

Prof. dr Ofer Zwikael, School of Management, Marketing and International Business ANU College of Business and Economics The Australian National University, Australia

dr inż. Renata Stasiak-Betlejewska, Institute of Production Engineering, Faculty of Management, The Czestochowa University of Technology Poland

Prof. dr Simon Gao, Edinburg Napier University, United Kingdom

Prof. dr Jadip Gupte, Goa Institute of Management, India

Prof. dr Jan Kalina, Institute of Computer Science, Academy of Sciences, Czech Republic

Prof. dr Vesna Spasojević Brkić, University of Belgrade, Faculty of Mechanical Engineering, Belgrade, Serbia

Prof. dr Vasilika Kume, Faculty of Economics, Tirana University, Albania

Prof. dr R. N. Lodhi, COMSATS Institute of Information Technology, Pakistan

Prof. dr Milan Stamatović, Faculty of Management, Metropolitan University, Serbia

Prof. dr Jifang Pang, School of Computer and Information Technology, Shanxi University, China

Prof. dr L. Mura, University of Ss. Cyril and Methodius, Trnava, Slovakia

Organizational Board of the Conference:

Prof. dr Ivan Mihajlović, president of the Organizational Board

Doc. dr Predrag Đorđević, vice - president of the Organizational Board

Doc. dr Đorđe Nikolić, vice - president of the Organizational Board

Dr Milijić Nenad, vice - president of the Organizational Board

Organizational Board for the students symposium:

Dr Marija Savić, president of the Students Symposium Organizational Board

MSc Ivica Nikolić, PhD student, vice-president of the Students Symposium Organizational Board.

In front of the publisher: Prof. dr Milan Antonijević, Dean of Technical Faculty in Bor

Editor-in-Chief: Prof. dr Živan Živković, Technical Faculty in Bor

Technical Editor: Doc. dr Predrag Đorđević, Technical Faculty in Bor

Printed by Technical Faculty in Bor

CIP - Каталогизacija u publikaciji -
Narodna biblioteka Srbije, Beograd

005(082)(0.034.2)

004:007(082)(0.034.2)

502.131.1(082)(0.034.2)

658(082)(0.034.2)

INTERNATIONAL May Conference on Strategic Management (11 ; 2015 ; Bor) Book of Proceedings [Elektronski izvor] / XI International May Conference on Strategic Management - [IMKSM 2015 and] XI Students Symposium on Strategic Management, Bor, 29-31 May 2015 ; [editor in chief Živan Živković]. - Bor : Technical Faculty in Bor, Management Department, 2015 (Bor : Tehnički fakultet). - 1 elektronski optički disk (CD-ROM) : tekst, slika ; 12 cm

Tiraž 150. - Nasl. sa naslovnog ekrana. - Napomene i bibliografske reference uz tekst. - Bibliografija uz svaki rad. - Abstracts.

ISBN 978-86-6305-030-3

1. Students Symposium on Strategic Management (11 ; 2015 ; Bor)

a) Менаџмент - Зборници b) Информациони систем - Зборници c) Одрживи развој - Зборници d) Предузећа - Пословање - Зборници COBISS.SR-ID 217701132

**INTERNATIONAL MAY CONFERENCE ON
STRATEGIC MANAGEMENT**

Plenary lectures:

INCORPORATING MCDS AND VOTING INTO SWOT – BASIC IDEA AND EXPERIENCES

Jyrki Kangas¹, Miika Kajanus², Pekka Leskinen³, Mikko Kurttila⁴

¹University of Eastern Finland, Department of Forest Sciences; ²Savonia University of Applied Sciences; ³Finnish Environment Institute, Centre for Sustainable Consumption and Production; ⁴Natural Resources Institute Finland, Finland

Abstract: The idea in using Multiple Criteria Decision Support (MCDS) and voting methods within a SWOT framework is to evaluate systematically the SWOT factors and to assess them with respect to their intensities. The MCDS method applied initially with SWOT has been the Analytic Hierarchy Process (AHP), and the hybrid AHP-SWOT approach has been called the A'WOT. Any MCDS method can, however, be applied; the choice of the method depending on the strategy process in question. In this article, experiences of using the A'WOT method with AHP, SMART and SMAA-O techniques is summarized. In addition, an illustrative example of making use of social choice theory within SWOT framework is presented. The hybrid MCDS-SWOT approach has gained growing popularity, and it has been applied in different fields world-widely. It may provide not only a solid decision support but also an effective framework for learning in strategic decision support, as well as for communication in strategy processes with multiple stakeholders. The Voting-SWOT approach (VotSWOT) fits especially well with participatory strategy processes, as it reflects decision makers' and stakeholders' natural ways of communication.

Keywords: A'WOT, multiple criteria decision support, natural resources management, strategic management, voting methods

1. INTRODUCTION

SWOT analysis is a commonly-used tool for analysing operational environments to attain both a systematic approach and support for strategic decision making. In SWOT analysis, the internal and external factors most important for the future success of a company (or any decision maker) are grouped into four categories: strengths, weaknesses, opportunities and threats. The purpose of applying SWOT is usually to develop and adopt a strategy resulting in a good fit between the internal and external operational environments as well as objectives of the decision maker.

SWOT could, however, be used more efficiently than has normally been the case in its applications. Too often, it remains at the level of just pinpointing the factors. Furthermore, SWOT includes no means for analytically determining the importance of the factors or

assessing the decision alternatives with respect to the factors. The further utilization of SWOT alone is thus mainly based on qualitative analyses made in the decision-making process, and on the capabilities and expertise of the persons participating. It is not a surprise, that research has aimed at enhancing the use of SWOT as a practical planning tool in many ways, e.g., by connecting other strategic planning tools to it [8].

The idea in using Multiple Criteria Decision Support (MCDS) methods within a SWOT framework is to evaluate systematically the SWOT factors and to make them commensurable [13]. This enables more analytical SWOT procedures. The hybrid method A'WOT makes combined use of the Analytic Hierarchy Process (AHP) [28] and SWOT. In natural resource management, it was first presented in 2000 [13].

After carrying out the assessments required by the AHP, useful quantitative information can be obtained about the decision problem. On the basis of comparisons of the SWOT factors and groups one can analyse, for example, whether there is a specific weakness requiring most of the attention, or if the company is expected to be faced with future threats exceeding its combined opportunities. In addition, use of A'WOT enables choice alternatives to be evaluated with respect to each SWOT factor and to each SWOT group. When the importance of different SWOT groups have also been determined, it is possible to prioritise decision alternatives with respect to the strategic choice situation as a whole.

The objective of this paper is to summarize experiences on the use of MCDS techniques together with SWOT in strategic management. The MCDS methods reviewed more closely are AHP [28], SMART [6] and SMAA-O [21][15]. Furthermore, possibilities to apply voting methods instead of MCDS with SWOT is examined.

2. MCDS METHODS IN THE SWOT FRAMEWORK

In general, the hybrid methods that combine SWOT and MCDS proceed as follows:

- (i) The SWOT analysis is carried out. The relevant factors of the external and internal environments are identified and included in SWOT analysis.
- (ii) The relative importance of the SWOT factors are determined separately within each SWOT group. Any Multiple Criteria Decision Support (MCDS) method, and its comparison principles, can be applied.
- (iii) The relative importance of the SWOT groups are determined. There are several principles of doing this and also here any MCDS method can be applied.
- (iv) The decision alternatives are evaluated with respect to each SWOT factor according to the comparison rules of the applied MCDS method.
- (v) Global priorities may now be calculated for the decision alternatives in accordance with the MCDS aggregation techniques.

The most often used MCDS method with SWOT, and the original one what comes to the A'WOT, is the AHP. The central characteristics of the AHP include pairwise comparisons of the elements of SWOT. In the original AHP, the ratio scale priorities describing the relative values of the SWOT factors, or the decision alternatives, are estimated by using the eigenvalue technique [28]. The ratio scale pairwise comparisons data can also be analysed also through regression techniques [5]. In many cases, these two estimation methods give

similar numerical results, but the advantages of the regression approach include versatile possibilities to analyse the inherent uncertainties of the estimated priorities [1][16].

Also SMART method has been utilized together with SWOT [9][14]. In the SMART and its simple rating version, the importance of the SWOT factors can be defined as follows: one hundred points is given to the most important SWOT factor inside the examined SWOT group and the importance of other SWOT factors are numerically determined with respect to the most important factor. It is also possible to define the importance of the SWOT factors so that a total of 100 points is allocated for SWOT factors according to their importance separately in each SWOT group. In addition to these fundamental versions, there is a collection of different SMART techniques and modifications, and one can recognise a methodological SMART family. Modifications include also two approximate methods called SMARTS and SMARTER [6]. The original SMART makes use of an additive model, but non-additive versions have also been presented [2]. This is, in fact, possible also with AHP [18].

SMAA-O, in turn, belongs to the family of SMAA methods (Stochastic Multicriteria Acceptability Analysis), which have been developed for discrete multicriteria problems where criteria data are uncertain or inaccurate [15][11]. In SMAA-O it is possible to analyse ordinal as well as cardinal information [21]. Thus, it is enough just to rank the SWOT factors instead of giving them cardinal priority ratios. The ranking is transformed into cardinal information through simulation (however, based on strong assumptions concerning the preference structures). Using SMAA-O, in addition to analysing what the recommended action is under certain priorities, one can analyse which kind of priorities would support each action. Statistical techniques can also be utilised in the context of ordinal multi-criteria preference information [17].

The advantage of the pairwise comparisons technique is that the decision-maker needs to consider only one pair of the SWOT factors at a time instead of simultaneously assessing several factors. On the other hand, the total amount of pairwise comparisons increases rapidly with the increased number of factors, particularly if the SWOT lists are long. The developed statistical models, however, enable the analysis of pairwise comparisons data based on fewer comparisons. An additional advantage of the pairwise comparisons technique and the statistical approach is that the potential inconsistency of the pairwise comparisons can be turned into a virtue by being used to describe the uncertainty of the preference information. For example, probabilities for events such as 'SWOT factor A is more important than SWOT factor B' can be estimated. Holistic assessments, in turn, are less laborious than large sets of pairwise comparisons. The drawback is that sometimes decision-makers find it very difficult to evaluate multiple items simultaneously, especially when the number of items is large.

To summarize, cardinal (i.e. ratio or interval scale) preference information enables versatile and deep decision support compared with ordinal information, but it also requires that decision-makers should really understand the questions used and also that the context of the decision problem is appropriate for the cardinal assessments. Ordinal scales are easier to understand and apply than cardinal ones, but the natural drawback is that the analysis of the data and output of the analysis will then be simplified.

3. APPLYING VOTING METHODS WITHIN SWOT

A practical problem with many decision support methods is that answering to the necessary inquiries is difficult for many reasons. If the used method demands many complicated questions, it also typically demands a lot of time and guidance.

One possibility to alleviate the demands concerning the preference input from stakeholders is to apply the social choice theory [12]. Social choice problems are typically approached by using different modes of voting. That is why social choice theory can also be called voting theory. Throughout the history of democracy, voting has proved to be an efficient tool for making choices among decision alternatives, e.g., in different kind of elections. In the voting theory, special attention has been paid to systems that are neutral and difficult to manipulate [23]. Therefore, voting theory can be seen as a credible alternative in group decision making and participatory strategy processes.

The principal objective of social choice is to combine individual preferences into a collective choice [19]. The social choice situation can be described with four parts: (i) voters or players, (ii) choice alternatives, (iii) the information of voter's preferences over the alternatives, and (iv) an aggregation device. So, the approach greatly resembles MCDS.

Plurality voting is the simplest mode of voting. It takes into account the preference ordering of voters; however, only with respect to the best candidate. Each voter has one vote, and votes for one candidate. The candidates, or decision alternatives, are ranked according to the sum of votes they've got and the candidate/alternative with the plurality wins, i.e. the majority of votes is not required.

In the procedure of approval voting, each voter votes for as many candidates as she/he wishes [12]. In other words, the voter votes for all candidates of whom she/he "approves". Each candidate approved by the voter receives one vote. The candidate receiving the greatest total number of votes is declared to be the winner. This method is harder to manipulate by any one voter than plurality voting. This is because it requires information about the distribution of approvals of the alternatives in order to be manipulated [23]. However, it tends to promote moderate candidates.

The approval voting is argued to be the best voting system, provided that the real preferences of voters are dichotomous [32]. This might not be the case except occasionally. Trichotomous or multichotomous preferences can, however, also be applied. For example, Yilmaz proposed a system where voters classify the candidates as Favourite, Acceptable and Disapproved [32]. Then, the candidates are compared pair-wisely so that a candidate scores a vote whenever it is ranked higher than the pair. If one candidate has a majority against all others, it is chosen. Otherwise, the candidate with most disapproval votes is eliminated and the procedure is applied again until the winner can be found.

The Borda count [27] takes into account the whole preference ordering: given n candidates, each voter casts n votes for the most preferred candidate, $n-1$ votes for the second most preferred one and finally 1 vote for the least preferred candidate. The winner is the candidate getting the most votes altogether.

There are also voting methods that are based on pairwise comparisons. Condorcet winner is a choice which obtains a majority of votes against any other alternative in pairwise elections. However, the Condorcet winner does not always exist.

The aforementioned voting systems only use information of the preference ordering of the alternatives. So called utilitarian voting systems make use also of information on the intensity of the preferences. These voting schemes have a lot of common with MCDS methods. When individual utility functions are combined, the aggregation could be interpreted as social welfare function (Martin et al. 1996).

Utilitarian systems include, for example, direct aggregation of cardinal utilities and the demand-based method [12]. In the former case, voters are required to assign utility values to the candidates, and the candidate receiving the largest sum of utility values wins. In the latter, voters offer to pay some money in order to obtain a preferred alternative, and the one getting the highest sum of bids wins.

In cumulative voting system, each voter is given a number of votes they can distribute to the candidates in any way: all votes can, for instance, be given to one candidate or many candidates can be given an equal number of votes [12]. This is similar to the prioritisation principles of SMART.

4. AN EXAMPLE OF VOTING WITHIN SWOT: VOTSWOT

Finland is aiming at a low-carbon and resource-efficient society and a sustainable economy. This goal of central importance is related to the development of sustainable bio-economy, which relies on the use of renewable natural resources instead of non-renewable ones. In Finland, sustainable use of forest resources is a key element in sustainable bio-economy, since forests and wood form the most abundant renewable natural resource in the country. The Finnish Bioeconomy Strategy aims at generating new economic growth and new jobs from an increase in the bio-economy business and from high-added-value products and services. At the same time, the nature's ecosystems must be maintained and secured.

At the University of Eastern Finland (UEF), the bio-economy research strategy is under preparation. Different aspects of bio-economy are identified in various faculties and departments of UEF. Critical discussions are taking place so that the role of bio-economy in the strategy of UEF can be defined. Should it be, in one end, the main driver of the overall strategy for the next 5 to 10 years, or, in another end, taken just as a transient buzzword that does not deserve any special strategic attention. One additional driver to the discussions comes from the fact that in Finland, especially in the forested regions such as eastern Finland, the role of forests in the promotion and success of bio-economy is crucial.

Building a coherent and widely accepted bio-economy research strategy for UEF is not necessarily an easy task. For illustrative purposes, the situation is greatly simplified here. In the next step of the practical process, more deeper and versatile use of A'WOT and, e.g., more complicated voting might be applied. The example presented here is a simulation for illustrating how VotSWOT could be utilized in the strategy process. Nevertheless, also a simplified case formulation and corresponding decision support exercises might help in constructing the strategy process and its end-result and in inducting people with different pre-views and from different schools to a mutually understandable discourse.

Possible future scenarios for the operational environment are an important element of any strategy process. Formulation of the final strategy depends highly on the anticipated probabilities of the scenarios; in which kind of a scenario we believe? There are two basic

alternatives as to how to approach the analysis of scenarios. It is possible to create for each possible scenario its own SWOT, and then perform A'WOT analyses. Another, a simpler and more straightforward way is to think that possible scenarios are implicitly covered when pondering factors in each SWOT category, especially the opportunities and threats as they clearly refer to the future. In the case example below, the latter way is adopted. That being the case, the thought probabilities of the possible scenarios reflect also to the comparisons of the importance of the SWOT factors.

In our VotSWOT exercise, we have three participants. First, the basic strategic choice alternatives are formed. The formulation of the final strategy, for example, directs the strategic and other research funding within the University, and gives a firm support when applying competitive funding from outside sources for those directions of research that have been chosen to be especially focused on. Let the basic alternatives be as follows:

(A) Bio-economy does not deserve any special attention neither in the society at large nor at the University; do not put any extra efforts on bio-economy training and R&D&I

(B) Bio-economy is important for the country's future, and it should be approached in versatile ways to form a many-sided and sound basis for its development; at the University, extra emphasis is put on bio-economy research, but in order to form a many-sided basis for the societal development let all the "bio-economy flowers" flourish

(C) Bio-economy is important for the country's future, and the key factors for future bio-economy potential are related to the chemistry and physics of processing new products, and social and marketing aspects of the growing bio-economy; at the University, the main focus should be put correspondingly

(D) Bio-economy is of very central strategic importance for the whole society and forests are in its core in Finland; at the University strong emphasis should be given to forest and wood related bio-economy studies, and other research has a supportive role for them.

Second, the long-lists of SWOT-factors are produced. All the factors coming into minds of participants are listed, and then grouped together by the participants into groups of similar factors to get condensed lists of SWOT-factors. Similar factors may be merged.

Next step is approval voting among the condensed lists. Within each group, five most relevant factors are elected using approval voting scheme. For each group, every participant determines, which factors he/she thinks should be seriously considered when making the University's strategic choices. All the factors he/she chooses as being important get one vote each. The factors in each SWOT group are listed according to the sum of votes given by the participants. Five mostly approved factors in each group are chosen for further VotSWOT analysis (Table 1).

Table 1. The SWOT factors chosen in approval voting; a training example

<i>SWOT group</i>	<i>SWOT factors</i>
Strengths	S1 The University is really multidisciplinary S2 Impact on the society's development is important for the University S3 Good co-operation possibilities with Natural Resources Institute Finland, Finnish Environment Institute, and the European Forest Institute S4 Skills and scientific merits in rural area, forest and wood related bio-economy S5 Also scientists in chemistry, social sciences, jurisprudence, economics, physics, biology are interested in bio-economy research
Weaknesses	W1 Bio-economy research at the University has no co-ordination over departments W2 There is no technical faculty at the University W3 There is hesitation about the future importance of bio-economy studies W4 Not enough co-operation with practical business world actors W5 Versatile strengths of the University are not widely known
Opportunities	O1 Growing external research funding available for studies on bio-economy O2 Future success of the national economy of Finland relies upon renewable natural resources, especially forests and wood O3 More intensive co-operation with technical universities and technical faculties of other universities in wood material science and in studying new bio-products O4 Finnish forest industries' plans for investments on bio-refineries and on wood-based products, also in eastern Finland O5 Increasing multidisciplinary co-operation with bio-economy business practice
Threats	T1 Price of oil remains low and the hyping for bio-economy ends shortly T2 Growing interest on bio-economy makes research at the University too one-sided T3 Emphasising close connections with actors of practical business world decreases the weight of basic research and of the freedom of research at the University T4 International and national political decisions do not favour bio-economy any longer T5 Funding for research infrastructure and equipment gets lower

In the next phase, cumulative voting is applied so that the relative importance of the five factors within each SWOT group can be determined. All the participants get 100 votes to be allocated among the factors in each group. For example, within the Opportunities group Participant 1 may give 40 votes for O2, 25 votes for O4 and O5, 10 votes for O3, and 0 votes for O1. (Table 2.)

Cumulative voting is also used for mutual weighting of the SWOT groups. Each participant has 100 votes to be allocated for the SWOT groups according to their relevance in the University's bio-economy strategy. Weights for SWOT groups are calculated as the sums of votes, scaled to sum up to one. (Table 3).

Table 2. Cumulative voting for the SWOT factors by 3 participants; a training example

<i>SWOT group</i>	<i>Factors</i>	<i>Participant 1</i>	<i>Participant 2</i>	<i>Participant 3</i>	<i>Sum of votes</i>
Strengths	S1	10	5	20	35
	S2	10	0	20	30
	S3	30	10	20	60
	S4	20	10	20	50
	S5	30	75	20	125
Weaknesses	W1	15	10	25	50
	W2	15	0	10	25
	W3	50	50	20	120
	W4	10	20	30	60
	W5	10	20	15	45
Opportunities	O1	0	15	20	35
	O2	40	20	5	65
	O3	10	25	40	75
	O4	25	20	30	75
	O5	25	10	5	40
Threats	T1	5	20	0	20
	T2	10	0	10	20
	T3	5	0	10	15
	T4	40	50	50	140
	T5	40	30	30	110

Table 3. Cumulative voting for the SWOT factors by 3 participants; a training example

<i>SWOT group</i>	<i>Participant 1</i>	<i>Participant 2</i>	<i>Participant 3</i>	<i>Sum of votes</i>	<i>Scaled</i>
Strengths	20	30	30	80	0.267
Weaknesses	15	15	10	40	0.133
Opportunities	40	35	40	115	0.383
Threats	25	20	20	65	0.217

As a result of the voting procedures, global priorities can be calculated for each SWOT factor, reflecting their relevance in the strategy process. If no consensus could be reached on the choice of the basic strategy among A-D, it would be possible to proceed the exercise by evaluating the strategy alternatives with respect to all the SWOT factors, e.g., by cumulative voting. In our example – as the Opportunities get the highest priority and forest and wood related issues are emphasized by them – it seems evident that the chosen basic strategy at this phase would be D. It must be emphasized that this would be just the basic choice, from where the strategy process continues by more detailed strategy formulation, most probably towards C or B to some extent.

5. DISCUSSION AND CONCLUSION

Active application of MCDS methods to support SWOT clearly indicates that they have the potential of deepening the SWOT analyses. The A'WOT approach with various versions has gained considerable use and popularity in many different areas world-wide, see e.g. [3][4][10][20][24][26][30][31].

Most often, the MCDS technique used has been the AHP. The SMART-SWOT hybrid approach has been used for evaluating the role of universities in regional innovation systems [22], examination of the role of innovations in forestry- and agriculture-related case study enterprise [9], and in examining the development possibilities of regional forest program processes in Finland in different development scenarios of the society [14].

The Analytic Network Process (ANP) [29] has been used instead of AHP when dependencies between strategic factors were under consideration [33]. Recently, ANP-SWOT approach was applied in analyzing the development of tourism industry in Iran [7]. The ANP-SWOT was found as a viable and highly capable methodology, providing invaluable insights for complex strategic management decisions.

Results from Uganda showed that the use of the AHP method in SWOT (i.e. basic A'WOT) is effective in evaluating stakeholder preferences for bioenergy technologies, and the hybrid method could be used as a tool for technology screening, or reaching consensus in a participatory setup in a transparent manner [24]. Another study found that the combination of SWOT and the AHP is a valuable tool for strategic energy management [26]. A'WOT has also been applied to assessing the sustainability of urban forests [3]. This study pointed out that the A'WOT approach is successful in structuring a complex planning context and in increasing and improving the information. According to that study, the hybrid framework is able to communicate the planners', designers' and decision maker's perspectives, to enhance transparency in the decision process and thus to increase acceptance, as well as to act as a learning process. Our experiences gained through A'WOT applications are in line with those of the above-mentioned studies [10].

Increasing complexity into an analysis always means need for more assessments to be made. Time needed is always a critical constraint, and there is a need to develop faster and easier to use but still trustable enough methodologies. Voting methods are interesting in this respect. The very basic ideas behind voting methods and MCDS methods are quite similar. Some of them are close to each other technically, too. For example, some modification of SMART and cumulative voting can, practically taken, be regarded as one and the same method, although they have different theoretical backgrounds.

Combined use of SWOT, SMART and voting methods has also been reported [25]. The main methodological difference of this application compared to the example case in this article was that it formulated separate sub-classes under each SWOT field and then performed MCDS analyses separately for each scenario. However, the processing of the SWOT factors separately for each different scenario could be useful in some cases, although it makes the analysis more complicated and more difficult to follow. This allows us examine, for instance, which of the strategic factors are important in all scenarios and which of them should be taken into account in only some specific scenarios. If the formulation of strategy alternatives is needed, the strategic factors and their priorities in different scenarios provide a basis for directing future operations in an adaptive manner. Applying that kind of a scenario approach, however, makes the harder to understand and more time-consuming. That is why it is at its best when only experts are involved in the strategy process.

The A'WOT method with SMART has been found easy both for experts and for participants in the regional work programme to understand and apply (Kurttila et al. 2009). This surely is the case with cumulative voting – SWOT hybrid method, as well. However,

although calculations of SMART and cumulative voting are probably easier to carry out than calculations of the AHP, the provision of ratings to all factors within the specific SWOT field simultaneously can be more difficult.

When SMAA-O is applied in a SWOT framework, it is not necessary to determine any importance neither of the factors nor the groups in the first phase. Central weight vectors can be applied to study which importance best support the choice of each decision alternative. Together with rank acceptability indices, they serve as a good starting-point for an interactive process, finally resulting in the choice of one alternative. During the process, information on the importance orders of SWOT factors and SWOT groups is included step by step. Before the importance order of SWOT groups is determined, it might be useful to examine the priorities of the decision alternatives within each group. This provides training and learning about the selection problem.

It can be concluded that hybrid methods of MCDS or voting and SWOT can be applied to increase and improve the information basis of strategic planning processes. They may provide not only a solid decision support but also an effective framework for learning in strategic decision support in numerous situations. They can also be used as tools in communication and education in decision-making processes where multiple decision-makers or judges are involved [3]. In participatory processes, the less the participants have expertise on methodology and on the subject in question the more recommendable it is to apply simple voting methods instead of more complicated MCDS.

Nevertheless, the utilization of the specific MCDS or voting method is always a case-specific question. Generally taken, simple preference information enables easy questions that decision-makers and other participants need to answer, but at the same time the possibilities of giving versatile decision support are limited. According to our experiences, the choice of the appropriate MCDS or voting method in SWOT should be based on consideration of all the stakeholders' abilities to provide different levels of preference information and the required decision support.

REFERENCES

1. Alho, J.M., Kangas, J. Analyzing uncertainties in experts' opinions of forest plan performance. *Forest Science*, 43 (1997) 521-528.
2. Barzilai, J., Lootsma, F.A. Power relations and group aggregation in the multiplicative AHP and SMART. *Journal of Multi-Criteria Decision Analysis* 6 (1997) 155-165.
3. Bottero M. A multi-methodological approach for assessing sustainability of urban projects. [Management of Environmental Quality](#) 26 (2015) 138-154.
4. Cengiz, K., Çetin, K.N., Tufan, D. Prioritization of e-Government strategies using a SWOT-AHP analysis: the case of Turkey. [European Journal of Information Systems](#) 16 (2007) 284-298.
5. De Jong, P. A statistical approach to Saaty's scaling method for priorities. *Journal of Mathematical Psychology* 28 (1984) 467-478.
6. Edwards, W., Barron, F.H. SMARTS and SMARTER: Improved simple methods for multiattribute utility measurements. *Organizational Behavior and Human Decision Processes* 60 (1994) 306-325.
7. Heidari, M., Ashari, H.A., Farahbakht, S. & Parvaresh, S. Using the Analytic Network Process (ANP) in a SWOT analysis for the development of tourism destination – case study: Kish Island. *International Journal of Management* 5(6) (2014) 21-21.

8. Helms, M.M., Nixon, J. Exploring SWOT analysis – where are we now? A review of academic research from the last decade. *Journal of Strategy and Management* 3(3) (2010) 215 – 251.
9. Kajanus, M. INNO-FOREST Integrating Innovation and Entrepreneurship Research in Higher Forestry Education - lessons learnt from Erasmus Intensive Programme. Savonia University of Applied Sciences. Research and development. Series D 1/2009 (2009) 1-57.
10. Kajanus, M., Leskinen, P., Kurttila, M. & Kangas, J. Making use of MCDS methods in SWOT analysis – Lessons learnt in strategic natural resources management. *Forest Policy and Economics* 20 (2012) 1-9.
11. Kangas, J., Kurttila, M., Kajanus, M., Kangas, A. Evaluating the Management Strategies of a Forestland Estate - the S-O-S approach. *Journal of Environmental Management* 69 (2003) 349-358.
12. Kangas, A., Laukkanen, S., Kangas, J. Social choice theory and its applications in sustainable forest management - a review. *Forest Policy and Economics* 9 (2006) 77-92.
13. Kurttila, M., Pesonen, M., Kangas, J., Kajanus, M. Utilizing the analytical hierarchy process (AHP) in SWOT analysis - A hybrid method and its application to a forest-certification case. *Forest Policy and Economics* 1 (2000) 41-52.
14. Kurttila, M., Leskinen, P., Tikkanen, J. & Niskanen, A. Developing regional forest programmes from the viewpoint of operational environment (in Finnish). *Metsätieteen aikakauskirja* 3/2009 183-197.
15. Lahdelma R., Hokkanen, J., Salminen, P. SMAA - Stochastic multiobjective acceptability analysis. *European Journal of Operational Research* 106 (1998) 137-143.
16. Leskinen, P., Kangas, J. Analysing uncertainties of interval judgment data in multiple-criteria evaluation of forest plans. *Silva Fennica* 32 (1998) 363-372.
17. Leskinen, P., Kangas, A.S., Kangas, J. Rank-based modelling of preferences in multi-criteria decision making. *European Journal of Operational Research* 158 (2004) 721-733.
18. Leskinen, P. & Kangas, J. Multi-criteria natural resource management with preferentially dependent decision criteria. *Journal of Environmental Management* 77 (2005) 244-251.
19. Martin, W.E., Schields, D.J., Tolwinski, B. & Kent, B. An application of social choice theory to U.S.D.A. Forest Service decision making. *Journal of Policy Modelling* 18 (1996) 603-621.
20. Masozera, M.K., Alavalapati, J.R.R., Jacobson, S.K., Shrestha, R.K. Assessing the suitability of community-based management for the Nyungwe Forest Reserve, Rwanda. *Forest Policy and Economics* 8 (2006) 206-216.
21. Miettinen K., Lahdelma, R., Salminen, P. SMAA-O - Stochastic Multicriteria Acceptability Analysis with Ordinal criteria. Reports of the Department of Mathematical Information Technology, Series B, Scientific computing No. B 5/1999. University of Jyväskylä.
22. Nästase, C., Kajanus, M. The role of the universities in a regional innovation system - a comparative A'WOT analysis. *Economic Interfaces* 23 (2008) 219-224.
23. Nurmi, H. On the difficulty of making social choices. *Theory and Decision* 38 (1995) 99-119.
24. Okello, C., Pindozi, S., Faugni, S. & Boccia, L. Appraising Bioenergy Alternatives in Uganda Using Strengths, Weaknesses, Opportunities and Threats (SWOT) - Analytical Hierarchy Process (AHP) and a Desirability Functions Approach. *Energies* 7 (2014) 1171-1192.
25. Pezdevšek Malovrh, S., Kurttila, M., Hujala, T., Kärkkäinen, L., Leban, V., Lindstad, B.H. Peters, D.M., Rhodius, R., Solberg, B., Wirth, K., Zadnik Stirn, L. & Krč, J. Evaluating the operational environment of forest bioenergy production and use in four European countries. Manuscript, in review process, 2015.
26. Posch, A., Bruderer, T., Braschel, N. & Gabriel, M. Strategic energy management in energy-intensive enterprises: a quantitative analysis of relevant factors in the Austrian paper and pulp industry. *Journal of Cleaner Production* 90 (2015) 291-299.
27. Saari, D.G. Geometry of voting, volume 3 of *Studies in Economic Theory*. Springer-Verlag, New York, 1994.
28. Saaty, T. L. *The Analytic Hierarchy Process*. McGraw-Hill, New York, 1980.
29. Saaty, T.L. *Decision Making with Dependence and Feedback: The Analytic Network Process*. RWS Publications, Pittsburgh, 1996.
30. Shrestha, R. K., Alavalapati, J. R. R., & Kalmbacher, R. S. Exploring the potential for silvopasture adoption in south-central Florida: an application of SWOT-AHP method. *Agricultural Systems*, 81(3) (2004) 185–199.

31. Shinno, H., Yoshioka, H., Marpaung, S., & Hachiga, S. Quantitative SWOT analysis on global competitiveness of machine tool industry. *Journal of Engineering Design*, 17(3) (2006) 251–258
32. Yilmaz, M.R. Can we improve upon approval voting? *European Journal of Political Economy* 15 (1999) 89-100.
33. Yüksel, İ., Dagdeviren, M. Using the analytic network process (ANP) in a SWOT analysis - A case study for a textile firm. *Information Sciences: an International Journal* 177(16) (2007) 3364-3382.

EXPLORING THE LINK BETWEEN R&D INTENSITY AND EMPLOYEE DOWNSIZING: A U-SHAPED RELATIONSHIP

José David Vicente-Lorente, José Ángel Zúñiga-Vicente

Faculty of Business & Economics, Universidad de Salamanca, Spain

Abstract: This study explores the relationship of R&D intensity and employee downsizing in an attempt to clarify seemingly contradictory evidence from economic and managerial research.

Based on the Resource-Based View of the firm, our conceptual framework suggests that a linear relationship poorly approximates the complex and dynamic effects of the progressive accumulation of firm-specific technological knowledge on organizational size. Using a sample of Spanish manufacturing firms during the period 1994-2006 as an empirical setting, our results corroborate that there is a U-shaped relationship between the level of R&D intensity of firms and the propensity of such firms to carry out significant reductions in workforce. Some important implications for managers and policy-makers are derived from this study.

Keywords: R&D, employee downsizing.

INITIALIZATION OF THE SIMPLEX ALGORITHM

Predrag S. Stanimirović¹, Nebojša V. Stojković²

¹University of Niš, Faculty of Sciences and Mathematics; ²Faculty of Economics, Niš, Serbia

Abstract:

The simplex method is an algorithm for solving linear problems which was discovered by George Dantzig in 1947. It occurs very frequently in almost every modern industry. In fact, areas using linear programming are as diverse as management, health, transportation, manufacturing, advertising, telecommunications, defense. Simplex helps to guide the management on the maximum or minimum investment in a particular portfolio. In general, the simplex method is an elegant solution to a common problem in planning and decision-making. In terms of widespread application, Dantzig's algorithm is one of the most successful algorithms of all time and ranked among the top 10 algorithms in the 20th century.

The purpose of a linear program (LP) is to maximize a linear objective function

$$z(x) = \sum_{j=1}^n c_j x_j = \langle c | x \rangle \quad (1.1)$$

subject to linear inequalities

$$\sum_{j=1}^n a_{ij} x_j = \langle a_i | x \rangle \leq b_i, \quad i = 1, \dots, m, \quad x_j \geq 0, \quad j = 1, \dots, n. \quad (1.2)$$

The vectors $c=(c_1, \dots, c_n)$ and $x=(x_1, \dots, x_n)$ denote the vector of coefficients in the goal function and the vector of unknown decision variables, respectively, and $\langle c | x \rangle$ denotes the scalar product of the vectors c and x . The left hand side of any constraint in (2), given by

$$\langle a_i | x \rangle = a_{i1}x_1 + a_{i2}x_2 + \dots + a_{in}x_n, \quad i=1, \dots, m,$$

denotes the scalar product of the vectors $a_i=(a_{i1}, \dots, a_{in})$ and x .

The method of minimal angles (MA method, shortly) was introduced in [4] and it is aimed to solve linear optimization problems (1)-(2). The main idea used in this method arises from the graphical procedure for solving the linear programming problems.

It is known that in n -dimensional case any of the vertices of the polyhedron can be found by solving a system of n equations which are determined by some of the constraints (2). In [4] we propose a method for a proper selection of these equations, based on a generalization and formalization of the graphical procedure. The major idea guiding the MA method is the following: it is observable that the optimal vertex of the polytope is formed by the intersection of n constraints, where n is the number of variables included in the LP. These n constraints that form the optimal vertex should be the ones **closest in angle to the objective function**. In Figure 1 it is observable that the angles between the gradients a_1 and a_2 of the first and the second constraint and C are the smallest among the angles between all constraint gradients and C .

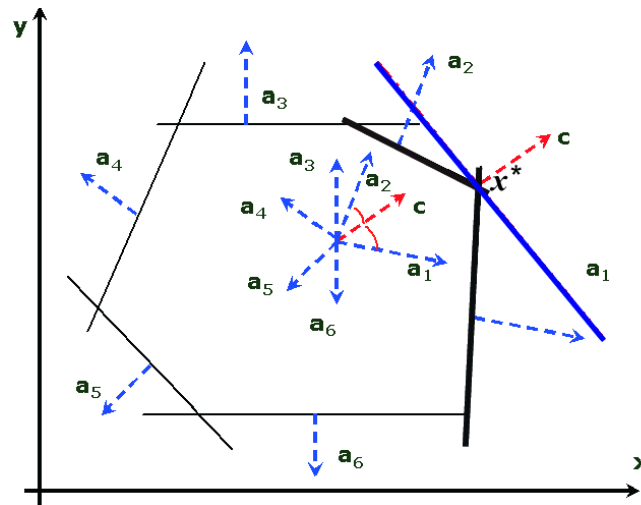


Figure 1. Illustration of the main idea of the minimal angles.

Algorithm 1.1 (MA method) Suppose we have the linear maximization problem (1)-(2) with no redundant constraints. Let $P \subseteq R^n$ be the set of feasible solutions defined by (2). Let $c = (c_1, \dots, c_n)$ be the gradient vector of the objective function and $a_i = (a_{i1}, \dots, a_{in})$, $i = 1, \dots, m$. Consider the set

$$V = \left\{ v_i = \frac{\langle c | a_i \rangle}{|a_i|} = \cos(c, a_i) |c|, |r_i| = \sqrt{\sum_{j=1}^n a_{ij}^2}, \quad i=1, \dots, m \right\}. \quad (1.3)$$

Assume that the set V contains l positive elements, denoted by v_{i_1}, \dots, v_{i_l} .

The following cases can be considered:

(a) In the case $l=0$, the maximal value of the objective function $z(x)$ is equal to $z_{\max} = +\infty$.

(b) In the case $l \geq n$, choose the initial iteration x_0 of the simplex as the solution of the following system of equations:

$$a_{i_k,1}x_1 + \dots + a_{i_k,n}x_n = \langle a_{i_k} | x \rangle = b_{i_k}, \quad k = 1, \dots, n, \quad (1.4)$$

where the indices i_1, \dots, i_n are corresponding to n maximal and positive values selected from the set V .

(c) In the case $0 < l < n$, generate the following system of linear equations

$$a_{i_k,1}x_1 + \dots + a_{i_k,n}x_n = \langle a_{i_k} | x \rangle = b_{i_k}, \quad k = 1, \dots, l, \quad (1.5)$$

wherein the indices i_1, \dots, i_l correspond to positive values v_{i_1}, \dots, v_{i_l} from the set V . Then, evaluate the basic solution x_0 of the problem (1)-(2) by setting $n-l$ variables to zero and solving l equations in (5), which yields the remaining l variables, provided that these equations have a unique solution.

According to (3), it is observable that the constraint whose gradient generates a larger cosine value with the objective gradient is more likely to be included at an optimal extreme point than any with a smaller value.

When we started investigation on the idea of minimal angles, in 1998, it seemed that the idea of minimal angles will eliminate completely the necessity to use the simplex method to solve linear programs with positive coefficients without redundant constraints! In fact, after our research and after many comments on the MA method, the next reality was came out:

1. The output x_0 of the MA method is a basic feasible solution of (1)-(2).
2. If the optimal solution in P is denoted by x_p , then the following cases frequently occur:
 - (i) $x_0 = x_p$, or
 - (ii) x_0 and x_p belong on the same hyperplane of P .

In any case, the output x_0 of the MA method could be used as the initial basic feasible solution of the simplex method.

Besides this important property, we mention the following useful property of the MA method. In the simplex method, all constraints together with added slack variables are used in each step. In the method of minimal angles, the number of active constraints is smaller with respect to the number of active constraints used in the corresponding simplex procedure. Moreover, slack variables are not used in the MA method. Therefore, dimensions of the problem considered in the MA method, are significantly smaller with respect to dimensions of the simplex procedure applied to the same problem. Hence, each substitution of a few iterations of the simplex method by only one application of the method of minimal angles usually significantly reduces the number of floating point operations and the spanned processor time.

As a method which is capable to create a good initial basis (initialization of the simplex), it has been followed and investigated in a number of papers or PhD theses.

Comments from [5]: "One of the methods, which the authors call the "minimal angles method" (MA method) was designed to determine either an optimal extreme point or an extreme point adjacent to an optimal extreme point."

Investigation in [1] extends the idea of minimal angles to the dual simplex method.

One characteristic comment is stated in [3]: "A different approach is taken by Stojkovi c' and Stanimirovi c' [19], Junior and Lins [11], and Luh and Tsaih [13], who rather than improve on the simplex algorithm itself, developed a method to select a better starting point for the simplex method which reduces the number of simplex iterations needed."

The general conclusion from [2] is: "Although the method is very effective, and can create an optimal basis for linear programming on some occasions, it clearly can only create a good initial basis in general, not an exact optimal basis."

What is the general conclusion about the MA method? Clearly, the MA idea did not eliminate the need to use the simplex method to solve linear programs nor even the linear programs with positive coefficients and without redundant constraints! MA method will be remembered and used as one of good heuristics for the simplex method initialization. The most important conclusion is: there is no a magic wand to solve the LP problem in a single step.

REFERENCES:

- [1] H.V. Junior, M.P.E. Lins, *An improved initial basis for the Simplex algorithm*, Computers & Operations Research **32** (2005), 1983–1993.
- [2] W. Li, *A note on two direct methods in linear programming*, Europ. J. Oper. Res. **158** (2004), 262–265.
- [3] C. Al-Najjar, B. Malakooti, *Hybrid-LP: Finding advanced starting points for simplex, and pivoting LP methods*, Computers & Operations Research **38** (2011), 427–434.
- [4] N.V. Stojković' and P.S. Stanimirović', *Two direct methods in linear programming*, Europ. J. Oper. Res. **131(2)** (2001), 417–439.
- [5] C.M. Wang, *Comments on Two Direct Methods in Linear Programming*, Ph.D. Thesis, Faculty of Graduate Studies and Research, University of Windsor.

SIMULATION MODEL FOR EMERGENCY DEPARTMENT

Gupte Jaideep

India

Abstract: The paper presents a comprehensive research study of the simulation model developed for a hospital Emergency Department. The study was conducted in the Emergency Department (ED) at The Ohio State medical Center. A detailed patient flow process chart is developed to study time delays, patient medical processes, resources, material flows in the system. A simulation model was developed using Arena (7.0) to model the process flow of patients in order to analyze the ED System performance. The response variable in our study is patient throughput. Lean Management based strategies were proposed for improving patient throughput in Emergency Department. The lean management strategies focus on creating value in system, reducing non value added times, reduction of queues and chaos in system. A statistical hypothesis testing experiment was conducted to study the significance/ non significance of proposed strategies for implementation in Emergency Department.

Keywords: Emergency Department, Simulation, Work Flow, Lead Time.

1. INTRODUCTION

The Emergency Department (ED) at Ohio State Medical Center specializes in the treatment of critically ill and seriously injured patients and possess a comprehensive array of the most up to date diagnostic and treatment services coupled with a highly trained and experienced health care staff. It was observed that the overall time patients spent in the Emergency Department of the hospital was significantly higher (500 minutes) than the benchmarked time for the patient length of stay (LOS). This has an adverse impact on patient throughput in the ED. If the patient length of stay in the ED is high, then the waiting times for new incoming patients in the ED is high and the in-process patient volumes who have received partial medical service in the ED is also high. These factors contribute to a significant decline in the ED system performance.

The objective of our research study was to analyze and evaluate ED system performance. The research study was conducted in several phases. The first phase involved construction of a detailed flow chart of the “As Is” ED system. This enabled us to understand the work flow of patients, physicians and nurses in the ED system. The second phase involved construction of a detailed simulation model using Arena (7.0). The simulation model calculates the performance evaluation measures such as total patient length of stay, total patient throughput, waiting times in the system, resource utilization, etc. The simulated values are compared with the benchmarked values and the values observed when the work sampling studies were conducted. The simulation model helped us to understand the ED system dynamics and was an invaluable tool for evaluating the variations in the performance measures.

We propose Lean methodologies to optimize the performance of the Emergency Department. The lean management based methodologies were embedded in the simulation model in to obtain the ED system performance measures. The simulated measures of performance were tabulated and a statistical Design Of Experiments (Analysis of Variance) was performed in order to obtain significant and non- significant factors in the study.

2. LITERATURE REVIEW

Samaha and Armel (2003) present a simulation model and a complete analysis of operations in the Emergency Department of Cooper University Hospital, which is a 554-bed licensed facility. Miller and Ferrin (2003) simulated a large hospital in South East USA and proposed six sigma-based process improvement ideas for reduction of patient length of stay.. Garcia et al. (1995) analyzed the flow of patients at the Mercy Hospital with the objective being to minimize the waiting times of patients. The above papers describe a simulation model of the Emergency Department but do not describe adequate policies and recommendations to improve the performance of the Emergency Department. A thorough statistical analysis is not conducted to identify significant and non- significant factors impacting the ED performance.

Centeno et al. (2003) observed in their study at the Baptist Health South Florida that one of the significant operating costs in the Emergency rooms is the staffing costs. Baesler et al. (2003) have developed a simulation model for calculating the maximum possible demand increment in an Emergency room of a private hospital in Chile. The simulation model was used to create a curve that analyzes and predicts the patient length of stay in the system. Baesler et al.,(2003) performed a statistical Design of Experiments analysis which considered 4 factors: # of physicians, # of paramedics, # of receptionists and nature of emergency room. The above papers describe the simulation model to measure the operating costs in the ED but fail to suggest the operations process improvement measures. The Analysis of Variance results of the analysis explains the significant factors but the factors are not incorporated in the simulation model to study the improved response measures.

Bard et al. (2005) discuss the problems, hospital management faces several times in a day as the demand for health care services departs from the planned schedule. Harrison et al. (2005) present a stochastic version for the Harrison Millard multi- stage model of the flow of patients through a hospital division in order to model correctly not only the average but also the variability in occupancy levels. Bard and Purnomo (2005) present two models to solve the midterm preference scheduling problem based on shift view formulation. The above papers describe a linear integer programming formulation to optimally solve the staff planning problem in the hospital. The math-based models are however able to optimally compute solutions to small size problems and fail to solve large size problems especially when the hospital staff size is large. The linear models fail to capture non linear constraints especially in lieu of staffing preferences and random variations in staff schedule.

Akcali et al. (2006) present a network flow approach to optimizing hospital bed capacity decisions. Their approach ignores the random variations in patient demand and variations in patient processing times in the hospital. The utilization levels of the hospital staff

is not taken into account while calculating bed turnover rate. Basu Ghosh and Cruz George (2006) present a Physician Requirements Planning model in response to high demands for physicians in hospitals. The Physician Requirement Planning model is an artificial intelligence based software system used for calculating the number of physicians and physician rosters based on the physician schedules. The software system is essentially restricted to physician planning but does not capture the ED operations planning and management aspects. The software takes into account the physician planning problem in a disjoint fashion but fails to capture the complexities of Emergency Department system.

Kevin Leonard (2004) studied the role of patients in designing health information systems and the case of applying simulation techniques to design a patient record interface. Baker (2002) studied the sensitivity analysis for health care models using statistical methods. Their research determined which parts of the model caused greatest uncertainty in the predictive models and is a decision support tool for the modeler, helping them to refine the model further or collect additional data. Beguin and Simar (2004) analyze expenses linked to hospital stays and a methodology to calculate outliers.

Jones et al. (2002) describe a forecasting model that forecasts the daily number of occupied beds due to Emergency Admissions in the hospital. They discovered that the number of occupied beds is related to Emergency Admissions. Utley et al. (2003) address the question of what level of capacity is required to operate a system if cancellations of booked patients are kept to a low level. Karnon et al. (1998) discuss the suitability of modeling techniques for economic evaluations of health care programs in general. These approaches do not accurately capture the uncertainty in patient volumes and the ability of hospital resources to respond efficiently to the fluctuations in the patient volumes.

Rohleder et al. (2007) report on the use of simulation modeling for redesigning phlebotomy and specimen collection centers at a medical diagnostic laboratory. The objective of their research was to reduce average waiting times and their variability. The simulation model does not incorporate the graphical and animation features as would be available with Arena. The waiting times calculations have not been accurately explained in the paper.

Channouf et al. (2007) develop and evaluate time series models of call volume to Emergency Medical Service in a Canadian city. Denton et al.(2007) worked on the problem of sequencing and scheduling surgeries under uncertainty. The scheduling model does not obtain optimal solutions in a polynomial amount of time.

3. PROBLEM DEFINITION

The problem considered in this paper is the performance analysis and operations improvement of Emergency Department. The response variable in the study is patient throughput. We analyzed the current state of the Emergency Department at OSU-MedCtr and constructed a Flow Process Chart of the system. The Flow Process Chart is explained by Figure 1 and Figure 2. The process that was charted is presented in two phases: Phase 1 describes patient medical process till the lab operations are performed and Phase 2 is from the point of patient lab operations to patient disposition from ED to the hospital floor or home. The problem in this research study focuses on maximization of patient throughput.

Maximization of patient throughput can be achieved by minimizing patient lead time, minimizing work in process, reduction of chaos in the system

Patient throughput in the paper is defined as the number of patients served by the hospital in defined time horizon i.e., one day. Patient length of stay is defined as time spent by the patient in hospital system from the point patient reaches the hospital door to the point when patient leaves the Emergency Department system. Resources in the Emergency Department are doctors, nurses, specialty consultants, patient beds etc. Auxiliary resources which are required by the Emergency Department but which may be present in other areas of hospital are Lab, X Ray, CT, MRI Scan etc. Improvement in resource utilization of hospital resources is an important element of hospital process and operations procedures. The emergency department consists of a set of nurses supervised by a charge nurse. A nurse attends to more than one patients. The nurse: patient ratio is fixed for acute care and fast track patients. There are a few specialty consultants allocated to the Emergency Department depending on commonly observed ailments. There is a physician dedicated to Emergency Department and a few physicians who perform duties in Emergency Department as well other hospital areas such as Intensive care units. The bottleneck resource identification in our study would include calculating the resource which requires maximum processing time/ workload. The resources required for patient care such as injections, needles are arranged in a central nursing station. The number of beds in the Emergency Department is kept fixed.

The data for our experiments collected is the primary data which has been collected after conducting time and motion studies in the Emergency Department on different days of the week and in different weeks. The probability distribution for the data points is plotted from standard commercial software Matlab/Arena. After the primary data collection is conducted on different days and a distribution is fitted with aid of the software, the interval of the distributions are fed into the simulation model and the model is run for one day. The research studies focus on measurement of performance measures such as patient throughput, resource utilization, patient lead time with the aid of a simulation model. The research study also includes development of lean management based strategies for maximization of patient throughput. Lean management based strategies attempt to create value in system by reduction of different types of waste such as motion, resource, inventory, time, transportation, money, underutilized human potential, overprocessing, etc. The 5S methodology of sorting, straightening, shine, standardize and sustainance has also been incorporated in development of lean management based strategies.

4. EMERGENCY DEPARTMENT ANALYSIS

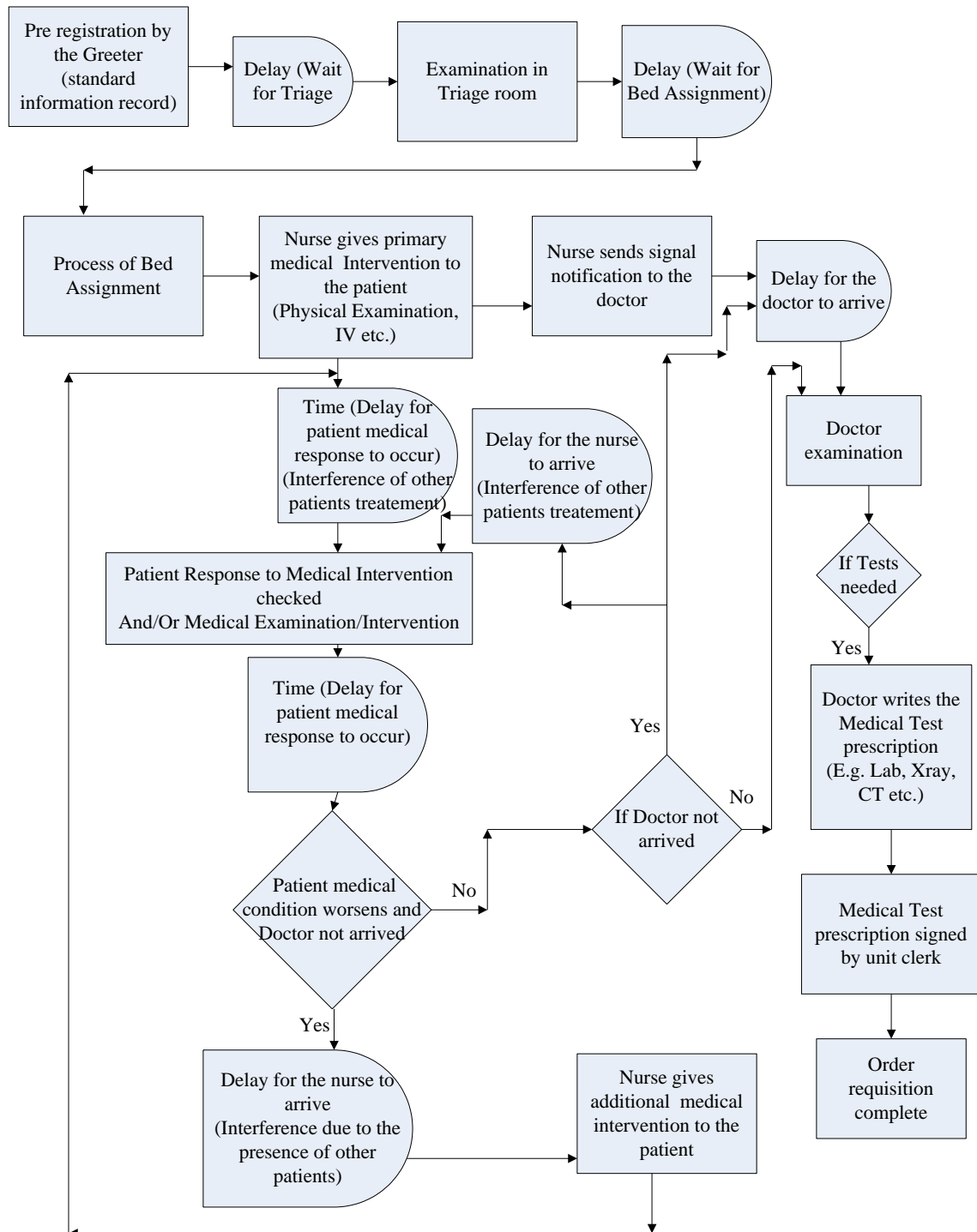


Figure 1 . Emergency Department Phase 1

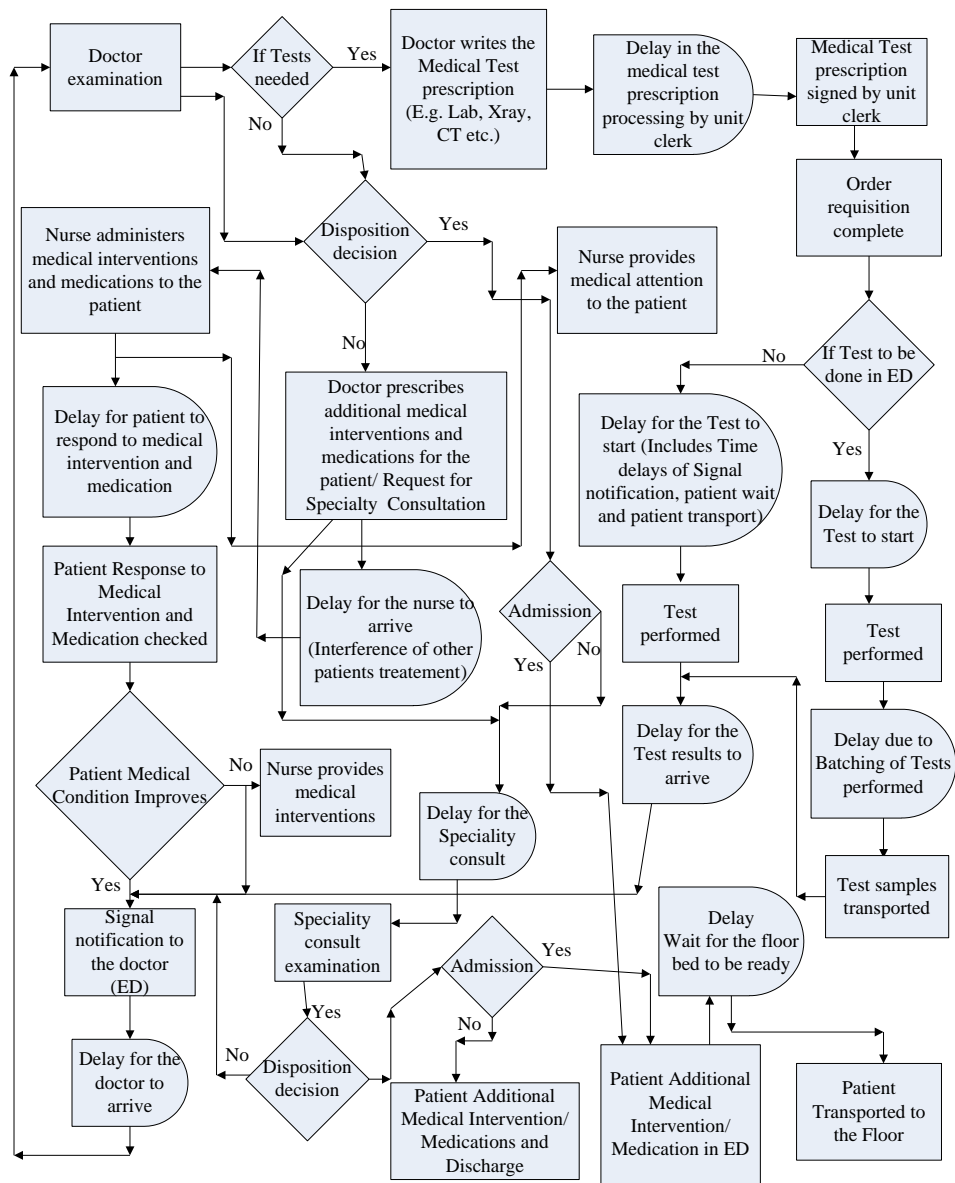


Figure 2. Emergency Department Phase 2

The process starts with the arrival of the patient at the entrance of the Emergency Department and subsequent patient preregistration, checking of vital signs, and patient triage. The patient triage can be defined as the first aid treatment given to the patient at the onset in the Emergency Department. The processes in the ED system vary depending on the medical condition of the patient. Medical treatment in the Emergency Department involves medical examination by ED physicians, medical examination by specialty consultants, interventions provided by nurses and medications. The number of physicians and specialty consultant visits is dependent on nature of the medical condition of the patient. While waiting (i.e., time delay)

for the patient to respond in some cases, the next medical intervention is delayed until the arrival of specialty consultants for medical examination. The medical treatment of the patients also involves administration of tests such as lab, X rays, CT, MRI, etc. On average it was observed that the number of doctor (ED physician visits) per patient varied from 3 to 4. While medications provided require a Physician order, other interventions may or may not require the physician. The nurse: patient ratio for acute care currently in the system was observed to be 1: 3 while that for the fast track was observed to be 1:7. However it was observed that the ratio changes due to varying staff availability and staffing capacity as well as high variability in the patient demand. The changes to the nurse: patient ratio was initiated by the charge nurse.

In our research study we propose a variable “patient lead time” (also defined as length of stay). The motivation behind introducing this factor was that patients with high acuity may have high or low patient lead time whereas patient with low acuity may have high or low patient lead time. Thus we have four different cases, depending on patient high and low acuity levels and patient high and low lead times. It was observed that the nurse: patient ratio was different for all possible scenarios depending on patient’s acuity level and cycle time in the system. The expected patient lead time at the onset would aid the charge nurse in optimizing the nurse: patient assignment by rapid dynamic updating of nurse: patient ratio. The rapid dynamic updating of nurse: patient ratio would ensure complete patient satisfaction and optimize the system performance measures.

It is noted that if the nurse: patient ratio is kept a constant for the entire duration of the day, high quality and high service level of patient care cannot be achieved. The patient demands fluctuate with a high degree of variation at different time intervals of the day and for different days of the week. Hence if the nurse: patient ratio is kept as constant, the nurse: patient assignment would not take into account the acuity levels of the incoming patients. This would lead to low service levels of patient care, patient dissatisfaction and increase in patient lead time. Hence the dynamic updating of nurse: patient ratio levels are carried by the charge nurse subject to high variability in patient volumes and acuity levels. In the OSU-MedCtr ED facility, a white board is deployed to record the patient IDs, nurse IDs and nurse: patient assignment. The white board is dynamically updated by the charge nurse to update the assignment ratios.

Patient disposition could either be patient floor admit or patient discharge. This disposition decision is made by an ED physician in consultation with the specialty consultant. The disposition decision in the current system is not taken preemptively by the physicians or the specialty consultants but is only taken in the later stages of the course of treatment in the Emergency Department. It was observed that in the case of patient admits to hospital floors, the examination by specialty consultants was observed to be frequent. The patient admissions on the floor were delayed on account of the floor beds not being ready for the admission of new patients. As a result it was observed that the patients had to stay in the Emergency Department for a significant amount of time although their medical treatment in the Emergency Department was complete. Hence this resulted in a significant amount of delay for admission of new arriving patients in the Emergency Department. This was a major concern from the point of view of criticality and acuity of patients and a loss of revenue to the hospital due to potential loss of patients. We performed time studies and collected data from the

patient record sheets, pertinent to the above the flow chart in Figure 1 and Figure 2. A simulation model was built in Arena 7.0. The three days were sampled from a month's period. We assumed that the patient arrivals are exponentially distributed with a mean of 8 minutes. Data collection for service times of medical process activities was conducted and distributions computed to calculate mean and standard deviations. We simulated the system for a period of one day. The one-day (1440 minutes) was the time for which the Arena Simulation model was run.

5. SIMULATION MODEL OF EMERGENCY DEPARTMENT

The input data for the simulation model was follows: The waiting times of the triage follow a uniform distribution between (3- 5 min). The average waiting times for the bed assignment follows a uniform distribution between (8 – 10 min). Since one nurse attends on average 3 to 4 patients at any given time, the average waiting times due to interference of other patients follows a uniform distribution from (5 – 7 min). The average waiting times for the doctor to arrive is 5 minutes for acute care and 15 minutes for fast track.

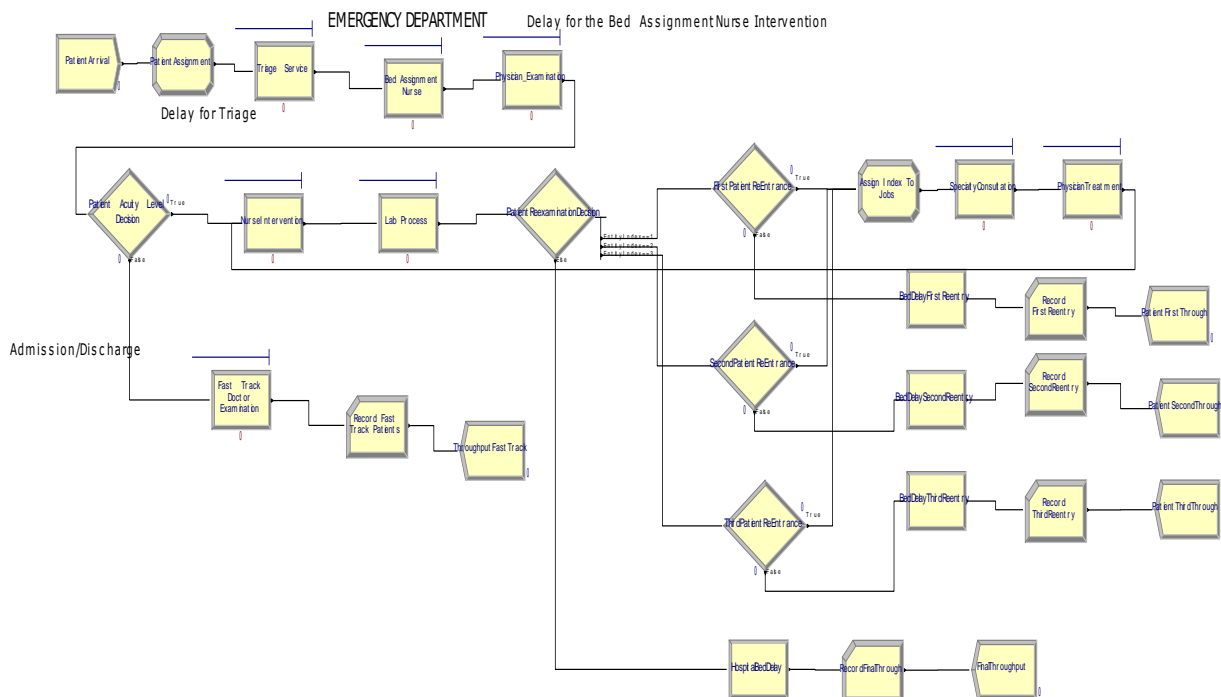


Figure 3. Simulation Model

Figure 3 explains the Simulation Model of Patient Process Flow.

The Emergency Department staff has a tendency to batch test results and the average waiting times due to batching of test results is 15 min. Since Lab is a bottleneck resource in the Hospital and receives requests from all inpatient units, surgery department, ICU and the Emergency Department, the waiting times for the arrival of lab test results follows a uniform distribution from (20 – 25 min). The waiting times of the specialty consultant are on an average 10 minutes whereas the waiting times of the patients for getting to the hospital floor bed follows a uniform distribution from (30-35min). Throughput is defined as the number of patients served by the Emergency Room in a predetermined time horizon (set as 1 Day). Throughput includes fast track and acute care patients served in a time horizon.

Lean methodologies were developed for Emergency Department operations are listed below.

a) Implementation of Triage Short Form vs. Regular Form Triage

- The concept of Triage Short Form stemmed from the need to reduce the time taken for triage in order to increase patient throughput.

b) Implementation of Visual Display for Dynamic Nurse: Patient Ratio

- The concept of Visual Display stemmed from the need to reduce the time taken to do the nurse intervention, reduce the delay for wait for nurse and thus increase patient throughput.

c) Implementation of Preemptive Disposition Decision Making by ED Physician

- The concept of Preemptive Disposition Decision Making stemmed from the need to reduce the time taken by the ED Physician to attend to the patient and thus minimize the patient total lead time and increase patient throughput.

The above methodologies were also treated as Factors (Independent Variables) for the Design of Experiments. The Response Variables in the experiment were Total Patient Throughput in a day, Total Patient LOS for Fast Track Patients & Acute Care Patients Total Patient Length of Stay for Acute Care Patients. The Design of Experiments involves the implementation of the Paired comparison(t test) in order to evaluate the significance / non significance levels of the factors. Each Factor is tested at 2 levels: High Level (+) and Low Level (-). Triage Short Form Strategy involved perturbing the time taken to do the triage operation at high and low level (i.e., high and low times to perform triage operation). Visual Display for Nurse to Patient Operation involved perturbing time delay for conducting Nurse Intervention at high time values and low time values. Preemptive Disposition Decision Making Strategy involved perturbing time delay to conduct ED Physician examination at high and low time values. Sensitivity Analysis of the Simulation Model was carried out as follows: Each factor is embedded in the Simulation Model one at a time and the response variables are evaluated.

6. STATISTICAL HYPOTHESIS TESTING

Response Variable : Patient Throughput

Independent Variables: Triage Levels, Nurse: Patient Levels, Doctor Staffing Levels For Decision Making

Before Implementation of Lean Strategy Implementation

Null Hypothesis : H_0 : There is no significant change in throughput levels of Emergency Room in 2 weeks for which studies are conducted

Alternate Hypothesis H_1 : There is a significant change in throughput levels of Emergency Room in 2 weeks for which studies is conducted.

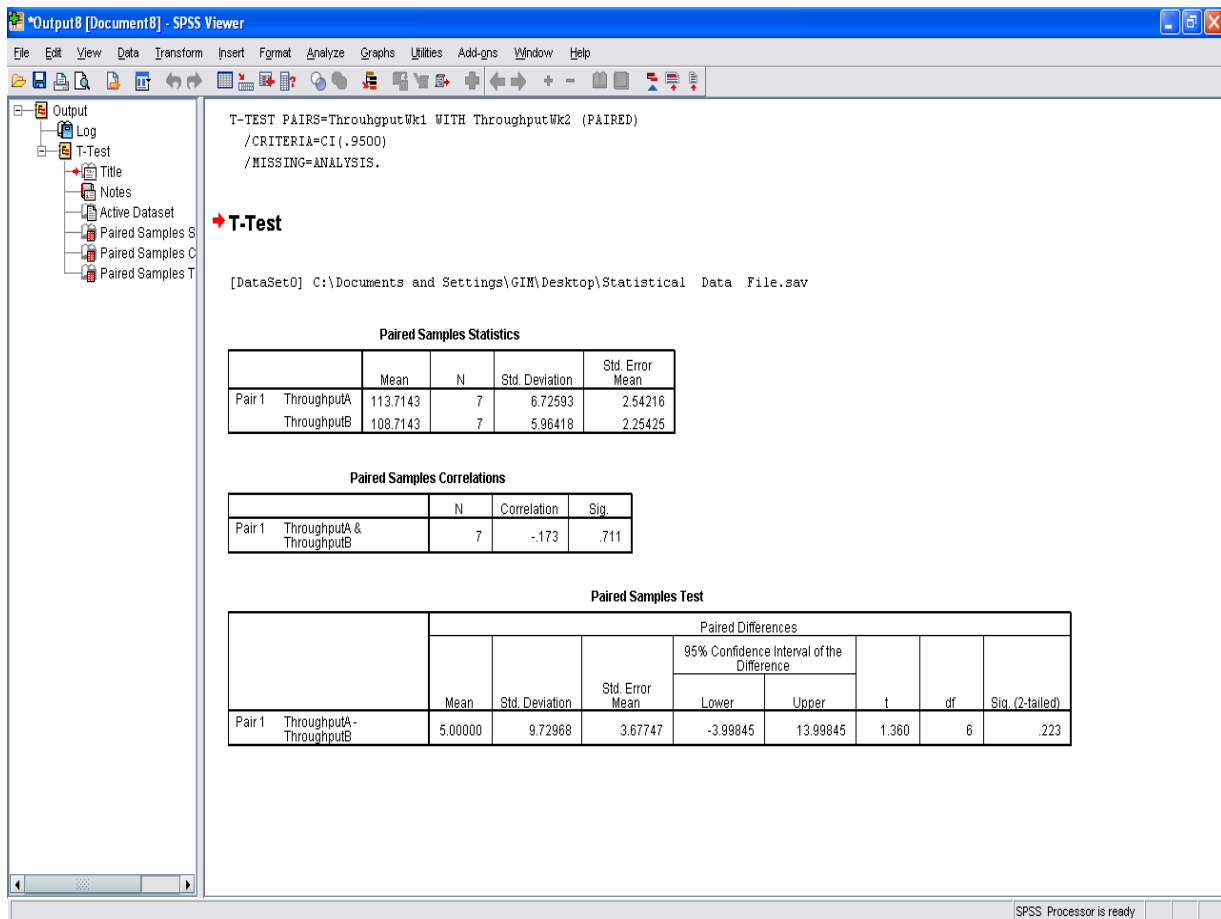


Figure 4. SPSS Screen Output

A paired sample Test and Screen Output from SPSS is displayed for 95 % Confidence Level

p Value = 0.223 p value > 0.05

Null Hypothesis is accepted.

Conclusion : There is no significant change in throughput levels of two weeks in Emergency Room

SPSS Screen Out For Triage Short Form Implementation (95 % Confidence Level)

Null Hypothesis H0 : There is no significant change in Throughput Levels of Emergency Room before and after implementation of Triage Short Form Strategy

Alternate Hypothesis H1 : There is a significant change in Throughput Levels of Emergency Room before and after implementation of Triage Short Form.

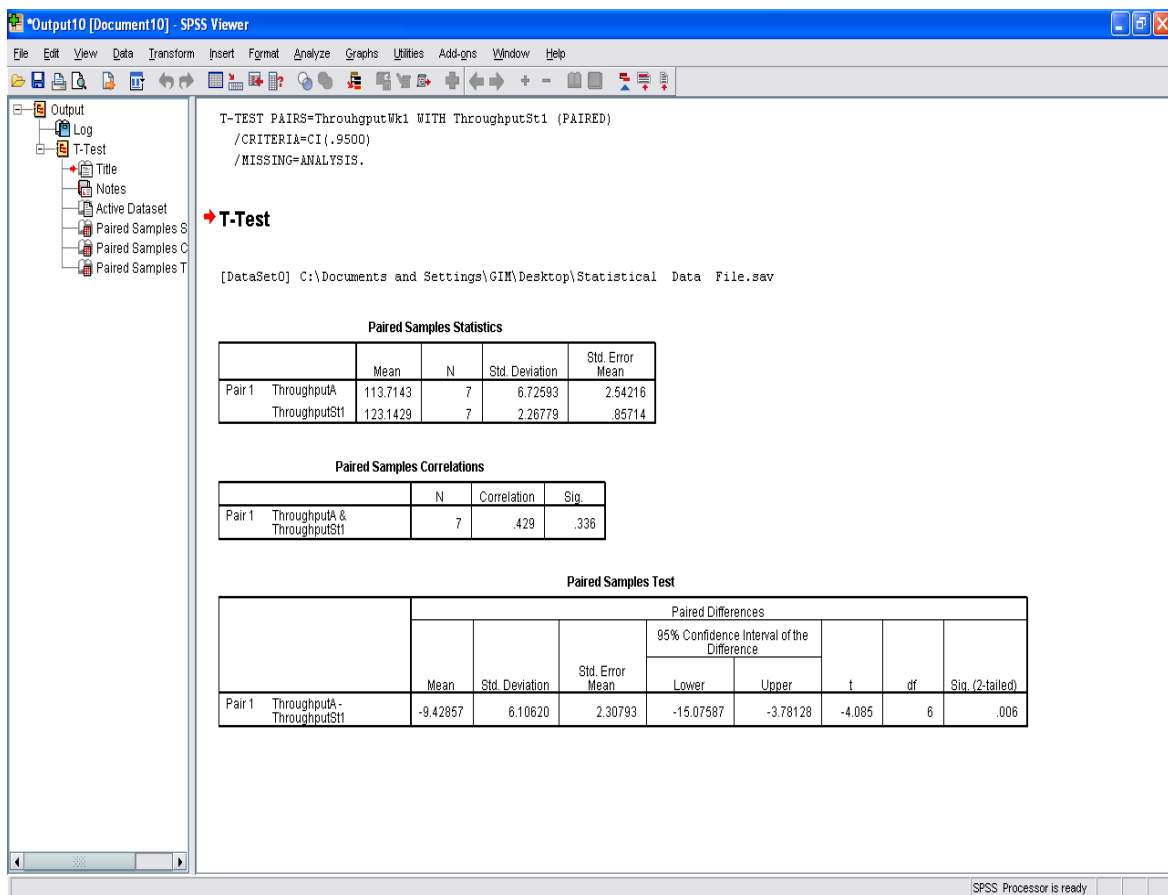


Figure 5 . SPSS Screen Output

Since $p \text{ value} = 0.006 < 0.05$, Null Hypothesis is rejected
Conclusions : Implementation of Triage Short Form yields statistically significant change in throughput values of Emergency Room

SPSS Screen Out For Visual Display Implementation (95 % Confidence Level)

Null Hypothesis H₀ : There is no significant change in Throughput Levels of Emergency Room before and after implementation of Visual Display Form Strategy

Alternate Hypothesis H₁ : There is a significant change in Throughput Levels of Emergency Room before and after implementation of Visual Display Form

SPSS Screen Output (95 % Confidence Level Analysis)

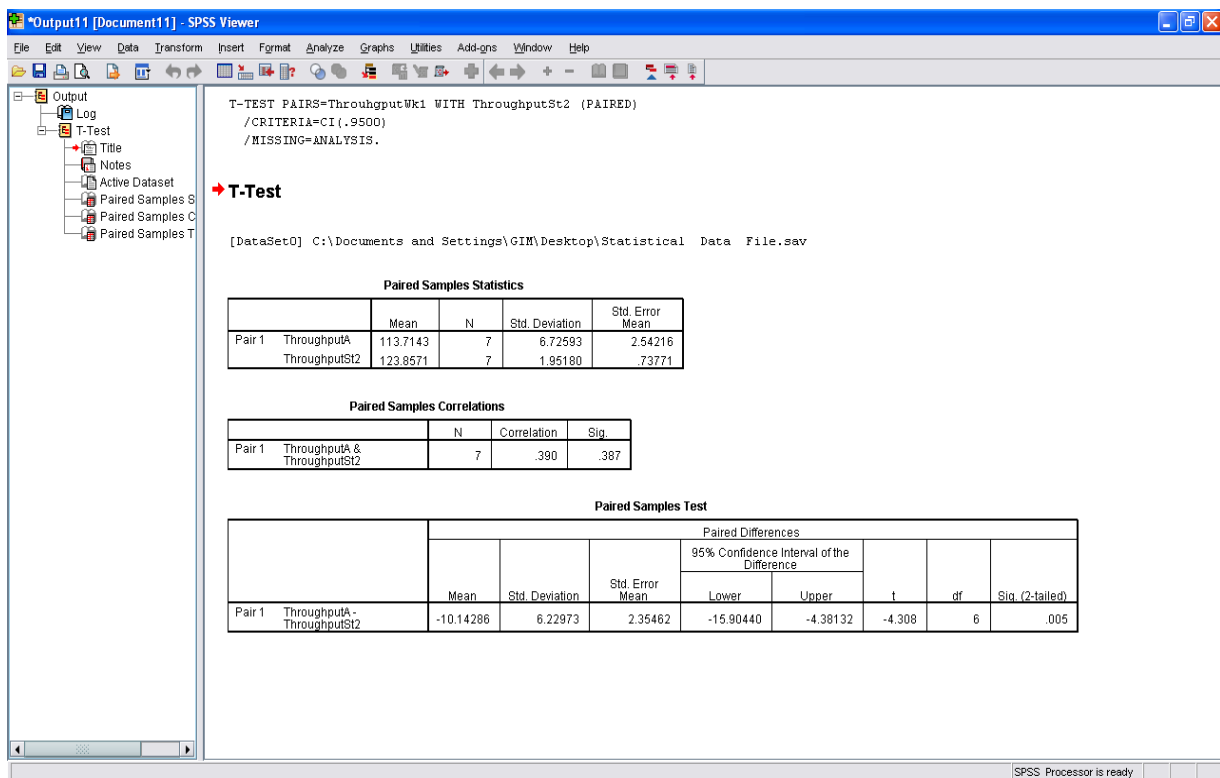


Figure 6 : SPSS Screen Output

$p \text{ Value} = 0.005 < 0.05$. Null Hypothesis is rejected

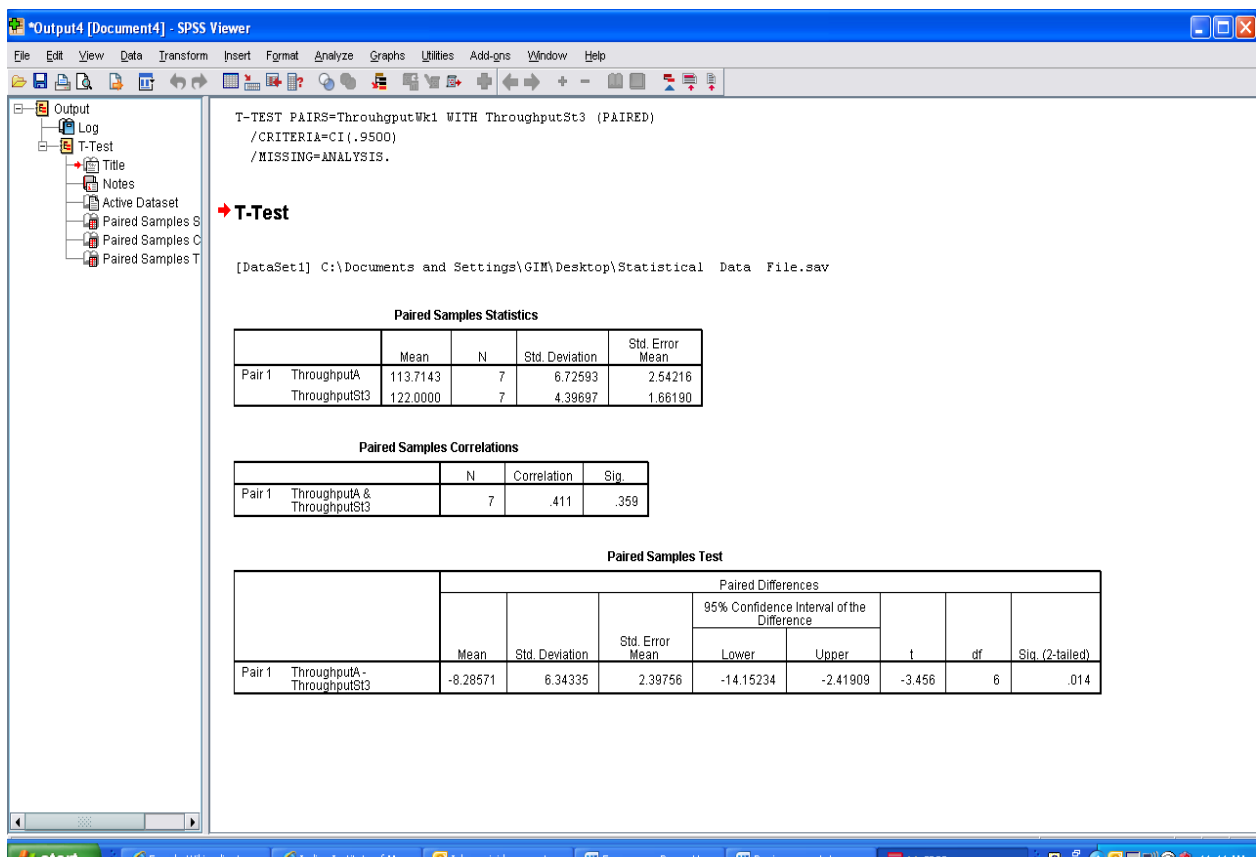
Conclusion: There is a significant change in throughput levels of patients in Emergency Room due to the implementation of Visual Display strategy.

SPSS Screen Out For Visual Display Implementation (95 % Confidence Level)

Null Hypothesis H0 : There is no significant change in Throughput Levels of Emergency Room before and after implementation of Preemptive Doctor Decision Strategy

Alternate Hypothesis H1 : There is a significant change in Throughput Levels of Emergency Room before and after implementation of Preemptive Doctor Decision Strategy.

SPSS Screen Output (95 % Confidence Level Analysis)



p Value = 0.014 < 0.05 . Null Hypothesis is rejected

Conclusion: There is a significant change in throughput levels of patients in Emergency Room due to the implementation of Preemptive Doctor Disposition Decision strategy.

7. CONCLUSIONS & FUTURE RESEARCH

We analyzed the Emergency Department at The Ohio State University Medical Center. The workflow in the Emergency Department was modeled using the simulation. The simulation model considered the several system performance evaluation measures such as patient throughput, patient lead times, patient waiting times etc. which provide several insights in our analysis. We identified the independent variables (factors) based on Lean Thinking approaches which could potentially impact the ED system. The response variable of study was patient throughput. Next we conducted a paired t test to determine the statistical significance levels of the three strategies for implementation in Emergency room. The results of t test explain that before the lean strategies were implemented in the Emergency room, there was no statistically significant change in patient throughput levels observed. The t test results also explain that the implementation of lean strategies provides a statistically significant change in patient throughput values in Emergency room.

The conclusion of the research studies explains that implementation of lean strategies such as triage short form, preemptive doctor decision making by changing doctor staffing levels and visual display with a modified nurse:patient ratio can yield statistically significant change in patient throughput. Increase in patient throughput will yield to reduction in patient lead time, increase resource utilization and reduce chaos in emergency department.

Future work could involve development of network flow based approaches for analyzing an emergency room. A linear program could be developed for the network flow model to maximize the patient throughput.

REFERENCES

- Akcali, E., Cote, J.M., and Lin, C.,2006. A Network Flow Approach To Optimizing Hospital Bed Capacity Decisions. *Health Care Management Science*, 9, 391-404.
- Baker, Rose. D.,2002. Sensitivity Analysis of Health Care Models Fitted To Data By Statistical Methods. *Health Care Management Science*, 5, 275-281.
- Baesler, F.F., Jahnsen,E.H., 2003.Emergency Department I: the use of simulation and design of experiments in estimating maximum seating capacity. *Proceedings of 2003 Winter Simulation Conference*.
- Bard, J.F., Promos, W.H., 2005. Short Term Nurse Scheduling In Response to Daily Fluctuations In Supply & Demand. *Health Care Management Science*, 8, 315-324.
- Bard, J.F., Purnomo, W.H., 2006. Incremental Changes in the WorkForce to Accommodate Changes in Demand. *Health Care Management Science*, 9, 71-85.

- Beguín, C. and Simar, L., 2004. Analysis Of the Expenses Linked to Hospital Stays: How To Detect Outliers. *Health Care Management Science*, 7, 89-96.
- Centeno, A.M., Giachetti, R., Linn, R., Ismail, A., 2003. Emergency Department II, a simulation based ip tool for scheduling ER staff. *Proceedings of 2003 Winter Simulation Conference*.
- Carter, W.M., Lapierre, D.S., 2001. Scheduling Emergency Room Physicians. *Health Care Management Science*, 4, 347-360.
- Harrison, W.G., Shafer, A., Mackay, M., 2005. Modeling Variability In Hospital Bed Occupancy. *Health Care Management Science*, 8, 325-334.
- Leonard J.K., 2004. The role of patients in designing the health information systems, The case of applying simulation techniques to design patient electronic record interface. *Health Care Management Science*, 7, 275- 284.
- Harper, P., 2001. A framework For Operational Modeling Of Hospital Resources. *Health Care Management Science*, 5, 3, 165-173.
- Karnon, J., and Brown, J., 1998. Selecting a Decision Model For Economic Evaluation : A Case Study And Review. *Health Care Management Science*, 1, 133-140.
- Miller, J.S., Szmansky Starks, W.D., Ismail, M.A., 2003. Emergency Departments II. Simulating Six Sigma Improvement Ideas for hospital Emergency Department. *Proceedings of 2003 Winter Simulation Conference*.
- Mahapatra, S., Koelling, C.P., Patvivatsiri, L., Fraticelli, B., Grove, E., 2003. Pairing Emergency severity index – 5 level triage data with computer aided system design to improve Emergency Department. *Proceedings of Winter Simulation Conference 2003*.
- Gandjour, A., Weyler, E.J., 2002. Cost Effectiveness of Referrals to High Volume Hospitals. An analysis based on Probabilistic Markov Model for Hip Fracture Surgeries. *Health Care Management Science*, 5, 3.
- Puig, J.J., Jaume, S., Martinez, G.E., 2002. Why do Patients prefer Hospital Emergency Visits. A Nested Multinomial Logit Analysis For Patient Initiated Contacts. *Health Care Management Science*, 1, 1, 39-52.
- Rohleder, T.R., Klassen, K.J., 2002. Rolling Horizon Appointment Scheduling. A Simulation Study. *Health Care Management Science*, 5, 3, 201-209. 2002.
- Samaha, S., Armel, S., Starks, W.D., 2003. Emergency Departments I .The use of Simulation to reduce patient length of stay in Emergency Department. *Proceedings of 2003 Winter Simulation Conference*.
- Utley, M., Gallivan, S., Treasure, T., Valencia, O., 2003. Analytical Methods For Calculating Capacity Required To Operate An Effective Booked Admissions Policy For Elective Inpatient Services. *Health Care Management Science* (6). 97-104.

Conference papers:

RISK MANAGEMENT PRACTICES, DECISION MAKING AND CORPORATE GOVERNANCE

Y. Ayse B. Nordal, Metu-Turkey Licentiat Nhh

Municipal Undertaking for Educational Buildings and Property in Oslo, Norway

Abstract: The paper consists of two parts:

The introductory part takes ISO 31000 as the starting point and defines “risk” as the effect of uncertainty (positive or negative deviation) on objectives. Thereafter, the following questions are addressed:

- What is the link between risk management and the decision making process in a company?
- Which factors affect risk management practices and organization?
- How do company culture, the risk perception and risk appetite affect the decision making?
- Who owns the risks in an organization?

The second part explains how an integrated approach to strategic planning and risk management is implemented at the Municipal Undertaking for Educational Buildings and Property in Oslo, The following questions will be addressed:

- How do we manage strategic risks and project risks?
- How do we assess and quantify risks? How do we deal with “gray” swans?
- How do we monitor risks?
- How do we report risks?
- How did the risk management practice evolve over time? Lessons learned.
- Continual improvement of the risk management and decision making. Our possibilities in the future.

Keywords: Risk management, decision making, corporate governance

1. INTRODUCTION

In the recent years we have seen an increasing focus and fruitful discussions on how risk management is developing into a strategic function and how risk assessment is supporting decisions in the Board rooms and at top management level. The private sector, especially the finance sector have already benefited from risk management at strategic level. However, we have only few examples from the public sector. This paper will contribute to the discussion with an example from the Norwegian public sector.

The paper consists of two parts. In the first part there is a theoretical discussion about how risk management may be an instrument for sound decision making and corporate governance. The second part presents a case summarizing how the Municipal Undertaking for Educational Buildings and Property in Oslo, Norway (UBF) has integrated risk management to its overall business planning, planning in its operating units and its decision -making process.

2. THE LINK BETWEEN RISK MANAGEMENT AND THE DECISION MAKING PROCESS

Corporate decision making is a managerial activity, an executive process which involves choosing among perceived options to be able to achieve a goal. There are basically three types of business decisions: strategic, tactical and operational.

Strategic decisions consist of choice of actions which influence the whole business activity or major parts of it. They have a long time horizon and they focus on the overall activity and common goals of the enterprise.

Tactical decisions involve the implementation of strategic decisions. Examples are: choice of distribution channels, communication channels, logistics strategy.

Operational decisions are the day- to- day decisions which aim to monitor the day- to - day operations. These decisions are repetitive and they have a short time horizon.

Different types of decisions require different types of management attention. Strategic decisions are taken by the board of directors and/or by the top management. Operational decisions are taken by heads of departments. The decision making process itself may have different resource requirements in terms of time, expertise, data collection, communication and consultation.

Some decisions are taken purely “top-down”. Some have “bottom –up” elements and involve several parts of the organization in the decision making process.

Despite these differences, all decisions have *two* common characteristics:

- The decision making process is composed of a set of common process steps. However the complexity of these steps may differ from decision to decision. The process steps are:
 - Describing the goal and the task (problem or the opportunity)
 - Clarifying and analyzing possible options
 - Evaluating the consequences and ranking the options
 - Making a choice and evaluating the choice
- Most decisions have uncertain outcomes, i.e. involve stochasticity. [1] *Seldom*, the choice leads to a *certain* outcome, i.e. the decision is made and the outcome is known. However *most* decisions lead to outcomes with some uncertainty. In some cases the decision maker has information or a qualified guess about the probability distribution of the uncertainty. In other cases the probability distribution of the uncertainties are unknown.[2] Still in some other cases, the organization is faced with incidents and events which are neither decided nor initiated by the company itself.

Figure 1 provides examples.

When the general manager decides to drink a cup of coffee, he can be certain that his coffee cup will be empty when he completed his action. This decision is a deterministic one. However, only few corporate decisions follow such deterministic models. For instance when a company starts a new project, it can't be *certain* that the planned budget constraints, deadlines or the delivery quality will be met as expected. Therefore, the company will introduce measures to reduce the likelihoods and consequences of the above mentioned project discrepancies.

Even if there are uncertainties, often the company will have some historical data or a qualified guess about the probability distribution of the said uncertainties. They will *for instance* be able to say that projects with a budget of EURO 100 million will be delayed with less than 15 days with a probability of 0.4 and more than 15 days with a probability of 0.6, based on the experience so far. However, in some cases such probability distribution will not be available. Let's think about a situation where a company is "first- to- market" in a *new* market with a completely *new* product. In that case, there will not be a known probability distribution for the sales' volume. However methods like market research, decision trees/ what- if analysis will help the management to tackle this uncertainty to some extent.

From time to time, companies will face "outcomes" even when they were not responsible for or participated in the decision making. Theories about the "gray" and "black" swans deal with such cases. [3], [4], [5]. This article will neither discuss the theoretical basis and validity of these two theories nor the differences between them. For our purpose it will be enough to note that there are some incidents where the company finds an outcome foreseeable and likely to occur at some point of time in the future, given a confluence of drivers. The challenge lies in predicting the actual timing of the outcome. Such event is called a *gray swan* event. A gray swan event is assumed to have a "fat tail" distribution, which describes a higher than expected chance of an extreme outcome. Grey swans are assumed to have snow ball and cascade effects. An example is a riot, where nobody can know the dimensions it might reach. *Black swan* event on the other hand is not a foreseeable, low probability scenario. Nobody knows *the event* itself or the probability distribution of such an event beforehand. Neither can one detect information about the outcome through qualitative tools.

2. DECISIONS AND OUTCOMES		
Decision maker	Outcome properties	Outcome
Decision maker belongs to the company. Example: Drinking a cup of coffee	Deterministic	Known and sure Coffee cup is empty
Decision maker belongs to the company. Example: Estimating the number of future students (FS) in District A	Stochastic- affected by randomness. Example: $FS_{2011} = \alpha^2 FS_1$ Where $\alpha = 0.7$ with a probability of 0.5 $\alpha = 1.3$ with a probability of 0.5	Probability distribution of the outcome is known/ guessed.
Decision maker belongs to the company. Example: Introducing a new product to a new market (first- to-market)	Stochastic	Probability distribution- unknown.
Outside, partly perceived by «what- if» scenarios. Example : Riots	Cascade, snowball effects, fat-tailed probability distribution.	
Outside, unknown event comes by surprise. Example: 9/11	Probability not computable with known techniques. Not perceived by «what if» scenarios.	

Figure 1. Decisions and Outcomes

Risk management is the managerial tool for tackling corporate uncertainty. The influence of risk management function in the organizations is increasing continuously, and it is becoming an invaluable support for strategic decisions, in addition to tactical and operational ones. Risk assessment, i.e. risk identification, analysis and evaluation enables the organization to clarify and rank its options and make a choice, by weighing the risks and rewards attached to various options.

3. FACTORS EFFECTING RISK MANAGEMENT PRACTICES

Many factors influence risk management practices and the responsibilities of the risk manager in a company. In the following, only the most substantial ones will be summarized:

- a. The company's definition and understanding of risk will influence the contents and extent of the risk management activity

There is not one, unique and clear-cut definition of "risk". The well recognized enterprise risk management frameworks (ERMs) define the concept differently.

The COSO (Committee of Sponsoring Organizations of the Treadway Commission) Internal Control- Integrated Framework defines risk *as the possibility that an event will occur and adversely affect the achievement of objectives*. The focus is on events and on their adverse effects. [6] The framework underlines the importance of risk assessment and considers the establishment of objectives as a precondition.

ISO (International Organization for Standardization) standard 31000 defines risk as *'effect of uncertainty on objectives'*. [7] The definition embraces both negative and positive impacts of uncertainty on the objectives. ISOs definition was developed by an international

committee representing over 30 countries and it is based on the input of several thousand experts. Many corporates follow this broad definition and include opportunities as well as threats to their risk management concept.

Companies which follow the guidelines given by this standard, start their risk management process by establishing the *context*. This process encompasses identifying all the thinkable, external and internal parameters, trends and stakeholders which may influence the achievement of company objectives. If the company's work with the context is elaborate enough, for instance by putting in use creative tools like scenario analyses, what-if analyses etc., then this process step will have invaluable benefits for the company for identifying relevant risks, opportunities as well as the *gray swans*.

FERMA (Federation for European Risk Management Associations) Risk management standard defines risk as follows: *the combination of the probability of an event and its consequences. In all types of undertaking, there is the potential for events and consequences that constitute opportunities for benefit (upside) or threats to success (downside)* [8]. FERMA standard, like ISO's considers both the upside and downside impacts of uncertainty.

How a company defines its risks, if it takes *both* the adverse effects *and* the opportunities into account will affect the expectations to risk management function, its scope and its contents.

b. The organization of risk management function, reporting lines and priorities will influence risk management practices

FERMA conducts benchmarking surveys in Europe every other year, to document the trends and developments in risk and insurance management. The last survey is from 2014 and included 850 respondents from 22 countries. [9] The survey reveals following results:

- Risk management is becoming a strong managerial tool. 85% of Risk management functions (RM) and 78% of Insurance management (IM) functions report to Top Management level. The main reporting lines are CFO, Board of Directors/Supervisory and CEO.
- European companies are dedicating full time resources to risk management. 46% of European companies count between 1 to 3 full time employees dedicated to risk and insurance management at headquarter level. The larger the company, the larger the risk management team at headquarter level.
- Traditional risk and insurance management activities are now fully embedded in the scope and responsibilities of risk and insurance managers. The embedded activities are:
 - Insurance management and claims handling / Insurable loss prevention
 - Development of risks mapping: 77 % of respondents perform risk mapping. 55 % from corporate level down to division and business units and 22 % at corporate level.
 - Assistance to other functional areas in contract negotiation, project management, acquisitions and investments
- European risks managers have the following three top priorities in their agenda for 2014-2015:
 - Development and embedding of Business Continuity Management
 - Development and implementation of risk culture across the organization
 - Alignment and integration of risk management as part of business strategy.

Thus the conclusion is: In the majority of the European companies the risk management is developing into a strategic function with reporting to Top Management and with strategic priorities.

c. Company's risk culture has a strong effect on risk management practices.

IRM (The Institute of Risk Management) defines risk culture as values, beliefs, knowledge and understanding about risk, shared by a group of people with a common purpose, in particular the employees of an organization or of teams or groups within an organization [10]. In the last years the organizational consciousness about risk culture has increased considerably. Scholars, practitioners and supervisors notice the correlations between good governance, sound company culture and effective risk management practices. IRM defines 10 prerequisites for a successful risk culture. These will not be fully repeated here. However, it is worth to mention the following three prerequisites which have special relevance for the subject matter of this paper:

- a distinct and consistent *tone from the top* from the board and senior management in respect of risk taking and avoidance
- *a common acceptance through the organization* of the importance of *continuous management of risk*, including clear accountability for and ownership of specific risks and risk areas
- *a properly resourced risk management function* and widespread membership of and support for professional bodies

FSB (Financial Stability Board) is an organization, located in Basel, Switzerland. It was established to coordinate at the international level the work of national financial authorities and international standard setting bodies and to develop and promote the implementation of effective regulatory, supervisory and other financial sector policies. In November 2013, FSB has published a consultative document, Guidance on Supervisory Interaction with Financial Institutions on Risk Culture which has an important contribution to defining core indicators for a sound risk culture in financial institutions.[11] According to FSB, "...*A financial institution's risk culture plays an important role in influencing the actions and decisions taken by individuals within the institution and in shaping the institution's attitude toward its stakeholders, including its supervisors. A risk culture that promotes prudent risk-taking and discourages unrestrained profit maximization without due regard to risks supports an environment that is conducive to ensuring that emerging risks that will have a material impact on a financial institution, and any risk-taking activities beyond the institution's risk appetite, are recognized, assessed, escalated, and addressed in a timely manner...*" FSB defines four indicators for a sound risk culture:

- tone from the top
- accountability
- effective challenge/transparency
- incentives

d. There is a relation between the risk appetite and the risk monitoring activities

Risk appetite is the level of risk that an organization decides to accept, before action is deemed necessary to reduce it, given the company's business model and commitments to its stakeholders. Risk appetite is a complex and dynamic concept and it has a strong effect on the performance indicators of the organization. Practicing sound corporate governance will require not only defining the company's risk appetite but also ensuring that the risk management is consistent with the risk appetite.

Financial institutions use risk appetite indexes to be able to quantify and benchmark their risk appetite. [12]. For other organizations the measurement may not be as sophisticated. However, both FSB and IRM have offered guidelines to establish best practice for monitoring the risk appetite. IRM defines five tests that top management should apply in reviewing their organization's risk appetite framework. [13] These are:

- Do the decision makers understand the degree to which they (individually) are *permitted to expose* the organization to the consequences of an event or situation
- Do the executives understand their *aggregated and interlinked* level of risks
- Do the executives and the Board understand the aggregated and interlinked risks for the organization as a *whole*
- Do the decision makers understand that risk management is not *constant*
- Are the risk decisions made with full consideration of the *potential rewards*

Even if the FSB's Principles for an Effective Risk appetite Framework are created with the financial institutions in mind, some of the statements have validity for all types of organizations. That is specially the case for the arguments related to governance, and the relationship between the key functions which contribute to an effective implementation of risk management in an organization. The document concludes that the board of directors should establish the institution-wide *risk appetite framework* and approve the *risk appetite statement*, which is developed in collaboration with the chief executive officer (CEO), chief risk officer (CRO) and chief financial officer (CFO). The strength of the relationships between the board, CEO, CRO, CFO, business lines and internal audit plays an instrumental role in the risk appetite framework's effectiveness. [14]

The implementation of risk appetite will influence the risk manager's day-to-day activities. For instance, if the company has clearly defined risk boundaries (limits) for its operating units or index and benchmark its risk appetite, then the risk manager will have substantial follow-up and reporting activities attached to these measures.

- e. The maturity level of the enterprise risk management and company's approach to risk ownership influence the risk management practice.

There are several approaches which aim to define *maturity levels* for enterprise risk management functions (ERM) and to assign *attributes* to said maturity levels in the organizations. An early attempt from 2006 was by the RIMS (Risk and Insurance Management Society, USA). [15] The institution has defined five levels of maturity for the ERM. These are the following:

- ad hoc

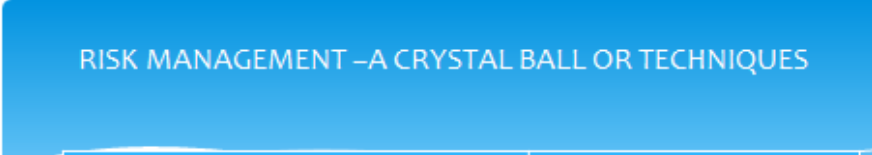
- initial
- repeatable
- managed
- leadership

RIMS defined 7 attributes to identify the core characteristics for each category.

Today, almost all consulting companies have developed their own risk maturity classification systems. Just to give some examples: PriceWaterhouseCoopers has an Information Risk Maturity Index. [16], Ernst & Young defines top performers and attaches attributes to highest 20 %, lowest 20 % and middle 60 % performers. [17] KPMG defines 3 categories as basic, nature and advanced. [18]. Regardless the categories chosen, these sources draw our attention to organizations' journey starting *from* a non-existent or *ad-hoc* risk management activity characterized by ad hoc risk analyses, improvised policies, limited or partial awareness of risks, immature risk culture and unclear accountability *to* a risk management practice integrated to organization's decision making, where tone of the top and the corporate culture are supportive to this integration.

4. RISK MANAGEMENT – CRYSTAL BALL OR TECHNIQUES

Risk management is an interdisciplinary field which incorporates knowledge from mathematics, statistics, finance, engineering, management, leadership, organization development, psychology and actuarial science. The field has benefited from already existing techniques and developed its own techniques for risk identification, risk evaluation and risk reporting. In Figure 2 there is a brief overview of methods which are instrumental in decision making. The classification of said methods as “strategic” or “tactical” is not mutually exclusive and the list of examples is not fully comprehensive. It is important to note that the discipline benefits both from qualitative and quantitative methods and employs a considerable amount of judgment and experience. FERMA's benchmarking survey for 2014 shows that the typical risk manager in a leadership role is around 50 years of age (78, 8 %). [19] This indicates that the risk practitioners benefit from former experience before engaging in risk management. Thus the conclusion is that risk management is by no means *fortune telling* through the use of a *crystal ball*. However, the field benefits from the duality, i.e. both from the *qualitative techniques and judgment* and from *quantitative techniques*, since it involves different tasks which necessitate different qualifications. As an example, one can consider how the qualifications necessary for building the risk culture differ from those required for performing risk assessments and analysis. Risk management requires both abilities.



Strategic decisions	Tactical and operational decisions
Brain storming	Preliminary hazard analysis (PHA)
Delphi	Hazard and operability analysis (HAZOP)
What-if analysis /scenario analysis	Bow-Tie analysis
Decision trees	Root cause analysis
Multi criteria decision analysis (MCDA)	Failure Mode and effect analysis (FMEA)
Event tree analysis (ETA)	Business Impact A.
Cost-benefit analysis	Sensitivity analysis
Risk matrices	Monte Carlo

Figure 2. Use of risk management techniques in decision making

5. RISK MANAGEMENT AS AN INTEGRAL PART OF BUSINESS PLANS AND DECISION MAKING- CASE: MUNICIPAL UNDERTAKING FOR EDUCATIONAL BUILDINGS AND PROPERTY IN OSLO- NORWAY (UNDERVISNINGSBYGG OSLO KF)

Municipal Undertaking for Educational Buildings and Property in Oslo (UBF) is owned by the City of Oslo. Its purpose is to develop educational properties by cost-efficient means and includes:

- Purchase, sale and development of properties for educational purposes
- Development, operation, maintenance and rehabilitation of the properties
- Property rental for schools and other users

The undertaking has a board of directors consisting of 7 members. The top management too consists of 7 members.

Municipal Undertaking for Educational Buildings and Property in Oslo owns and operates 1, 4 million square meters of real estate. The portfolio consists of 177 schools, 750 buildings (primary schools, upper secondary schools and centers for the education of adults).

The total property value is around NOK 18, 9 billion¹. 93,000 employees and pupils use the properties on a daily basis.

Risk management is integrated to the corporate governance and the decision making process at two levels:

- strategic level
- tactical and operational level

a. Strategic level

UBF has integrated risk management both to its business plans and to its business continuity planning. The undertaking's yearly planning circle ensures said integration, through the steps which are summarized in **Figure 3**.

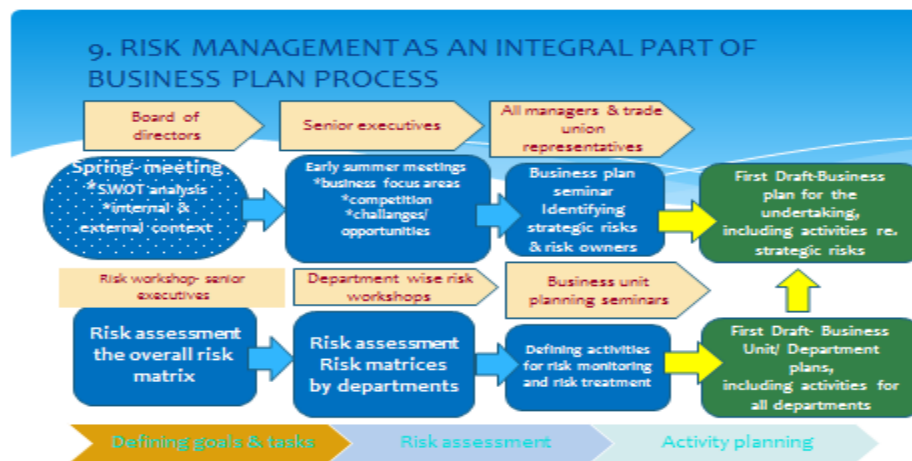


Figure 3. Business Plan Process

The planning circle starts with the Board of Directors' *spring meeting*, where the Board discusses the following questions with the senior executives:

- Which trends and developments are observed in the undertaking's *external and internal context*²?
- Are UBF's *long-term goals* still valid? Are there reasons to revise them due to developments in the external and internal context?

¹ 1€=8,42 NOK

² According to ISO 31000, an organization's *external context* includes its external stakeholders, its local, national, and international environment (for example: legal, technical, environmental, financial, competitive parameters) as well as any external factors that influence its objectives. The *internal context* consists of the company's internal stakeholders, organization structure, its approach to governance, its contractual relationships, its knowledge base, capabilities, culture, and standards.

- What are UBF's major challenges and opportunities? What should be UBF's focus areas in the coming year? Which are the most important strategic decisions to be made?

Based on these governance signals, the administration, i.e. the managing director and senior executives describe the *major focus areas and the major challenges* for the coming year. The brain storming and the scenario work are performed at the *early summer meetings*.

At the next step, all leaders and trade union representatives are invited to a whole day *business plan seminar* where they are asked to

- Identify and describe UBFs risks (positive and negative).
- Identify the risk owners and their internal support partners.

The undertaking allocates September month to *risk assessment*. The risks are analyzed, quantified and ranked and the results are summarized in risk matrices, both at the corporate level and at department/ business unit level. UBF employs a simple 5 X 5 matrix, which is presented in **Figure 4**:

Probability	Very high					
	High					
	Medium					
	Small					
	Very small					
		Negligable	Low	Moderate	Significant	Severe
Consequence						

Figure 4. UBF's risk matrix, risk = probability x consequence

The next step is deciding the actions which are necessary to treat the identified risks, i.e. *mitigating* the probability and/or consequences of negative risks and *enhancing and exploiting* positive risks. The work starts at the overall level. The focus is on risks which involve the whole organization or major parts of it. As an example: *The risk for loosing key personnel* may be a risk at the company level. However, *the risk for that the design process takes longer than anticipated in construction projects* involves only a few departments directly. UBFs yearly *business plan* defines actions for *all* overall risks which lie on the *red area* of the risk matrix. The risks which lie on the yellow area are subject to a further evaluation. Costs, efficiency, resource requirements, dependencies, time horizon may be elements of such evaluation before the undertaking makes a decision about "action/ no action".

All departments prepare own yearly plans. These include departments' own risks and own action plans.

UBF has established tertiary reporting of overall risks to its Board and the top management team to follow up the effect of strategic decisions and actions which aim to monitor UBF's risks.

b. Tactical and operational level

The undertaking performs risks analysis as a starting point for its tactical and policy decisions and actions. An example is the procurement policy. The procurement policy is evaluated and if necessary revised, after a risk assessment exercise, on a yearly basis.

Risk management is a tool for day-to-day decision making throughout the construction and rehabilitation projects. The project leader is given the responsibility for following up the positive and negative risks and reporting the *five* most important ones on a monthly basis. The projects employ Monte Carlo simulations and sensitivity analysis to handle the stochasticity and to follow up project costs. H-values are estimated to handle the safety aspects of the projects.³

6. CONCLUSION: THE WAY AHEAD

Most of the European companies have realized the benefits with integrating risk management to decision making process and corporate governance. Today, risk managers offer their proficiency in decision support techniques as well as their interdisciplinary background for the good of their companies. There are established formal dialogue between the risk manager and the Boards and senior executives.

The next challenge is ensuring that the risk manager establishes the same mutual relation with the rest of internal stakeholders who may benefit from the work of risk manager and vice versa. According to FERMA,

"...relationships could be improved with IT (for major projects), Investments & investors relations, Human Resources, Strategic business planning, CSR functions. Especially as we see the function evolves to becoming a business partner through risk culture awareness and Business Continuity. "[20]

Municipal Undertaking for Educational Buildings and Property in Oslo is a forerunner and good example to follow in integrating risk management to strategic business planning. The hope is that other actors follow the example.

³ H-value: Number of accidents with absence pr. million working hours

REFERENCES

1. Ari Riabacke, Managerial Decision Making Under Risk and Uncertainty, IAENG International Journal of Computer Science, 32:4, IJCS -32-4-12, 12.11.2006, pp:1-3
2. M.T. Taghavifard, K. Khalilli Damghani, R. Tavakkoli Moghaddar, Decision Making Under Uncertain and Risky Situations, Society of Actuaries, 2009 pp: 1-10
3. Nassim Nicholas Taleb, The Black Swan 2007, Random House,US.
4. Russell Cameron Thomas, tutorial, How Fat Tailed Distributions Defy Common Sense and How to Handle Them, August 2013, exploring possibility space blogspot.no
5. Ayse Nordal, Can Risk Management Be a Risky Task, Ferma, May 2013.
6. COSO(Committee of Sponsoring Organizations of the Treadway Commission) Internal Control Integrated Framework, Executive Summary, May 2013, page:4
7. ISO, ISO 31000:2009, Risk management – Principles and guidelines, 2.1
8. FERMA, A Risk Management Standard, 2003 page:3
9. FERMA, European Risk and Insurance Report, Executive Summary of the FERMA Risk Management Benchmarking survey 2014.
10. IRM, The Institute of Risk Management, Risk Culture, 2012, pp: 6-7.
11. FSB, Guidance on Supervisory Interaction with Financial Institutions on Risk Culture, pp:3-4
12. Mark Illing & Aaron Meyer, A Brief Survey of Risk-Appetite Indexes, Bank of Canada Working Paper, 2005
13. IRM, Risk Appetite and Tolerance, Executive Summary, 2011 p:14
14. FSB, Principles for an Effective Risk Appetite Framework, 2013 p:7
15. RIMS, RIMS Risk Maturity Model (RMM) for Enterprise Risk Management, pp: 7-17
16. Iron Mountain, PwC Release, Information Maturity Index, 2014
17. E&Y, Turning Risk Into results, How Leading Companies Use Risk management to Fuel Better Performance, 2013 p:5
18. KPMG, Linking Risk Management to Business Strategy, Processes, Operations and Reporting, Financial Management Institute of Canada, February 2010, p:12
19. FERMA, 2014, Ibid, p:3
20. FERMA, 2014, Ibid, p:7

STRATEGIES OF WORK MOTIVATION AS A FACTOR OF HUMAN RESOURCES

Jelena Simić, Jelena Rakić Davidović

Fakultet za menadžment, Sremski Karlovci, Serbia

Abstract: The present concepts of motivational systems, techniques and strategies become insufficiently flexible and therefore the modern concept of motivational strategies must be based on increasing business success through the satisfaction of employees. The aim of this study was to determine the basic life-cycle strategies of work motivation among employees and what are the personal traits that influence the selection of the same. Nowadays, there are tendencies for the economic, social changes and rapid social transition to be transformed into the so-called "knowledge society". There is also a need for the introduction of lifelong learning and learning activities throughout their lives with the constant aim of improving knowledge, skills and abilities within a management perspective, as a function of motivation strategies. In order to successfully operate, each company has to find the optimal combination of material and non-material incentives for its employees, and that they are primarily accepted by the employees. For successful work, each company has to find the optimal combination of material and non-material incentives for its employees that will depend upon many factors: the sector in which it operates, competition in the labor market, the nature of work, the structure of employees, etc. For the purpose of ensuring the adequate quality of employees in the company, it is necessary to provide an adequate level of earnings, but that is only a necessary condition – not the sufficient one. For the employees' motivation there are many other suitable non-material strategies for motivation such as the recognition of success, feedback to employees for their work, organizational culture in the company, motivation and self-motivation. Since the employees are the most important resource in the creation of an enterprise value, only the motivated employees will strive towards the realization of high performances and organizational goals.

The study included 85 employees of both sexes. The largest percentage of respondents (42.4%) was aged 36-45 years, and most of them (35.3%) with seniority from 6 to 10 years. The rating scale named Satisfaction leadership by L. Grubić Nešić has been used. The getting results indicate that the level of satisfaction with management is $AS = 3.23$; $SD = 0.53$. By applying Pearson's correlation coefficient, results which are gained indicate that there is a statistically significant correlation between the level of leadership satisfaction and the age of respondents (Pearson correlation = -0.27 ; $p = 0.05$), and between the level of leadership satisfaction and years of service of the respondents (Pearson correlation $r = -0.27$; $p = 0.05$). The increase in distrust of management's decisions contributes to the fall of the leadership satisfaction, and in relation with the age of respondents (Pearson correlation = -0.28 ; $p = 0.01$) and in relation to the years of service of the respondents (Pearson correlation = -0.23 ; $p = 0.05$). Biological life cycle of the individual, as well as the life cycle of the service life of the individual, suggests that the increase in the satisfaction of management can be achieved throughout an adequate communication between manager-employee if one considers the decisions taken by the management.

Keywords: motives, work motivation, leadership satisfaction, correlation.

CUSTOMERS PERCEPTION ON THE USE OF SMS AS A STRATEGIC MANAGEMENT TOOL IN NIGERIAN BANKING INDUSTRIES

Oludele Mayowa Solaja¹, Faremi Elijah Idowu², Adesina Ekundayo James²

¹Olabisi Onabanjo University, Department of Sociology; ²Olabisi Onabanjo University, Dept. Business Administration, Ogun State, Nigeria

Abstract: The need for efficient and effective financial institutions in a globalized world like ours cannot be overemphasized. As a result, Nigerian banks embraced the use of Information Communication Technologies with high speed internet services in order to boost performance and compete effectively with their counterpart across the world. More so, recent studies revealed that Nigerian banking industries are fast utilizing Short Message Service (SMS) provided by mobile phone service providers as a strategic management tool for business security and for broadcasting information about their new products, services and policies in order to keep customers on track on company s mission, image as well as tool for receiving feedback on their services and products rendered to public. Therefore, this study aimed at investigating customers perception on the use of short message service (SMS) as a strategic management tool in Nigerian Banking Industry. The study set to address boiling research questions such as: What is the perception of customers on the use of SMS in Nigerian banking system? To what extend does the use of SMS shape social relationship between banks customers and staffs in Nigeria? Does the use of SMS in banking services contribute to Nigerians reading habit? How can the use of SMS in Nigerian banking system be used to promote public-private partnership in Nigeria? To achieve the aim of the study, strategic management and symbolic interaction theory were used as guide while, descriptive survey design in which both quantitative and qualitative method was adopted in the study. Multi-stage sampling which include stratified, simple random, purposive, quota sampling techniques was used in selecting respondents. A total of two hundred and fifty (250) samples which include customers in five selected commercial banks in Ibadan, Oyo State, Nigeria. Structured questionnaire were distributed as well as In-depth interviews (IDIs) were conducted among the respondents. The data collected were tested using descriptive statistic and direct quotes. The findings were discussed with reference to relevant empirical literatures with recommendations for management of organizations both for practice and future research highlighted.

Keywords: Business, Customers, Relationship, Strategic, Management

THE ROLE OF INFORMATION COMMUNICATION TECHNOLOGY (ICT) ON DEMAND FOR YOUNG WORKERS IN NIGERIA BANKING INDUSTRY

Solaja Mayowa Oludele¹, Faremi Elijah Idowu², Adesina Ekundayo James²

¹Olabisi Onabanjo University, Department of Sociology; ²Olabisi Onabanjo University, Dept. Business Administration, Ogun State, Nigeria

Abstract: Nigerian organizations both private and public are increasingly adopting information communication technologies (ICTs) and internet facilities for rendering fast and quality banking services, workforce capacity enhancement as well as performance boost in today's competitive business environment. Undoubtedly, the use of ICTs and internet in Nigerian banking industry has ushered in skill-based and technological inclined workplace with big challenge for workers who lack technological know-how. This situation brought a change in labour market demand, workplace competencies and demographic structure as well as social inequality in chances of employment in Nigerian banking industry. Therefore this study set to contribute to knowledge by investigating the role of information communication technology (ICT) in demands for young workers in Nigerian Banking Sector. Quantitative and qualitative method was adopted in order to uncover the rate at which unemployed youths most especially fresh graduates are securing employment opportunities in Nigerian banks as a result of ICT development. The data were collected from management and junior staffs of five commercial banks in Lagos State, Nigeria. Lagos was purposefully selected because it is the commercial nerve where head offices of virtually all the banks in Nigeria are located. Also, it is a major utilization of ICT in Nigeria. Nine-six (96) questionnaires were distributed and five in-depth interviews (IDIs) were conducted among staff in each of the banks. In all, 25 IDIs were conducted among management and junior staffs of five commercial banks in Nigeria. The staffs include those working in human resource, customer relations, technical and sales departments. The data was analysed using frequency counts, percentage distribution and direct quotes.

Keywords: ICT, work competencies, youths, skill-based workplace, employment

1. INTRODUCTION

Information communication and technology (ICT) stand out as the key driving force of job complexity and the demand for higher levels of competencies in today's knowledge workplaces. Studies revealed that the major achievement of the modern world is the increasing acquisition of sophisticated information and communication technology by people and organizations which has invigorated social interactions, services and productivity across the globe (Omobuwale 2013; Machin 2001; Hesketh 2000). As part of modern innovation, ICT makes it possible for many organizations to move away from archaic and slow

dimensions of bureaucratic procedures to automation of processes that ensure smooth, fast and efficient running of business activities.

Consequently, Nigerian organizations both private and public are increasingly adopting information communication technologies (ICTs) and internet facilities for rendering fast and quality banking services, workforce capacity enhancement as well as performance boost in today's competitive business environment. The adoption of ICTs and internet facilities is driven by pre-existing banks demand for automated processes, controls, and information through the use of computers, telecommunications, software's and other electronic gadget. Of course, the espousal of ICT and internet facilities in Nigerian banking industry led to a paradigm shift from conventional way of work arrangement to a new form of work system with much attention given to specific competencies such as the ability to use computer to run programs and applications, to solve problems, to work in teams and record keeping, to supervise, and lead as well as to undertake continuous learning and customers services delivery when hiring labour from the labour market. It is important to stress that the use of ICTs and internet facilities in Nigerian banking industry creates scenario that can be liken to skill-based or modern technological environment with big challenge for workers who lack technological know-how. At the same time, this situation brought a change in labour market demand, workplace competencies and demographic structure as well as social inequality in chances of employment in Nigerian banking industry.

The upgrading of skills needed in the labour market is also broadly recognized in public policy. For instance, The 'White Paper' on Growth, Competitiveness, and Employment issued by the European Commission (1993) argued that a highly skilled labour force in the European Union is required to catch up in the technological race with other developed countries. At the Lisbon European Council meeting in March 2000, the European Council formulated "major strategic goal for the next decade" to become "the most competitive and dynamic knowledge economy in the world" (European Commission, 2000). Accordingly, Rosenbaum and Binder (1997) noted that in United States, a qualitative survey on firms' recruitment strategies for entry-level jobs found that not only mathematical and English skills were required for today's entry-level jobs, but intra-personal skills and technical competencies were also quite important. Similarly, Hesketh (2000) revealed that in the United Kingdom, employers look out for effective communication skills, learning ability, problem-solving skills, team work and the capacity for self-management more than technical or numeracy skills as criteria in recruitment of graduates or young workers. However, the situation is not the same in Nigerian banking industry where technical skills and computer competencies remain the crucial factors for employment and recruitment.

2. STATEMENT OF THE PROBLEM

As the consolidation exercise took effect from December 2005, the post-consolidation era made the commercial banks to embrace internal and external restructuring. Technological innovations and extreme competition became the norms among Nigerian banks. Their services began to improve gradually (at least better than what it used to be) through the use of modern technologies powered by internet facilities such as Automated Teller Machine (ATM)

to dispense cash, debit and credit cards, mobile and internet banking (E-banking). However, it is often argued that the adoption of ICTs in banking practices brought in it unintended consequences such as criminal activities, spamming, credit card frauds, ATM frauds, phishing, identity theft etc to customers. Thus, it is pertinent to investigate if ICT has negative influence on banking practice in Nigeria or not.

More so, the Nigeria's growing unemployment situation and how it increasingly dwindles the potentials of the country, especially following official figures from the Bureau of statistics that puts the figure at about 20% (about 30million), which still did not include about 40million other Nigerian youths captured in World Bank statistics in 2009. By implication, it means that out of the 150 million Nigerians, 50% are unemployed, or worse still, at least 71% of Nigerian youths are unemployed. This has foisted a state of hopelessness on majority of young people who have resorted to any means including crime to succeed in life. They resort to vices because they are not gainfully engaged. In other words, they are unemployed; not because they lack the qualification but because the system has been crippled politically, economically, socio-culturally and even religiously. However, these days, employment generation for the youths is no longer the prerogative of government but, a joint effort between the public and private sectors. Therefore this study set to fill the gap in knowledge by investigating the role of information communication technology (ICT) in demand for young workers in Nigerian Banking Sector.

Research Questions

Based on the stated problem, the following questions are raised and answers shall be provided at the completion of this study;

- i. Does Information communication technology leads to work competencies in Nigerian Banking Industry?
- ii. Do recruiting young workers for the purpose of technological competencies improve Nigerian banking performance?
- iii. Does demand for young workers in Banking Industry reduce unemployment rate in Nigeria?

3. SCOPE OF THE STUDY

This study is delimited to the investigation of the role of ICT in demand for young workers in Nigerian Banking Industry. It focuses on how the adopting of ICT in Nigerian banks has influenced the rate of youths or fresh graduates seeking first employment. Also, it set out to examine the level of technical competency among young Nigerians in banking firms in Lagos Metropolis, Nigeria.

Significance of the Study

There has been increasing believe that the expansion of information communication technology (i.e. computers, internet, ATM, mobile phones) has brought more evil than good

to developing countries such as Nigeria because of the evil acts which they are used for. However, within the scope of this study, the impact of information communication technology in demand for young workers in Nigeria Banking firms will be explored. As a result, this study will provide pertinent information vital for effecting positive changes in public perception on the relevance of ICTs as strategic management tool in contemporary work organizations especially in Nigerian banking firms. This study will also point to areas of immediate alternation from a sociological point of view which will guide further research and ensure theoretical postulation.

4. LITERATURE REVIEW

In Nigeria, the so called workplace technological competencies have spread across all industries especially banking firms that make large investments in research and development, information technology (IT) or other technological and organizational developments (Machin, 2001). The Nigerian banking industry as a fraction of the financial sector plays pivotal role in the nation's quest for development. It accounts for 64 per cent of the total stock listed in the Nigerian Stock Market (Adeleye, 2011) and employs over 77,000 workforce, both contract and permanent staff as at 2008 (Gunu, 2009). Subsequently, the sector began to attract many investors that made the number of banks to multiply in the 1980s. As some were being established, a number of others were closing down shops, making the number to fall substantially from 89 as at July 2004 to 24 in 2005 (Gunu, 2009; Sanusi, 2010). In their work, Gunu & Olabisi (2011) revealed that these changes witnessed in the Nigerian banking sector have been coordinated by number of factors which include inter alia, deregulation of the sector, 'globalization of operation and technological innovations - cum information communication technology'.

It is important to note that out of the factors mentioned above, this study perceived technological innovations-cum ICT to have been responsible for the demand of young skilled workers who possess adequate skills and competencies to operate the new technologies and processes in order to increasing banking performance and services in Nigeria. As a consequence of this, Nigerian banks give much credence to hiring young or fresh graduates with adequate technical knowledge and skills. The espousal of ICT in the banking sector became of interest to this study due to the significant function it plays in enhancing business processes. ICT has enhanced Nigerian banks performance in the following areas:

1. Automated Teller Machines (ATM) in Banking Services

ATMs are the most immediately visible type of retail banking technology. They play a key role in any retail banks' efforts to use technology as a quality weapon to defeat competition. This facility provides a major role in offering convenience, speedy and round the clock services (Barua and Mukhopadhyay, 2000). ATMs capabilities include balance and transaction enquiries, withdrawals, deposits and accounts transfer. Any bank participating in a shared ATM network according to Chung *et al.* (2004) will enjoy the following advantages:

- i. The bank's customer will enjoy access to far more than the bank alone could ever provide.
 - ii. The bank is able consequently to make substantial cost saving compared with the cost of continually extending its ATM network on an independent basis.
 - iii. The bank may benefit from the branding of the shared network.
 - iv. The shared network will probably have more financial resources.
 - v. It does help for international ATM sharing.
2. **Telephone Banking** is tele-banking devices which allow customers to transact banking business over the phone. It has numerous benefits for both customers and banks. As far as the customers are concerned, it provides increased convenience, expanded access and significant time saving. On the other hand, from the banks' perspective, the costs of delivering telephone-based services are substantially lower than those of branch based services. It provides retail banking services even after banking hours (24 hours a day) it accrues continual productivity for the bank. It offers retail banking services to customers at their offices/homes as an alternative to going to the bank branch/ATM. This saves customers time, and gives more convenience for higher productivity.
3. **Personal Computer Banking (PC)** allows the bank's customers to access information about their account via a proprietary network, usually with the help of proprietary software installed on their personal computer". Once access is gained, the customer can perform a lot of retail banking functions. The increasing awareness of the importance of computer literacy has resulted in increasing the use of personal computers. This certainly supports the growth of PC banking which virtually establishes a branch in the customers' home or office, and offers 24-hour service, seven days a week. It also has the benefits of Telephone Banking and ATMs.
4. **Internet Banking** is the main vehicle for Public Access Computing (PAC). Internet offers an excellent environment for banks to experiment with the delivery of home banking (Bill, 1996). It has been used to develop virtual reality bank branches in the United States of America. A prototype of this is the Electronic Courtyard developed by the Global Payment System Visa and the US software firm Worlds Inc. It allows customers to check account balances, transfer funds and apply for loans. It uses three-dimensional graphics to enable customers to move into different rooms and communicate with virtual bank tellers, loan arrangers and financial advisers. It uses visa remote banking subsidiary, visa interactive, to link banks with customers and provide secure technology for the safety of account data transferred (Agboola, 2006).
5. **Electronic Funds Transfer at Point of Sale (EFTPoS)** is an on-line system that allows customers to transfer funds instantaneously from their bank accounts to merchant accounts when making purchases (at purchase points). A POS uses a debit card to activate an Electronic Fund Transfer Process (Chorafas, 1988). Increased banking productivity results from the use of EFTPoS to service customers shopping

payment requirements instead of clerical duties in handling cheques and cash withdrawals for shopping. Furthermore, the system continues after banking hours, hence continual productivity for the bank even after banking hours. It also saves customers time and energy in getting to bank branches or ATMs for cash withdrawals which can be harnessed into other productive activities.

6. **Use of SMS alert:** Instant notification of transactions made was another innovation brought by ICT through the use of smart phone in conjunction with the internet facility in the Banking Industry. Virtually all banks studied in Nigeria use SMS-Alert, except some of the Micro finance Banks. It was an ICT infrastructure that recorded no patronage between year 2000 and 2002.

In concrete terms, ICT enables Nigeria banking firms to adopt more systematized, modern and efficient ways of doing business in current global perspective. One of the modern ways is the recruitment of young workers- mostly generation X and generation Y who possess the technical and knowledge competencies to satisfy the customers and win their patronage within the shortest possible time. The young workers in this regard are youths or fresh graduates who have acquired compulsory education and vocational training to secure first employment. More explicitly, the Second National Youth Policy Document for the year 2009 conceived youth to be the greatest assets that any nation can have. Accordingly, the document established that one third of Nigerian population is young people who fall between the ages of 10 to 24 years (UNESCO, 2013, National Youth Policy document, 2009). Therefore, the main objective of this study is to examine the role of information communication technology (ICT) in demand for young workers in Nigeria banking sector.

More often than ever before, technology has transformed the way younger generation communicate and access information. Two major assumptions underlie the role of ICT: the first is that the proliferation of these technologies is causing rapid transformations in all areas of life; the second is that ICT function to unify and standardize culture. It is on the basis of these assumptions that the term “information age and globalization” evolved (Adeoti 2004).

Studies have shown that the ICT era have created various types of jobs from Chief Information Officer in big enterprises or government agencies to the computer shop operators since early 90’s. Vendors of hand held phones and their accessories are common sight in every community. There are various types of ICT based businesses such as document processing centres, cybercafé, computer training centres, computer services and repairs, hand set services and repairs, internet, programming, cable and satellite TV installations, etc. with very little take off funds. They are common vocations to empower youth (Oladunjoye and Audu 2012; Olasanmi, Ayoola and Kareem 2012). The following were identified as major categories of both positive and negative impacts of ICT on youths:

1. Social Interactions

According to an in-depth evaluation of the impact of ICT on youth published in the 2003 World Youth Report prepared by the United Nations, ICT has changed the way young people interact socially, as digital communication has increasingly replaced traditional forms

of interaction. ICT offers youth autonomy from families with access to vast virtual social networks that provide more instantly-gratifying, but less personal interactions.

2. Psychological Health

Some researches, including a Swedish study published in a 2007 issue of the Journal of Computers in Human Behaviour, highlights the potential negative impacts of ICT on youths. Such studies tend to conclude that a high quantity of ICT use has a risk factor of developing psychological health challenges among youths.

3. Education and Empowerment

ICT also offers opportunities for youth empowerment and education, particularly in societies where resources are limited. Researches has shown that the youths in various locations can use ICT to maintain cultures, gain knowledge, develop skills and generate income. According to the 2005 World Youth Report section on youth in civil society, "ICT is increasingly being used to improve access to education and employment opportunities, which supports efforts to eradicate poverty"

4. Vocational Opportunities in ICT

A vocation can be defined as what an individual practices to earn an income. It can be acquired through proper training either in the vocational schools, apprenticeship with a knowledgeable practitioners, or expression of talents. In ICT, several areas have been identified over the years as a special means of providing services. These include:

1. Networking;
2. Programming;
3. Repairing and maintenance;
4. Computer sales;
5. Phone sales;
6. Parts and accessory sales;
7. Document processing; and
8. Phone calls, etc.

From the foregoing discussion it can be seen that ICT revolution has now broadened the horizon of the opportunities among nations, organization, institutions and individuals giving hopes to compete with their counterparts all over the world. It can also be seen as an important vehicle to propel individual to greater height as the world moves further into the knowledge economy in this 21st century. It can be acknowledged that the information revolution is a powerful force with enormous benefits in socio-economic and political developments. Such benefits include job creation, increase in the stock of technologies and skills, ease of communication, expansion of trade, etc. particularly in developing countries including Nigeria. However, the study set out to investigate the role of ICT in demand for young workers in Nigerian Banking Industry.

5. Theoretical Framework

This study utilized rational choice theory and technology acceptance model in explaining the role of ICT in demand for young workers in Nigerian Banking Industry.

6. Rational Choice

In rational choice theory, actors are seen as motivated by the wants or goals that express their 'preferences'. They act within specific, given constraints and on the basis of the information that they have about the conditions under which they are acting. At its simplest, the relationship between preferences and constraints can be seen in the purely *technical* terms of the relationship of a means to an end. As it is not possible for organizations to achieve all of the various things that they want, they must also make choices in relation to both their goals and the means for attaining these goals. Rational choice theories hold that organizations must anticipate the outcomes of alternative courses of action and calculate that which will be best for them. Rational organizations choose the alternative that is likely to give them the greatest profits (Heath 1976; Carling 1992; Coleman 1973).

7. The Technology Acceptance Model (TAM)

The Technology Acceptance Model (TAM) is similar to the diffusion of innovation theory but it places more emphasis on psychological predispositions and social influences such as beliefs, attitudes and intentions. Marcus's theoretical model of adoption highlights the importance of innovative behaviour and the phenomenon of others modeling themselves on this. Communication channels are a vital component in spreading this modeling behaviour to other potential adopters. The range of influential factors in the take-up of innovations include: the associated 'costs' (personal and institutional), the availability of necessary 'resources' (money, equipment, training, time, prior experience and relevant skills) and the 'value' of the innovation (Bates, Manuel and Oppenheim, 2007; Ankem, Kwon and Zmud (1987) define five contextual factors that may impact on any six identified stages of IT implementation namely; user community characteristic, organizational characteristics, technology characteristic, task characteristic and environmental factors. Robertson and Gatignon (1986) propose that a variety of competitive effects in the technology consumers industry (competitive intensity, demand uncertainty, professionalism and cosmopolitanism) and within the technology supplier's industry (level of competitiveness, reputation, Research and Development allocation, technology standardization) impact the rate and level of diffusion of high technology innovations. Other models focused on the influence of culture in the diffusion and adoption process. Both personal and organizational processes influence a culture of innovation. These organizational processes include: management values, rewards, prohibitions, encouragement of new ideas, encouragement of risk-taking, services, support, communication channels and staff networks.

An institution with these key components in place is better placed to ensure that innovations are facilitated, encouraged, accepted and diffused across its organization. In this wise, the institutional environment shapes the development of the ICT initiative, its adoption

and implementation. The success or failure of a new ICT innovation is thus influenced by culture (Denning, 2004; Bates, Manuel and Oppenheim, 2007).

8. Methodology

To further reveal the role of ICT in demand for young workers in Nigeria banking industry, this study adopted the qualitative method of data collection (LaRossa 2005; Flick, 2000). Qualitative and quantitative methods was adopted in order to uncover the rate at which unemployed youths most especially fresh graduates have secure employment in Nigerian banks as a result of ICT competencies. The data were collected from management and junior staffs of five commercial banks in Lagos State, Nigeria. Lagos was purposefully selected because it is the commercial nerve where head offices of virtually all the banks in Nigeria are located. Also, it is a major utilization of ICT in Nigeria. Five in-depth interviews (IDIs) were conducted in each of the banks. In all, 25 IDIs were conducted among management and junior staffs of five commercial banks in Nigeria. The staffs include those working in human resource, customer relations, technical and sales departments. The data was analysed using frequency count and direct quotes.

9. Presentation of Results

The result goes thus; 61.5% were males and 38.5% were females. This point out to the fact that there is more males in pay jobs than the female counterpart in Nigeria. The age distribution of the respondents reveals that 9.4% are within 18-20years, 49.0% are within 21-30years, 29.2% are within 31-40years while 12.5% falls within 41years and above. This result indicates that majority of the respondent's falls within the age 21-30years; this is an indication that banks demand for young workers within the age bracket 20-30years. This might be due to their zeal to engage in work activities in order to actualize their goals and aspirations of life. The marital status of the respondents shows that 64.6% are single, 24.0% are married while 11.5% are others (compose of separated, widow and divorce). The result shows that majority of the respondents are single with little or no family responsibility. Also, it support the one of Nigerian banking ethics which stipulates that bankers are not allow to get married or even give birth to young ones within early stage of their career. Furthermore, the educational qualifications of the respondents depicts that 13.5% are OND holders, 80.2% are B.Sc/HND holders while 6.3% hold professional qualifications. This result reveals that majority of the respondents are HND/B.Sc (degree) holders which demonstrates that fresh graduates from tertiary institutions are employed in the selected banks. The response of participants on each of the research questions was presented using direct quote and content analysis in this section.

10. ICT and Work Competencies in Nigeria Banking Industry

Banking Sector stands as one of the areas which the development of ICT has improve services, workforce capacity as well as competition in Nigeria. The sector has grown so rapid in recent times with the aid of automated and mobile services supported by ICT and internet facilities in which it offers convenient, speedy and round the clock services to customers.

However, the goal of this objective was to capture the relationship between ICT and work competencies in Nigeria banking sector. To achieve this goal, in-depth interviews sessions were conducted among staffs of the selected banks in Lagos metropolis, Nigeria.

Table 1. ICT and Work Competencies in Nigerian Banking Industry

S/N	Question	Never F (%)	Rarely F (%)	Seldom F (%)	Often F (%)	Total F (%)
1	The use of ICT has become vital tool in rendering quality banking services in Nigeria	13 (13.5)	09 (9.4)	11 (11.5)	63 (65.6)	96 (100.0)
2	As a banker, I work with computer and internet facilities in performing my contractual duties	04 (4.2)	07 (7.3)	08 (8.3)	77 (80.2)	96 (100.0)
3	I am satisfied with the use of ICT in rendering banking services to customers	03 (3.1)	14 (14.6)	06 (6.3)	73 (76.0)	96 (100.0)
4	I have challenge using computer application that can aid work performance in the organization	54 (56.3)	19 (19.8)	12 (12.5)	11 (11.5)	96 (100.0)
5	I use ICT to meet up with customers demand	10 (10.4)	23 (24.0)	08 (8.3)	55 (57.3)	96 (100.0)
6	I use ICT to solve problem and supervise work teams	09 (9.4)	21 (21.9)	15 (15.6)	51 (53.1)	96 (100.0)
7	ICT helps in attending to complex task and under taking on-the-job learning at a stretch	07 (7.3)	11 (11.5)	14 (14.6)	64 (66.6)	96 (100.0)
8	I believe that my use of ICT enhance my work competencies and development	09 (9.4)	13 (13.5)	17 (17.7)	57 (59.4)	96 (100.0)

Source: Field Survey, 2015

Table 1 reveals the respondents distribution on whether the introduction of ICT leads to work competences in Nigerian Banking industry. The result revealed that 65.6% of the respondents confirm that ICT has become vital tool in rendering quality banking services in Nigeria, 20.9% were of the opinion that ICT is not often used in rendering bank services while 13.5% strongly disagree with the assumption that ICT is a vital tool in Nigerian banking industry. Hence, it can be concluded that information and communication technology (ICT) is a crucial tool in rendering effective and efficient banking services as proffered by majority of the respondents.

More so, majority of the respondents 80.2% disclosed that they work with computer and internet facilities in performing their contractual duties, 15.6% claimed that they somewhat perform their contractual duties through the use of computer and internet facilities while 4.2% frankly disputed the use of computer and internet facilities in carrying out their

duties in the organization. Thus, we can infer that most of the respondents utilize computer and internet facilities in performing their duties in the organization. As such, most of the respondents claimed that they are satisfy with use of ICT in rendering banking services to customers, 20.9% somewhat satisfied with the use of ICT in rendering banking services to customers while 3.1% were not satisfied.

Furthermore, the respondent were ask to if they have challenge using computer application that can aid work performance in the organization, 56.3% assert that they had no challenge using computer in performing their duties, 32.3% sometimes have difficulties using computer while 11.5% often have challenge working with computer applications that can aid their performance in the organization. Thus, it can be deduce that majority of the respondents are technical and computer efficient while some still lack technical ability to operate computer application that can boost their work performance.

Investigating the issue further, 57.3% of the respondents stated that they use ICT to meet up with customer's demand, 32.3% to some extent use ICT to satisfy customers need while 10.4% use ICT for other purposes in the organization. Also, majority of the respondents 53.1% use ICT to solve problem and supervise work teams, 37.5% rarely use ICT to solve problem and supervise work teams while 9.4% use ICT for other purposes in the organization. Moreover, preponderance of the respondents 66.6% disclosed that they use ICT to attend to complex task and under take on-the-job learning at a stretch, 26.1% asserted that they somewhat use ICT to perform to complex task and undertake on-the-job learning while 7.3% use it for different purpose. Thus, it can be inferred that the ICT serves several purposes and complex task which promotes quality services and customer satisfaction in Nigerian banking industry.

In addition, the respondent were asked to express their perception on the use of ICT and work competencies in Nigerian banking industry, majority of them 59.4% believe that the use of ICT enhance work competencies and development in the organization, 31.2% somewhat agree that the use of ICT promotes work competencies and development while 9.4% did not believe that ICT enhance work competencies and development in the organization. However, it can be deduced that majority of the respondents were of the view that ICT enhances work competencies and development in Nigerian banking industry.

An interviewee affirms that:

Honestly speaking, the emergence of ICT in Nigerian banking sector has been a blessing and a vital tool that make the aspiration to improve customer's satisfaction and patronage possible in Nigeria. Because, it provide opportunities for manipulation if sophisticated machines with technical skills in banking practices which made it possible for a banker to do much work in little time frame (IDI/GTB/Management/Ikeja/2015)

Investigating the issue further, another interviewee states that:

ICT is a good innovation in the sense that it increase efficiency and make job very faster. It also reduces the stress encounter by teller in attending to customers. For instance, in a situation before the introduction of ICT, there is always long queue in banks in which most customers pass through stress before they could be attended to. The queue is as a result of crude or manual method of attending to customers (whereby just only two or three staff on the desk attending to a long queue, one would be frustrated). However, through the invention of ICT and its adoption in Nigerian banks, all these issues are things of the past. ICT makes banking service such as posting, transferring, withdrawal, checking of account status easier and faster (IDI/Skye/Management/Ikeja/2015)

More so, a female respondent succinctly revealed that:

ICT reduces the number of people that comes into the banking hall because it enables customers to make use of the ATMs to do their transaction without coming into the banking hall. This in turn enable bank teller to attend to other functions, so, I believe ICT is helpful and a critical tool in modern Nigerian banking services. (IDI/FCMB/technical and sales /Ikeja/2015)

Inferring from the responses above, it is not gain saying the fact that ICT has contribute to work competencies such as the ability to use computers, to solve problems, to work in teams, to supervise and lead as well as to undertake continuous learning and services in Nigerian banks. As a result, ICT has become indispensable tool in rendering effective and efficient banking services to customers as well as competitive business advantage among banks in Nigeria.

Table 2. Young Workers and ICT development in Nigerian Banks

S/N	Question	SA F(%)	A F(%)	D F(%)	SD F(%)	Total F(%)
1	There had been recruitment of fresh graduates and new workers (between age 22 -26yrs) in your organization recently.	23 (24.0)	51 (53.1)	10 (10.4)	12 (12.5)	96 (100.0)
2	Do you believe that special knowledge of ICT and technical skills are inherent in Nigerian fresh graduates	41 (42.7)	47 (49.0)	04 (4.2)	03 (3.1)	96 (100.0)
3	Would you agree that fresh graduates help to sustain ICT development in Nigerian banking industry	37 (38.5)	52 (54.2)	02 (2.1)	05 (5.2)	96 (100.0)
4	Recruiting young workers promotes organizational performance and effectiveness	29 (30.2)	46 (47.9)	13 (13.5)	08 (8.3)	96 (100.0)
5	Young workers bring new ideas and talents into banking industry	31 (32.3)	56 (58.3)	04 (4.2)	03 (3.1)	96 (100.0)
6	Young workers play significant role in the remarkable progress witnessing in banking services in Nigeria	34 (35.4)	53 (55.2)	07 (7.3)	02 (2.1)	96 (100.0)

Source: Field Survey, 2015

Table 2 shows the respondents distribution on the nexus between young workers and ICT development in Nigerian Banking industry. The result shows that 77.1% of the respondents concur that there had been recruitment of fresh graduates and new workers (between age 22 -26yrs) in your organization recently while 22.9% disputed it. Also, majority of the respondents 91.7% were of the view that special knowledge of ICT and technical skills are inherent in Nigerian fresh graduates while 7.3% disagree with the view. However, one can infer that young workers or fresh graduate have special knowledge of ICT, talents and technical capabilities that can further enhance the growth of information and communication technology (ICT) in banking system as proffered by majority of the respondents.

Investigating the issue further, 92.7% of the respondents revealed that young workers help to entrench the development of information communication technology in Nigerian banking industry while 7.3% of the respondents disputed it. Attempt for justify the dual views, 90.6% of the respondents claimed that recruiting young workers promotes organizational performance and effectiveness while 9.4% disagree with the view. Therefore, we can assume that most banks in Nigeria recruit young workers because of the belief that young workers helps in ICT sustainability, organizational effectiveness and competitiveness.

In addition, majority of the respondents 90.6% agree that young workers bring in new ideas and talents into banking industry while few respondents 9.4% disagree with the view. Also, majority of the respondents 90.6% support that young workers play significant role in achieving the remarkable progress in current banking services in Nigeria. Thus, the demand for young workers for banking services foster information communication technology (ICT) adaptability, utilization and development in Nigeria.

Furthermore, an interviewee asserts that:

ICT has equally helps youths mostly fresh graduates from polytechnics, universities and other tertiary institutions to secure job opportunities in banking industries because most of them are computer literates...Their technical competencies are highly need to foster banking services which is becoming technically-based day by day... Gone are those days that bank workers make use of manual recording of transaction and the use of typewriter for preparing memo...Now, ICT has made it beneficial for graduate to bring out the efficiency in them and contribute to global banking practices (IDI/Skye/Management/Ikeja/2015).

Another interviewee affirmed that:

Indeed, ICT development has make many corporate organizations to make strategic decision on worker composition and structure in order to benefit from the fast growing ICT innovation. For instance, in our organization, there is a policy that emphasize that new workers should be between age 22-26yrs which is very good for the company because we now have about 60% young talented workers below aged 30 yrs working in the organization (IDI/GTB/Management/Ikeja/2015).

From the responses above, it is not gain saying the fact that corporate organizations (i.e. banks) are recruiting young workers and technically incline employees who can help them to sustain and promote corporate technical fitness and ICT development for the purpose of competitive advantage and customer's satisfaction.

Table 3. Demands for Young Workers and Unemployment Rate in Nigeria

S/N	Question	SA F(%)	A F(%)	D F(%)	SD F(%)	Total F(%)
1	To what extent do you agree that larger proportion of unemployed people in Nigeria are youths below age 40years	23 (24.0)	51 (53.1)	10 (10.4)	12 (12.5)	96 (100.0)
2	Do you agree that ICT has created employment opportunity for youths in banking industry	41 (42.7)	48 (49.0)	04 (4.2)	03 (3.1)	96 (100.0)
3	I believe that bank's demand for young workers reduces youth unemployment in Nigeria	37 (38.5)	52 (54.2)	02 (2.1)	05 (5.2)	96 (100.0)
4	Young workers below age 40 dominate the large percentage of our total workforce in the bank	29 (30.2)	46 (47.9)	13 (13.5)	08 (8.3)	96 (100.0)
5	Contract/casual employment which is common in banking industry may discourage youths commitment to better banking practice in the organization	31 (32.3)	56 (58.3)	04 (4.2)	03 (3.1)	96 (100.0)

Source: Field Survey, 2015

Table 4.4 presents the response of respondents on whether banks demand for young workers reduce unemployment rate in Nigeria. The result reveals that 77.1% agree that larger proportion of unemployed people in Nigeria is youths below age 40years while 22.9% contrasted it. However, majority of the respondents admit that youths are worst hit with increasing unemployment rate in Nigeria. Also, majority of the respondents 92.7% upholds the view that information communication technology (ICT) creates employment opportunities for youths to involve in banking services as means of survival, while 8.3% opposed the view.

Furthermore, majority of the respondents 92.7% believe that bank's demand for young workers help in reducing youth unemployment rate in Nigeria while few of the respondents 7.3% disagree with it. More so, in buttressing their views, 78.1% of the respondent disclosed that young workers below age 40 dominate the large proportion of the total workforce in banking industry while 21.9% disputed it. However, it can be concur that majority of the respondents were of the view that bank's demand for young workers help to reduce unemployment rate particularly among youths in Nigeria. This in effect contributes to youth domination and participation in Nigerian banking industry.

In addition, bulk of the respondents 90.6% affirms that the use of contract/casual employment in banking industry may discourage youth commitment to better banking practice in Nigeria while few of them 9.4% disputed it. Thus, it can be deduce that casual/contract employment may encourage low commitment, counter-productive behavior and poor banking practice in Nigeria.

To investigate the effect of demand for young workers on youth employment rate in Nigeria.

An interviewee states that:

Yes, I agree that the current demand of fresh graduates for banking jobs contribute positively to reducing unemployment rate and youth restiveness that could endanger societal development. It also give the youths high sense of enthusiasm than before where people of retirement age stay longer than expected on the job while denying the youths of job opportunities... Though, to extinguish this kind of behavior and situation where people of retirement age falsify their age, present counterfeit data about themselves as well as lobby to continue on the job however, the adoption of ICT helps to easily kick out the redundant workers who cannot cope with today's technical and ICT wave in Nigerian banking sector (IDI/FCMB/ technical and sales /Ikeja/2015).

Furthermore, another interviewee revealed that:

ICT and accompanied technical competencies help to limit fraudulent activities and financial risk which Nigerian banks use to experience before now... In the same way, it reduces customer's fear of carrying money around the city. So, I believe customers and youths are the most beneficiary of ICT invention and development in Nigerian banking industries (IDI/Skye/Management/Ikeja/2015).

11. DISCUSSION OF FINDINGS

The aim of this study is to investigate the role of information communication technology on demand of young workers in Nigerian banking industry. In contemporary society, information communication and technology (ICT) stand out as the key driving force of job complexity and higher levels of competencies in most workplaces. It emergence has ushered in automation of processes, controls, and information production through the use of computers, telecommunications, software's and other gadget that ensure smooth and efficient running of business activities. This is not without any shortcoming or challenges in work organization across the globe.

Consequently, much attention is given to specific competencies such as the ability to use information and communication technologies (ICT) such as computers, to solve problems, to work in teams, to supervise and lead as well as to undertake continuous learning and services when hiring labour from the labour market. However, the first objective is to investigate if ICT leads to work competencies in Nigerian banking industry. The result revealed that information and communication technology (ICT) is among the crucial

management tools in rendering effective and efficient banking services in Nigeria. The finding corroborates Omobowale (2013) who submitted that ICT has invigorate social interactions in modern world through its capacity to crack down complex and routine work procedures and makes work activities easier for employees and managers alike. Similarly, the finding tallies with Kramner, Jenkins and Katz (2007) and World Bank (2002) and Kofi (1997) who reported that ICTs provide developing nations with unprecedented opportunity to meet vital development goals such as poverty reduction, empowerment, basic health care and education, far more effective than before. Therefore, nations that succeeded in harnessing the potential of ICTs can look forward to greatly expand economic growth, dramatic improvement in human welfare and stronger form of democratic governance.

In Nigeria, the adoption of information and communication technology in banking sector has ushered in the advance banking services such as E-payment, Automated Teller Machine (ATM) systems, mobile money, Point of Sales (PoS) and many other operations that integrates all licensed banks into a network, thereby reducing or eliminating the limitations of traditional branch-based nature of banking and making the promised real time-on-line concept of globalised banking a reality. Consequently, ICT development and expansion of banking services in Nigeria has bring about increasing demand of young workers who are mostly fresh graduates with sufficient technological know-how. In light of this, the second objective revealed that ICT helps Nigerian bankers to utilize computer and internet facilities in performing their duties which led to a situation where majority of the Nigeria bankers are now technically incline and computer efficient.

The finding support the view of Quresh, Zafar & Khan (2008) and Irechukwu (2000) who observed that modern day banking services paid more emphasis on the usage of technological innovations to improve service delivery and high level of customer's satisfaction in which self-service facilities (such as automated customer service machines) from where prospective customers can complete their account opening documents direct online, receive account information, engage in financial transaction process and how to receive their cheque books, credit and debit cards. However, in countries such as Nigeria where ICT development is still very young (ICT space is still an infant) there is tendency to have some bank staff and customers with technical challenges and lack the ability to operate computer applications efficiently.

In view of this reality, the result shows that majority of Nigerian banks belief that recruiting young workers (below age 30yrs) help to promote ICT sustainability, organizational effectiveness and competitive advantage in a global economy thus preference is given to young workers (below age 30yrs) who are mostly fresh graduates with adequate computer knowledge, technical skills and morally fit for the challenges of modern banking services and customers relationships. This situation, no doubt, brought a change in labour market demand for young workers at expense of old workers, demographic structure as well as social inequality in chances of employment in Nigerian banking industry. The finding upholds Judith, Antonio & Luis (2008) who reported that ICT can be particularly helpful in expanding employment opportunities however, increase demand for ICT skills may widen social and economic gaps because marginalized groups (disadvantage youths and old employees) may not have the same access to career opportunities since young workers or fresh graduate have special knowledge of ICT, talents and technical capabilities that can

further enhance the growth of information and communication technology (ICT) in banking system.

The third objective of the study established the demand for young workers for fostering information communication technology (ICT) adaptability; utilization and development in Nigerian banks significantly reduce youth unemployment. This is can be so since youths constitute the greater percentage in unemployment statistic in Nigeria. The finding corroborate with Ubaru (2009) who stated that ICT revolution and the growth of GSM operators made it possible for thousands of people to secure direct employment in formal and informal economy in Nigeria. Similarly, Reddy (2006) stated that today, Information and Communication Technologies (ICT) and wireless technologies makes it possible to provide instantaneous access to knowledge and information that was not possible 60 years ago. And the cost of information connectivity is less than 1% of the cost building a road to a village. However, the result disclosed that use of casual/contract employment in Nigerian banks may encourage low commitment, counter-productive behavior and poor banking practice among young workers in Nigeria.

The fourth objective that the demand for young workers and the adoption of ICT enhances banks performance in Nigeria. The finding supports Adeleye (2011) and Guru (2009) who submitted that the Nigerian banking industry accounts for 64 per cent of the total stock listed in the Nigerian Stock Market and employs over 77,000 workforce, both contract and permanent staff as at 2008 which makes the sector indispensable in national development process. Correspondingly, Ankem, Kwon and Zmud (1987) and Robertson and Gatignon (1986) propose that a variety of competitive effects in the technology consumers industry (competitive intensity, demand uncertainty, professionalism and cosmopolitanism) and within the technology supplier's industry (level of competitiveness, reputation, Research and Development allocation, technology standardization) impact the rate and level of diffusion of high technology innovations.

12. CONCLUSION

From the foregoing discussion it can be seen that ICT revolution has now broadened the horizon of the opportunities among nations, organization, institutions and individuals giving hopes to compete with their counterparts all over the world. Banking Sector stands as one of the areas which the development of ICT has improve services, workforce capacity as well as competition in Nigeria.

ICT can be seen as an important vehicle to propel organization and individuals within an organization to greater height as the world moves further into the knowledge economy in this 21st century. It can be acknowledged that the information revolution is a powerful force with enormous benefits in socio-economic and political developments. Such benefits include job creation, increase in the stock of technologies and skills, ease of communication, expansion of trade, business or financial transactions through automated machines etc. particularly in developing countries including Nigeria.

However, based on the finding of the study, it has been concluded that young workers in Nigerian banks are competent in some aspects of information and communication

technology particularly in the areas of word processing, electronic spreadsheet application and power point presentation application. They are also competent in the use of internet which can enhance their job performance and productivity. However, they are fairly competent higher order ICT applications such as database management system, desktop publishing applications and webpage design application. Therefore, from the findings of this study, it could be concluded that the level of competence possessed by young worker in Nigerian Banks is generally based on the job or task assigned to them.

13. LIMITATIONS OF THE STUDY

The major limitation to this study centers on the weakness of using self-assessment as a criteria to determine a person's level of competence. The researcher could not ascertain if the data supplied by the respondents truly represent their level of competence in various computer operations. Initially, some staff of the selected banks was resistant to the questionnaire feeling that the instrument would reveal their weaknesses but they were assured of utmost confidentiality with the data collected.

Some equally felt that the items on the questionnaire were much perhaps resulted in some of the items not being filled. Again, the researcher acknowledges his inability to access all the members of the population of this study as well any misrepresentation of any figure in this study. Nevertheless, the findings of the study will be useful as it represent the opinion of bank workers regarding their level of competence in information and communication technology (ICT).

REFERENCES

- Adeleye, I. (2011). The diffusion of employment flexibility in Nigeria's banking industry: Its nature, extent and causes. *International Journal of Business and Management*, 6: 150-160.
- Alter, S. 2006. *The work system Method: Connecting People, Processes and IT for Business Results*. Working System Press. Larkspur, CA.
- Bresnahan, T.F., E. Brynjolfsson & L.M. Hitt (2002). Information Technology, Workplace Organization, and the Demand for Skilled Labor: Firm-Level Evidence, *Quarterly Journal of Economics*, 117, 339-376.
- Caroli, E. & J. van Reenen (2001). Skill Biased Organizational Change? Evidence from a Panel of British and French Establishments, *Quarterly Journal of Economics*, 116, 1449-1492.
- European Commission (1993). *Growth, Competitiveness, Employment. The Challenges and Ways Forward into the 21st Century*, Bulletin of the European Communities, Supplement 6/1993, Office for Official Publications of the European Communities, Luxembourg.

- European Commission (2000). Presidency Conclusions, Lisbon European Council 23 and 24 March 2000.
- Gunu, U. (2009). The impact of the banking industry recapitalization on employment in Nigeria banks. *European Journal of Social Sciences*, 11: 486-495.
- Gunu, U., & Olabisi, J. O. (2011). Impact of banks merger and acquisition on their staff employment. *The Journal of Commerce*, 3: 35-44.
- Hesketh, A.J. (2000), "Recruiting an Elite? Employers' perceptions of graduate education and training", *Journal of Education and Work* , Vol. 13, No. 3, pp. 245-271.
- Hesketh, A.J. (2000), "Recruiting an Elite? Employers' perceptions of graduate education and training", *Journal of Education and Work* , Vol. 13, No. 3, pp. 245-271.
- Landsbergis, P.A. 2003. The changing organization of work and the safety and health of working people: A commentary. *J Occup Environ Med* 45(1): 61-72.
- Machin, S. (2001). The Changing Nature of Labour Demand in the New Economy and Skill-Biased Technology Change, *Oxford Bulletin of Economics and Statistics*, 63, 753-776.
- Omobowale, A.O (2013) Tokunbo ICT: Symbolic-rationality of second-hand ICT utilization in Nigeria. *International Journal of Sociology and Social Policy*, Vol.33 Iss:7/8, pp.509-523
- Rosenbaum, J.E. and Binder, A. (1997), "Do Employers really Need more Educated Youth?", *Sociology of Education*, Vol. 70, January, pp. 68-85
- Sanusi, S. L. (2010). The Nigerian banking industry: What went wrong and the way forward. Convocation Lecture Delivered at the Convocation Square, Bayero University, Kano, on Friday, 26.
- Sanusi, S. L. (2012). Cleaning up corruption in Nigerian banks. Lecture delivered at Warwick Economics Summit February 17-19, 2 012, University of Warwick, United Kingdom. Unpublished manuscript.
- Solaja, M.O (2014) The Effect of Work System and Workplace Hazards on Employee's Behaviour. *Global Journal of Management and Business Research: A Administration and Management*. Vol. 14 (3).

ROLE OF PRODUCT CHARACTERISTICS AND ANIMATED SPOKESPERSON CHARACTERISTICS ON CHILDREN BUYING BEHAVIOR

Syed Bakhtyar Ali Shah, Shahzad Khan

University of Science and Information Technology Pakistan, Pakistan

Abstract: In today's world "children commercialization" phenomena grow with the increasing rate. It means the grooming of children consumer hood and treatment of childhood as the marketing opportunity. In today's competitive world companies promote their products with more added features to attract their targeted customers because children's has influence on their family buying decision. Children's using their pester power. Recently companies focuses on animated advertisements. They introduce the new cartoon characters to get the attention of children's. Companies use their animated spokesperson as their transmission media to convey their message to their target segment especially children segment. Primary data collected from the children's of different schools of Peshawar. For data collection self-administered questionnaires were chosen. Secondary data was collected through journal articles, conference meetings and books that help a lot in fulfilling research literature review and give the brief idea about research. Secondary data is also helpful in giving the citation. Sample size of research is one hundred and fifty (150). The data collection is done on the individual basis. As we know that Pakistan is developing country so the people of Pakistan are very much pricing conscious, the firms must use the animated spokesperson characteristics. The firm makes the animated character which represents the children and teen agers as well. The animated spokesperson characters are very much liked in Pakistan. The animated spokesperson color attracts the children mostly. The children like the colors. They wanted to adopt the same colors of their animated hero. The color has high influence on the children.

Keywords: Product characteristics, Animated Character, Buying Behavior.

1. INTRODUCTION

In today's world "children commercialization" phenomena grow with the increasing rate. It means the grooming of children consumer hood and treatment of childhood as the marketing opportunity. It is helpful to identify the commercial influences and distinguished between marketing and advertisement. Marketing is broad term including the packaging, pricing, placing and promotion of the product or service. This commercialization of children brings a new shape to the marketing. Due to this commercialization of children's are more sensitive towards product and the promotion campaign of the firm's product. Children are also attracted to the feature of the product which they buy. They know that what they buy? And why they buy?

The product features include the Functionality, Promotion campaign, Product image and style, Price, Credibility and intimacy of product. The animated spokesperson advertisement includes the feature such as the physical appearance of the animated spokesperson, likeness of the animated spokesperson, familiarity and trustworthiness of animated spokesperson. Recently companies focuses on animated advertisements. They introduce the new cartoon characters to get the attention of children's. Companies use their animated spokesperson as their transmission media to convey their message to their target segment especially children segment. These companies design a customize spokesperson character that shows the firm culture and mission. Animated spokes-characters are highly moldable, adaptable, and easily controllable, and can even become an identifying symbol of the company (Wen-Shin Huang, 2011)

According to the developmental researchers and psychologists, there are three stages of cognitive development in child. The first one is preoperational thoughts, the second is concrete operational thoughts and the third is formal operational thoughts. Which describe the age importance in term of understanding advertisement content. The preoperational stage ranges from two to seven years old child. In this stage the main focus of the children is product look. The concrete operational thoughts and the formal operational thoughts, the children develops a more realistic approach towards understanding their world with a little difference between them (AsimTanvir (Corresponding author), 2012).

Animated advertising may be particularly attractive and attention getting to preschool children because the obvious action, movement, and sound effects associated with animation embodies perceptual salience. This high level of perceptual salience, coupled with preschoolers' tendency to focus on only one or two predominant stimuli, may explain why an animated spokes-character associated with a product is likely to draw a preschooler's attention better than most other stimuli. Animated spokes-characters are typically large, colorful, action-oriented, and are accompanied by silly voices and sound effects. The character is often the focus of the commercial (Neely, 2004).

Today every child is trying to follow the characters from which they get inspired and approaching themselves to be like them in every mode. If we go after a routine of a child, we can obviously examine that a child wakes up in the morning wearing Disney character Pajamas, roll out of bed sheet having some licensed character on it, his toothbrush and everything covered in his favorite cartoon characters and even in his breakfast he eats up cereals packed in some cute cartoon box. Strapping his Ben Ten backpack he moves to school but this commercialism even does not stop in school boundaries(AsimTanvir (Corresponding author), 2012).

2. LITERATURE REVIEW

Product Features

Functionality includes all valuable results of a product's behavior in its use environment such as specific features, ergonomics, and capacity. During a redesign, it is also desirable to reduce the product's environmental impact among other harmful effects to satisfy

consumer demand and existing and pending environmental regulations.(Daniel P. Fitzgerald, 2010, Vol.). It requires a superior product design to ensure the sophisticated technical features that makes it more user-friendly without obstructing or compromising the functionality of the product.(Arora, 2010).).

Advertisements can be defined as a type of communicative and persuasive marketing activity, the goal of which is to influence consumers' cognition, attitude, and behavior towards the product being advertised(Wen-Shin Huang, 2011). Style is visual appearance, which includes line, silhouette and details affecting consumer perception towards a brand (Frings, (2005)) . All children can be influenced to purchase certain products if the products are made attractive enough to consumers (Calvert, 2008). Product price is another variable of impulse buying. Consumers tend to be more impulsive when there are sales or product discounts, low marginal need for the item, short product life, smaller sizes, and ease of storage (Zhou, 2003).

What is “**credibility**”? Simply put, credibility can be defined as *believability*. Brand credibility refers to believability in characteristics of brand (product) information. Prior studies had proposed three elements of brand credibility: trustworthiness, expertise and attractiveness (Keller, 2008).

Animated spokesperson characteristics

Advertisers often choose celebrities who are physically attractive allowing them to get benefit both from the status and physical appeal of different celebrities (Singer, 1983). Physical attractiveness as the pleasing degree an individual possesses to affect other people (Patzner, 1985). Color plays an important role in a potential customer's decision making process, certain colors set different moods and can help to draw attention. The desirability of a color will change according to the object to which it is applied (e.g., a car or a table) and with the style of the object (Whitfield, 1983). Visibility includes the appearance, gestures and postures and the logos show on the animated spokesperson. This also includes the design of the animated spokesperson character. Expertise refers to when the animated spokesperson characters are exclusively designed for certain brands; they serve as experts to explain and demonstrate products (Garretson JA, 2004).

Advertising unifies language, pictures, music; it contains information, invokes emotions and imaginations, it can capture all five senses and, besides it, it has social and practical aim. As a genre, it seems much diversified. There is often an interference of styles and registers; therefore, it is often very difficult to classify advertising stylistically. In the diploma thesis, we will show various aspects and forms of advertising discourse(DIPLOMOVÁ PRÁCA, 2006). *Symbols* “Symbols are a broad category of processes and objects that carry a meaning that is unique to a particular group of people. Culture influences behavior through its manifestations: values, heroes, rituals, and symbols (Hofstede, 1980). Attention-getting production features are designed to attract children's interest in commercial content. Such features, which are heavily concentrated in children's television advertisements, include action and movement, rapid pacing, sound effects, and loud music(Calvert, 2008).Audio features have more recruiting power than visual features because interesting sounds can get children who are not looking at the television screen to direct their

visual attention to it (Calvert, 2008). Messages that were sung in a produced, original jingle that sounded like a nursery rhyme produced the same recall from children as spoken messages (Macklin, 1988).

Animated spokes-characters reduce the distance between companies and consumers, and encourage consumers' liking for the spokes-character to extend to the brand and its products (Wen-Shin Huang, 2011). Manufacturers usually propose nostalgic slogans to arouse consumers' memory, making consumers recall the old times. They also want to trigger the use of endorsed products via consumers' trust in animated spokes-characters (Neely, 2004). We argue that these factors affect brand attitudes, but we contend that spokes-character trust is an important mediator of this relationship (Garretson & Niedrich, 2004).

Familiarity is defined as the knowledge about the source gained through repeated exposures (Asim Tanvir (Corresponding author), 2012). Moreover, adolescents and young adults are already familiar with interactive content and may be more receptive to new ITV applications, which are coupled with their favorite entertainment content. Given that music TV channels are considered to be innovative (Knobloch, 2003).

Children buying behaviour

The particular craze to managing advertising decreased inside the 1980s, but regained energy inside the earlier 1990s having a focus on cigarette advertising (Cross 2002). In 1997, a lawsuit and also settlement between key cigarette businesses, the government, and many point out lawyers basic ended in a good deal through the cigarette businesses never to employ anime people into their advertising, due to possible fascinate little ones (P, Lesser, Robertson, R, & Ward, 1980).

The particular substantial attention, reputation, as well as liking of your animated spokes-character in the present study tend not to seem to be linked to substantial amounts of solution choice, intent, as well as option. Super-hero promoting people are usually continuously produced as well as utilized by internet marketers aimed towards little ones, so anecdotal data would assist that will spokes-characters probably possess a impacting on energy that has been certainly not attended to in this study. The energy of an effective spokes-character is based on how much coverage the smoothness is provided with, or maybe some other persona facet that may be however unstudied (M, Schumann, & W, 2004).

3. OBJECTIVES OF RESEARCH

The main objective of this research is to identify the children buying behavior in term of influencing by the product features and the animated spokesperson features. This research also emphasized on the children commercialization and the pester power of the children. The research also suggests the importance of animation advertisement that is done by the firms to some extent in Pakistan

4. EXISTING WORK

There are the researchers who check out the only impact of product features on the children buying behavior or only check out the influence animated spokesperson advertisement characteristics. To attract the children segment the companies invest lot in the product features (AsimTanvir (Corresponding author), 2012). Consumer product reviews are now widely known to have a significant influence on consumer purchasing decisions. Moreover, prior research on consumer decision making has established that consumer-generated product information on the Internet attracts more product interest than vendor information. In contrast to product descriptions provided by vendors, consumer reviews are, by construction, more user-oriented: in a review, customers describe a product in terms of usage scenarios and evaluate the product from a user's perspective. Despite the subjectivity of consume revaluations in the reviews, such evaluations are often considered more credible and trustworthy by customers than traditional sources of information (Nikolay Archak, 2007).

Furthermore, product appearance can provide value in itself; many people like to buy a product that looks aesthetically pleasing. As the influence of product design on consumer evaluation is often complex, it is difficult to decide upon during the product development process. For example, a product with bright colors may be valued aesthetically, but these same colors may give consumers the idea that the product is of low quality.(Schoormans, 2005).

Animated advertising may be specifically attractive and attention getting to preschool children because the understandable action, movement, and sound effects associated with animation embodies perceptual salience. This high level of perceptual salience, coupled with preschoolers' tendency to focus on only one or two predominant stimuli, may explain why an animated spokes-character associated with a product is likely to draw a preschooler's attention better than most other stimuli. Animated spokes-characters are typically large, colorful, action-oriented, and are accompanied by silly voices and sound effects. The character is often the focus of the commercial (Neely, 2004). Animated spokes-characters reduce the distance between companies and consumers, and encourage consumers' liking for the spokes-character to extend to the brand and its products (Wen-Shin Huang, 2011).

Gaps in the existing work done

The researchers did lot of work on the related field. But they never check the influence of product characteristics and the animated spokesperson characteristics at the same time, although the researchers did very limited work on the influence of animated spokesperson characteristics on the children buying behavior but there is no work done on the influence of the product features on children buying behavior. In this technological world it is very necessary to find out the relationship between product characteristics and animated spokesperson characteristics.

5. HYPOTHESIS

The finding and result of the study leads to the acceptance and rejection of the given hypotheses. The overall study was conducted and revolves around these hypotheses.

- H₁:** Functionality influence the children buying behavior
- H₂:** Promotion campaign influence the children buying behavior
- H₃:** Product image and style influence the children buying behavior
- H₄:** Price influence the children buying behavior
- H₅:** Product credibility and intimacy influence the children buying behavior
- H₆:** Animated spokesperson color influence the children buying behavior
- H₇:** Animated spokesperson visibility influence the children buying behavior
- H₈:** Animated spokesperson language influence the children buying behavior
- H₉:** Animated spokesperson Symbols influence the children buying behavior
- H₁₀:** Animated spokesperson advertisement Sounds influence the children buying behavior
- H₁₁:** Likeness of Animated spokesperson influence the children buying behavior
- H₁₂:** Trustworthiness of Animated spokesperson influence the children buying behavior
- H₁₃:** Familiarity of Animated spokesperson influence the children buying behavior
- H₁₄:** There is significant correlation exist in between product characteristics and the animated spokesperson characteristics.

The given conceptual frame work suggest that product characteristics and animated spokesperson characteristics are the independent factors while dependent factor are the children buying behavior. The product characteristics are functionality, promotion campaign, product image and style, price, credibility and intimacy. The animated spokesperson characteristics are color, visibility, language, symbols and sounds.

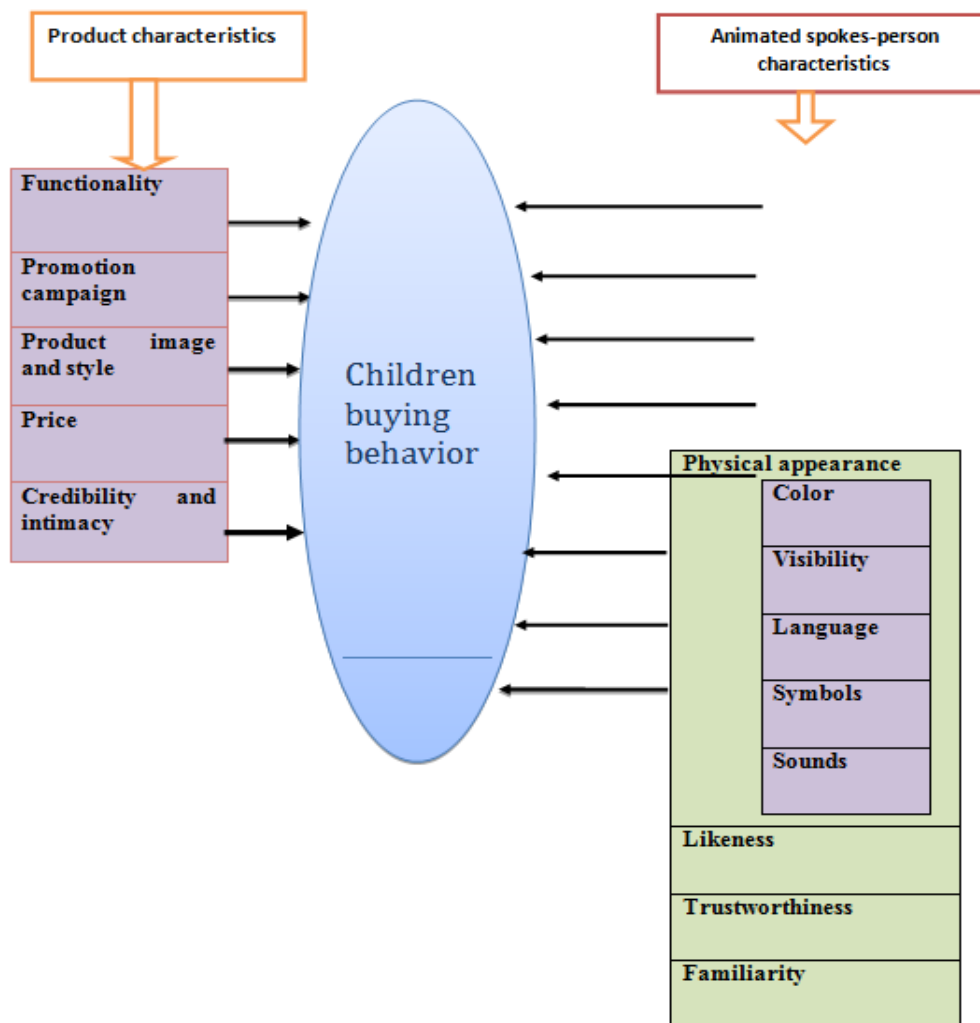


Figure 1. Conceptual frame work of Role of product characteristics and animated spokesperson characteristics on children buying behavior

6. METHODOLOGY

Primary data collected from the children's of different schools of Peshawar. The questionnaire is self-administered questionnaire. The researcher asked the questions by himself through the structured questionier because the children cannot understand or sometimes misunderstand the questions. The main advantage of self-administered questionnaire is that I completely explained the each and every question to the children responder. This is helpful in get back the full questionnaires and there is no missing questionnaire. Secondary data is collected through journal articles, conference meetings and books that help a lot in fulfilling our research literature review and give the brief idea about my research. His is also helpful in giving the citation

Sample size of the research is one hundred and fifty (150). The sample size is taken from the different school children's of Peshawar. The sample size contains both the gender and the sample is also collected from the children having age from 4years old to 12 years old. This sample size is very much considerable for the research. For analysis of statistical tools we used Spss 20.0 version software. Spss is the statistical package for social science software. In Spss we applied the frequencies, descriptive statistic, reliability test, and regression and correlation.

7. RESEARCH DESIGN

Primary data collection

Primary data collected from the children's of different schools of Peshawar. The questionnaire is self-administered questionnaire. The researcher asked questions directly from the children because the children cannot understand or sometimes misunderstand the questions. The main advantage of self-administered questionnaire is that researcher completely explained the each and every question to the children responder. This is helpful in get back the full questionnaires and there is no missing questionnaire.

Sample size

Sample size of the research is one hundred and fifty (150). The sample size is taken from the different school children's of Peshawar. The sample size contains both the gender and the sample is also collected from the children having age from 4years old to 12 years old. This sample size is very much considerable for the research.

Statistical tools

For processing and analysis of statistical tools we used Spss 20.0 version software. Spss is the statistical package for social science software. In Spss researcher applied the frequencies, descriptive statistic, reliability test, and regression and correlation. Spss 20.0 is the latest software version. This software is used for the calculation of statistical test to find out the results and analysis. In this we applied test reliability to check out the reliability of the variables' questions and also the questionnaire. Reliability is found out through Cronbach's alpha. If the result of Cronbach's alpha is above than .7 so the questions are reliable.

The frequencies statistics are used to find out the response rate of the respondents on the demographic basis. The regression analysis is applied to check out the influence of product characteristic and animated spokesperson characteristics. The correlation is use for the calculation of checking the relation between variables.

Unit of analysis

The data collection is done on the individual basis. But the teaching staff of the schools helped lot in data collection. The teaching staff of the schools really appreciates the research activity.

8. RELIABILITY STATISTICS

Scale	Cronbach's Alpha
Product functionality	.815
Product promotion campaign	.710
Product image and style	.817
Product price	.705
Product credibility and intimacy	.847
Animated spokesperson color	.867
Animated spokesperson visibility	.793
Animated spokesperson language	.712
Animated spokesperson symbols	.809
Animated spokesperson sounds	.748
Animated spokesperson likeness	.753
Animated spokesperson trustworthiness	.717
Animated spokesperson familiarity	.714

Interpretation

The reliability statistics Cronbach's alpha for product functionality is .815. This shows high reliability of variable's questions. The reliability statistics Cronbach's alpha for promotion campaign is .710. This shows reliability of variable's questions.

The reliability statistics Cronbach's alpha for product image and style is .817. This shows high reliability of variable's questions. The reliability statistics Cronbach's alpha for product price is .705. This shows reliability of variable's questions. The reliability statistics Cronbach's alpha for product credibility and intimacy is .847. This shows high reliability of variable questions. The reliability statistics Cronbach's alpha for animated spokesperson is .867. This shows high reliability of variable questions. The reliability statistics Cronbach's alpha for animated spokesperson visibility is .793. This shows high reliability of variable's questions. The reliability statistics Cronbach's alpha for animated spokesperson language is .712. This shows high reliability of variable's questions. The reliability statistics Cronbach's alpha for animated spokesperson symbols is .809. This shows high reliability of variable's questions

The reliability statistics Cronbach's alpha for animated spokesperson sounds is .748. This shows reliability of variable's questions. The reliability statistics Cronbach's alpha for animated spokesperson likeness is .753. This shows high reliability of variable's questions. The reliability statistics Cronbach's alpha for animated spokesperson trustworthiness is .717. This shows high reliability of variable's questions. The reliability statistics Cronbach's alpha for animated spokesperson familiarity is .714. This shows high reliability of variable's questions.

9. REGRESSION ANALYSIS OF INDEPENDENT VARIABLE PRODUCT CHARACTERISTICS AND DEPENDENT VARIABLE CHILDREN BUYING BEHAVIOR

Table 14. Model Summary

Model	R	R-square	Adjusted R-square	Std. Error of the estimate
1	.904 ^a	.817	.811	.23086
a. Predictors: (Constant), credibility and Intimacy, Promotion Campaign, Functionality, Price, Product Image and Style				

Interpretation

The table no 14 shows that the R value is .904. The value of suggest that independent variable product characteristics has 90.4% correlated with the dependent variable children buying behavior. The R² value is .817 which means that the independent variable product characteristics explained 81.7% of dependent variable. The standard error of the estimate is .23086.

Table # 15.ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	34.301	5	6.860	128.720	.000 ^a
	Residual	7.675	144	.053		
	Total	41.975	149			

a. Predictors: (Constant), credibility and Intimacy, Promotion Campaign, Functionality, Price, Product Image and Style,

b. Dependent Variable: Buying Behavior

Interpretation

The table no 15 shows that f-value is 128.7 which are greater than mean value 6.860 and the p-value is 0.000 which shows that the statistical model is significant even at 99%.

Table # 16. coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.816	.123		6.637	.000
	Functionality	.155	.030	.223	5.156	.000
	Promotion Campaign	.153	.024	.261	6.361	.000
	Product Image and Style	.158	.038	.256	4.134	.000
	Price	.318	.043	.417	7.367	.000
	Credibility and Intimacy	.002	.039	.003	.050	.960
a. Dependent Variable: Buying Behavior						

Interpretation

The table No 16 shows the regression analysis of the product characteristics and children buying behavior. This test applied to check out the influence of product characteristics on children buying behavior. The table shows the t-value of few variables. This table shows that functionality has significant relation with the dependent variable children buying behavior. This means that functionality explained 20.3% of dependent variable. The promotion campaign has significant correlation with the dependent variable. The promotion campaign explains 26.1% of dependent variable. The product image and style has significant relation with the dependent variable which means that product image explained 25.6% of dependent variable. The price has insignificant correlation with the dependent variable which means that price explain 41.7% of dependent variable. Credibility and Intimacy has significant relation with the dependent variable so the Credibility and Intimacy explain .3%, Functionality has significant relation with the dependent variable children buying behavior. This means that functionality explained 20.3% of dependent variable.

10. REGRESSION ANALYSIS OF INDEPENDENT VARIABLE ANIMATED SPOKESPERSON CHARACTERISTICS AND DEPENDENT VARIABLE CHILDREN BUYING BEHAVIOR

Table# 21: Model Summary

Model	R	R-square	Adjusted R-square	Std. Error of the estimate
1	.981 ^a	.963	.961	.10533
a. Predictors: (Constant), familiarity, Visibility, Color, TRUSTWORTHINESS, Sounds, Symbols, Language, Likeness				

Interpretation

The table no# shows that the R value is .981. The value of suggest that independent variable animated spokesperson characteristics has 98.1% correlated with the dependent variable children buying behavior. The R² value is .963 which means that the independent variable product characteristics explained 96.3% of dependent variable. The standard error of the estimate is .23086.

Table # 10.ANOVA^b

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	40.411	8	5.051	455.316	.000 ^a
	Residual	1.564	141	.011		
	Total	41.975	149			
a. Predictors: (Constant), familiarity, Visibility, Color, TRUSTWORTHINESS, Sounds, Symbols, Language, Likeness						
b. Dependent Variable: Buying Behavior						

Interpretation

The table no# shows that f-value is 455.316 which is greater than mean value 5.051 and the p-value is 0.000 which shows that the statistical modal is significant even at 99%.

Table # 22. Coefficient

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.374	.073		5.130	.000
	Color	.297	.021	.393	14.128	.000
	Visibility	-.006	.028	-.006	-.208	.836
	Language	.232	.032	.285	7.287	.000
	Symbols	.119	.023	.181	5.087	.000
	Sounds	.026	.034	.033	.754	.452
	Likeness	.104	.034	.132	3.038	.003
	Trustworthiness	.033	.022	.041	1.522	.130
	familiarity	.080	.027	.095	2.975	.003
a. Dependent Variable: Buying Behavior						

Interpretation

The table No#11 show the regression analysis of the product characteristics and children buying behavior. This test applied to check out the influence of animated spokesperson characteristics on children buying behavior. The table shows the t-value of few variables. This table shows that color has significant relation with the dependent variable children buying behavior. This means that color explained 39.3% of dependent variable. The visibility has insignificant relation with the dependent variable. The visibility explains -00.6% of dependent variable. The language has significant relation with the dependent variable which means that language explained 28.5% of dependent variable. The symbol has significant correlation with the dependent variable which means that symbols explain 18.1% of dependent variable. Sounds have insignificant relation with the dependent variable so the sounds explain 3.3%. Likeness has significant relation with the dependent variable so the sounds explain 13.2%. Trustworthiness has insignificant relation with the dependent variable so the sounds explain 4.1%. Familiarity has significant relation with the dependent variable so the familiarity explains 9.5%.

H0 Animated spokesperson color does not influence the children buying behavior

H1 Animated spokesperson color influence the children buying behavior

Color has significant relation with the dependent variable children buying behavior. This means that color explained 14.128% of dependent variable. So the alternate hypothesis (H1) is accepted.

H0 Animated spokesperson visibility does not influence the children buying behavior

H1 Animated spokesperson visibility influence the children buying behavior

The visibility has insignificant relation with the dependent variable. The visibility explains -20.8% of dependent variable. So the null hypothesis (H0) is accepted.

H0 Animated spokesperson language does not influence the children buying behavior

H1 Animated spokesperson language influence the children buying behavior

The language has significant relation with the dependent variable which means that language explained 28.5% of dependent variable. So the alternate hypothesis (H1) is accepted.

H0 Animated spokesperson Symbols does not influence the children buying behavior

H1 Animated spokesperson Symbols influence the children buying behavior

The symbol has significant correlation with the dependent variable which means that symbols explain 18.1% of dependent variable. So the alternate hypothesis (H1) is accepted.

H0 Animated spokesperson advertisement Sounds does not influence the children buying behavior

H1 Animated spokesperson advertisement Sounds influence the children buying behavior

Sounds have insignificant relation with the dependent variable so the sounds explain 3.3%. So the null hypothesis (H0) is accepted.

H0 Likeness of Animated spokesperson does not influence the children buying behavior

H1 Likeness of Animated spokesperson influence the children buying behavior

Likeness has significant relation with the dependent variable so the sounds explain 13.2%. So the alternate hypothesis (H1) is accepted.

H0 Trustworthiness of Animated spokesperson does not influence the children buying behavior

H1 Trustworthiness of Animated spokesperson influence the children buying behavior

Trustworthiness has insignificant relation with the dependent variable so the sounds explain 4.1%. So the null hypothesis (H0) is accepted.

H0 Familiarity of Animated spokesperson does not influence the children buying behavior

H1 Familiarity of Animated spokesperson influence the children buying behavior

Familiarity has significant relation with the dependent variable so the familiarity explains 9.5%. So the alternate hypothesis (H1) is accepted.

11. CONCLUSION

Today the children are very much aware the product features and their purchase decisions. The firm must focus the children segment because children influence the family decision. The product price and animated spokesperson color have high influence on children buying behavior.

As we know that Pakistan is developing country so the people of Pakistan are very much price conscious. The daily talk of parents in homes about price fluctuation makes the children more sensible about prices. The children demanded those products which their parents afford easily. Along with price the children also care about the product functionality, and product style. The children give preference to the stylish products. The promotion campaign of product also plays a key role on buying behavior of children.

The animated spokesperson color attracts the children mostly. The children like the colors. They wanted to adopt the same colors of their animated hero. The color has high influence on the children. The language used in animated spokesperson advertisement, symbols, likeness and the familiarity also influences the children buying behavior.

Recommendations

The firms must use the animated spokesperson. The firm makes the animated character which represents the children and the teen agers as well. The animated spokesperson characters are very much liked in Pakistan. These characters provide healthy entertainment in sense of ethics.

Scope for future research

The other researchers if they want to work on the same topic so they increase the sample size to get better results. They conduct research in other region rather than Peshawar and they also check out the comparative study as well. The researcher also works on the story, episodes and the movies impact on children and adult buying behavior.

The future researchers also expand the line of comparative studies in between adult and children. The future research areas are that the researcher work on moderating variables such as communication medium.

REFERENCES:

- Arora, A. (2010, July). Concurrent consideration of product usability and functionality: Development of integrated design guidelines.
- AsimTanvir (Corresponding author), M. R. (2012, june). IMPACT OF CARTOON ENDORSEMENT ON CHILDREN IMPULSE BUYING OF. *INTERDISCIPLINARY JOURNAL OF CONTEMPORARY RESEARCH IN BUSINESS*, 4(2), 653-658.
- Calvert, S. L. (2008). Children as Consumers: Advertising and Marketing. 18(1).
- Daniel P. Fitzgerald, J. W. (2010, Vol. , SEPTEMBER). A Conceptual Design Tool for Resolving Conflicts Between Product Functionality and Environmental Impact. *Journal of Mechanical Design*, 132, 1-11.
- DIPLOMOVÁ PRÁCA, J. L. (2006). THE LANGUAGE OF ADVERTISING WITH THE CONCENTRATION ON THE LINGUISTIC MEANS AND THE ANALYSIS OF ADVERTISING SLOGANS.
- Frings, G. S. ((2005)). *Fashion: From Concept to Consumer* (8th ed.). Pearson, Prentice Hall.
- Garretson JA, N. R. (2004). Spokes-characters: creating character trust and positive brand attitudes. *journal of advertising*, 33(2), 25-36.
- Garretson, J. A., & Niedrich, R. W. (2004, june 22). Spokes-characters: creating character trust and positive brand attitudes. *Journal of Advertising*, 33(2), 25-36.
- Hofstede, G. (1980). Culture's Consequences: International Differences in Work-Related Values. *Sage journals*.
- Keller, K. L. (2008). *Strategic Brand Management: Building, Measuring, and Managing Brand Equity*. Upper Saddle River, Prentice Hall.

- Knobloch, S. a. (2003). *Communication and emotion in the context of music and music television*. (J. a.-E. Bryant, Ed.) Communication and Emotion: Essays in Honor of Dolf Zilmann.
- M, N. S., Schumann, & W, D. (2004, September 22). Using animated spokes-characters in advertising to young children: does increasing attention to advertising necessarily lead to product preference? *Journal of Advertising*, 33(3), 7--23.
- Macklin, M. C. (1988). *The relationship between music in advertising and children's responses: an experimental investigation* (S. Hecker & D. W. Stewart ed.). Lexington, MA: Lexington Books.
- Neely, S. M. (2004, September 22). Using animated spokes-characters in advertising to young children: does increasing attention to advertising necessarily lead to product preference? *journal of advertising*, 3(33), 7-23.
- Nikolay Archak, A. G. (2007). Show me the Money! Deriving the Pricing Power of Product Features by Mining Consumer Reviews. *13th ACM SIGKDD International Conference on Knowledge Discovery and Data Mining (KDD 2007)*, (pp. 56-65).
- P, A. R., Lesser, G. S., Robertson, T. S., R, J. R., & Ward, S. (1980). *The effect of TV Advertising on children: Review and Recomendation*. Lexington: MA: Lexington Books.
- Patzer, G. (1985). Source credibility as a function of communicator physical attractiveness. . *journal of business research*, 11, 229–241.
- Schoormans, M. I. (2005). The Different Roles of Product Appearance in Consumer Choice. *Journal od Product Innovation Managment*, 22, 63–81.
- Singer, B. (1983). The Case for Using "Real People" in Advertising. *Business Quarterly*, 48,, 32-37.
- Wen-Shin Huang, T. H.-S. (2011, October 7). The advertisement effectiveness of animated spokescharacters. *African Journal of Business Management*, 5(23), 9971-9978.
- Whitfield, A. a. (1983). Color. In: *Industrial Design in Engineering*. In T. D. Council (Ed.). Worcester, UK.
- Zhou, L. a. (2003). Consumer Impulse Buying and In-Store Stimuli in Chinese Supermarkets. *Journal of International Consumer Marketing*, 16(2), 37-53.

THE ROLE OF THRIVING AND TRAINING IN MERGER SUCCESS: AN INTEGRATIVE LEARNING PERSPECTIVE

Mahima Thakur, Anjali Bansal, Peter Stokes

Faculty of Management Studies, University of Delhi, India

Abstract: This empirical investigation produces a prescriptive framework of merger success borrowing from the integrative learning model of growth and thriving (Spreitzer, 2012). This research paper studies the data which has been collected from employees of a public sector organization (N=117) that had had a merger with a software company to deliver its IT services. The results point towards the facilitative role of training (awareness, human capital development & adaptive/ cross-cultural elements) in developing feelings of psychological empowerment, thriving, commitment and satisfaction with the merger. Thus the investigation points at the impact of training on psychological variables as well as pointing at the advantages of qualitative data in training effectiveness assessment. In this study qualitative and quantitative data were collected (N=117). The study presents a prescriptive model of handling cross-cultural conflict between the young IT engineers and the older senior management of the parent group. While the quantitative data indicate certain aspects of the issues and point in a particular direction, the complementary qualitative data assisted in unearthing significant undercurrents. Though quantitative analysis indicates a significant relationship between implementation of training and growing organizational commitment among employees, at the same time, qualitative data underlines the resentment of the employees regarding the cross-cultural conflict. The M&A literature observes a huge gap in the field of M&As, as the emphasis has always been on financial and operational aspects of M&As. Thus, this study addresses this gap in research and opens the avenues for M&A researchers to consider HR as the strategic partner during M&As. The study has important implications for MNCs operating in India and for those which want to excel the Indian market through M&A. This paper is based on the original field work and every information given is authentic.

Keywords: merging of companies, public sector, training of employees

ASSESSMENT CENTER AS A METHOD OF ASSESSING LEADERSHIP POTENTIAL LEADER

¹Natalia L. Minayeva, ¹Nina A. Pecherskaya, ²Farida U. Chankhieva

¹*Faculty of Real Estate Management, Department of Management and Marketing;* ²*Russian state university for humanities, Department of Management and Marketing, Russia*

Abstract: In modern conditions the human resources of the organization determine the effectiveness of its activities. However, companies operating in the real estate market do not pay enough attention to the quality of the personnel selection and its assessment which further leads to a large number of administrative errors. This article discusses the benefits of such an effective method of assessing personnel as an assessment centre.

Keywords: selection and evaluation of personnel, assessment centre, professionally important qualities of workers, professional competence.

1. INTRODUCTION

Currently, the major Russian cities (Moscow, St. Petersburg, etc.), despite the large influx of foreign labor, obviously lack qualified personnel. Especially it concerns the rapidly growing real estate market. Although the labor market of building trades specialists seems to have reached saturation, the skill levels of many construction and development companies are poor. In this connection it is necessary to introduce advanced, efficient technologies for the selection and evaluation of personnel into organizations. These technologies should be designed by taking into account both external to the organization (the economic situation in the country and the world, the situation on the labor market in real estate, etc.) and internal (stage of life cycle of the organization, its position in the industry, etc.) factors.

In our opinion, the introduction of modern methods and techniques for selecting and evaluating personnel in real estate is also determined by problems faced by organizations in their practice: the absence of well-functioning system of selection of candidates for vacant positions; the lack of developed requirements for candidates in a number of organizations; incoherence between the objectives of the selection and evaluation of personnel, on the one hand, with the goals and objectives of the organization at a particular stage of its development, on the other; the need of finalization (corrections) of foreign technology selection and evaluation of personnel and creation of domestic developments in this area; the need to introduce and teach new modern technology of the personnel selection to human resources managers, shortage of qualified professionals capable of holding selection and evaluation of personnel qualitatively; subjectivity in the evaluation of applicants for vacant positions.

As the analysis of theoretical sources showed, domestic scientific literature on human resource management, labor economics and management theory lacks papers devoted to

comprehension of new technologies of personnel selection (such as the assessment centre), and there are no papers devoted to the peculiarities of selection and assessment in the field of Real Estate, which determines the relevance of this article.

First of all, we should define the purpose of the recruitment process. According to M.Armstrong (Armstrong, 1999), "the ultimate goal of the recruitment process should be to hire a certain number of employees of a certain quality at minimum costs in order to meet the needs of human resource" [1]. The author believes that the procedure for selection of staff should include three stages:

1. Determination of requirements - Preparation of job descriptions and lists of the requirements for candidates; a decision on conditions of employment.
2. Attracting candidates - review and evaluation of internal and external sources to attract candidates, placing advertisements for recruitment, appeal to agencies and consultants.
3. Selection of candidates through a thorough analysis of questionnaires, conducting interviews, testing, evaluation of candidates, work of the evaluation centre, employment offer, receiving recommendations, preparation of an employment contract. [1]

Currently, interview is the main method of staff selection for the organizations, despite the fact that it has been repeatedly proved that an interview is an inefficient method of predicting success in work. D.Smat (Smart, 1983), for example, claims that only 94 out of 1,000 candidates having the traditional interview, answer honestly. [1] Reliability study, the results of which S.Taylor (Taylor, 1998) refers to, show that the value of the traditional interview is questionable, and staff assessment centres (assessment centre), psychometric tests, biography and structured interviews are more accurate selection methods [1]. T.Yu.Bazarov also believes that an interview as a method of staff selection is ineffective (the level of efficiency of the traditional interview is not more than 30%). According to the author, the most effective method of selection of personnel is a staff assessment centre (level of efficiency 70-80%) [2].

Staff Assessment Centre (assessment centre) combines a number of methods to assess staff and usually has the following features:

1. Focus on behavior.
2. Applicable tasks reproduce key aspects of work. These include role-playing and group tasks. It is assumed that the execution of these modelled tasks predicts behavior at work.
3. In addition to group tasks interviews and tests are used.
4. Completing tests is judged on several aspects in terms of the skills required to achieve the desired level of a particular job or required at a particular location in the organization.
5. Simultaneously several candidates or participants are evaluated to allow them to interact, discover and apply their professional experience.

6. To assess more objectively, several evaluators or observers are invited. It is desirable to attract senior executives. Evaluators should be carefully prepared. [1]

The basic idea of assessment- centre is that candidates for certain positions perform tasks corresponding to the most important components of professional activity. According to S.A.Manicheva "The object of the assessment in the assessment centre is maturity of participants according to required operating behavior." Thus, the assessment focuses entirely on competence [4].

M.Armstrong believes that assessment centre provides opportunities to show the extent to which candidates match the culture of the organization. This is established by observing their behavior in a variety of typical situations and through a series of tests and structured (in-depth) interviews. In addition, assessment centres allow candidates to understand the organization and its values better, to decide for themselves whether they correspond to them or not.

Checking candidates in the assessment centres is similar to the following:

1. Playing on the allocation of scarce material and financial resources with the change of conditions.
 2. Discussion on promotion of an imaginary employee, in which everyone defends "the ward" (shows the ability to convince others).
 3. Making in the limited time decisions on matters within the competence of the post, which the candidate is expected to take up.
 4. A 10-20 minute interview with each participant.
 5. Analysis of management information and serving as a consultant.
 6. A group analysis. Members of the group provide information about their mutual expectations and then discuss differences and their causes.
- Assessment centres can be used not only for the selection and evaluation of personnel, but also for the evaluation of the potential of employees to create personnel reserve, staff development and staff turnover.

Thus, in this paper we analyzed such a modern and reliable method of selection and assessment as the assessment centre, which allows companies operating in the real estate market hire the most efficient staff. Since, as it has already been noted, the real estate market is one of the most dynamic markets in Russia and the requirements for personnel working in the construction and real estate development companies are quite high. Interview, the most common method of selection and assessment in Russia, can not accurately evaluate the professional competence and motivation of potential employees - this requires more reliable and efficient methods. One of these methods, to our mind, is an assessment centre. Application of this method will allow Human Resources departments of companies operating in the real estate market to improve the quality of selection and assessment of staff and it will have a positive impact on the efficiency of the company and increase its level of competitiveness.

REFERENCES:

1. Armstrong M. The practice of human resource management. 8th edn. / transl. from English. ed. S.K.Mordovina. - St. Petersburg. : Piter, 2007. - 832 p. : Il. - (Series " Classical MBA")
2. Personnel Management : Textbook for Universities / Ed. T.Yu.Bazarova, B.L. Eremin. - 2nd ed., Rev. and add. - M: UNITY 2002. – 560 p.
3. Vesnin V.R. Personnel management. Theory and practice: textbook. - M.: Welby, publishing house Prospect, 2007. – 688 p.
4. Gurevich A.M. Assessment: guidelines for the preparation and conduct. - St. Petersburg. : Rech, 2005. – 235 p.

MEASUREMENT OF CUSTOMER SATISFACTION IN THE DEVELOPMENT OF THE STRATEGY IN THE MARKET OF RESIDENTIAL AND MUNICIPAL SERVICES

Natalia B. Safronova¹, Alexey R. Urubkov², Ludmila V. Tkachenko³

¹*Russian Presidential Academy of National Economy and Public Administration (RANEPA),
Chair of management and marketing;* ²*RANEPA, Chair of business process management in
the sphere of production and service;* ³*Russia*, Russia

Abstract: Specific features of residential and municipal/public economy as a social significant industry determine requirements to models reflecting reciprocal influence of indices of satisfaction, loyalty and economic indices of operation. The article presents definition of requirements along with development of technologies for modeling influence of satisfaction and loyalty on consumer behaviour of clients. The authors demonstrate trustworthy statistical results of correlative interrelationship of different factors. There have been designed regression models for taking management solutions by executives of maintenance companies.

Keywords: residential and municipal/public services, satisfaction, loyalty, readiness, measuring, correlation, regression

1. INTRODUCTION

In Russia household expenditures on residential and municipal services in average annual income are from 10 to 11% for families with average income and 15-17% for families with a low life level. The government takes measures to ensure that the cost of housing does not exceed 20% of the total family income that is critical for social stability. The social stability depends largely on the management of this branch, the political crisis in Bulgaria indicates that the growth of spending in the sector, in particular on electricity, makes citizens be involved in rallies, and the government has to resign.

In traditional marketing research satisfaction, as well as loyalty is a consolidated index that shows, according to the level of significance, general assessment by consumers of various factors affecting their satisfaction with the quality, service, price and image of the company. Such integrated assessment is an indicator of the current level of satisfaction, and it allows to monitor its dynamics, to compare to the competitors, to use the planned values when developing KPI, but does not allow to make quantitative assessment of the impact of definite factors on the achieved level of satisfaction. Also when forming offers to clients in the sphere of residential and municipal services it is necessary to identify those aspects of the service quality, which are the drivers of loyalty and form the readiness of the client for purchasing additional services.

It is clear that in real business the list of those, besides the mentioned above, that affect the readiness to purchase additional services, is much broader and includes a number of economic

indices. However, in this article we will restrict ourselves by formulating such a problem that illustrates proposed by the authors methods of modeling and research of the market of residential and municipal services. Speaking about NPS methods, from our point of view, the applied evaluation methods of the share of loyal customers do not allow to identify the reasons for selecting a particular alternative answer [7]. During the development of tools for the measurement of the net promoter index a standard form was supplemented with an implied question about the reasons for a choice of an answer variant, and, consequently, about the reasons for forming customer loyalty.

The development and approbation of methods for modeling and research was based on a large number of data collected in the framework of the pilot interregional study of satisfaction with services of MCs in the field of RMS. These data were included into the questionnaire survey of 500 customers using the services of RMS provided by the maintenance companies with different organizational forms.

Here are some results that allow to substantiate the effectiveness of the proposed approach for the purposes of the survey of customer satisfaction with residential and municipal services and to assess the impact of the satisfaction factors on the readiness to purchase additional services.

On the basis of processing the questionnaires of 500 customers using the residential and municipal services of eight maintenance companies, at the first stage of the described algorithm the histograms of customer responses distributions were built, and then the received data were summarized in the tables.

Table 2. Quantitative assessment of the readiness to purchase additional services (dependent variable y) and satisfaction with the provided services (factors {x}_1,x12,...,x1m) for 8 maintenance companies (MC).

MC	Readiness to purchase additional services (Y)	Factors - satisfaction with the provided services								
		The quality of the provided services (X1)	the Sufficiency of the services included in the monthly payment (X2)	Variety of additional services (X3)	Quality state of a building (X4)	professional staff (X5)	Time of order accomplishments (X6)	Responsiveness to citizens ' complaints (X7)	Emotional comfort (responsiveness, courtesy, friendliness) (X8)	Work schedule (X9)
1	2,16	3,80	3,86	3,42	4,04	3,96	3,86	4,00	3,64	4,06
2	2,66	3,91	4,19	3,20	3,91	4,51	4,15	4,19	4,43	4,62
3	2,16	4,45	4,06	4,02	4,31	4,18	4,43	4,43	4,47	4,39
4	2,6	3,94	4,19	3,23	3,94	4,52	4,19	4,16	4,39	4,68
5	2,7	3,90	4,18	3,18	4,50	3,90	4,12	4,46	4,20	4,58
6	1,78	3,34	3,04	2,54	3,42	2,44	3,32	3,26	3,22	3,56
7	2	3,53	3,43	3,39	3,73	2,61	3,67	3,51	3,47	3,63
8	1,7	3,32	3,08	2,56	3,40	4,40	3,92	3,52	3,48	3,82

The resulting selection, characterizing the activities of the eight MCs, consists of the quantitatively measured factors and the quantitatively measured dependent variable. This allows then to carry out a complete econometric analysis of maintenance companies in the sphere of residential and municipal services.

Analysis of the influence of satisfaction with the provided services on the readiness to purchase additional services.

The most convenient way to detect the influence degree of the factors on the researched variable is a correlation analysis - calculation and comparison of pair correlation coefficients of the readiness to purchase additional services and the degree of satisfaction with the quality of one or another provided service. The corresponding correlation coefficients calculated on the basis of sample table 2, are given in table 3.

Table 3. The coefficients of pair correlation of the factors with purchasing additional services with readiness.

	The readiness to purchase additional services,(Y)
Quality of provided services (X_1)	0,6
Adequacy of services included in the monthly payment (X_2)	0,93
A variety of additional services (X_3)	0,39
The quality of the state of a building (X_4)	0,73
Professionalism of the staff (X_5)	0,5
Time of order accomplishments (X_6)	0,62
Efficiency of reaction to citizens' complaints (X_7)	0,81
Emotional comfort (responsiveness, courtesy, friendliness) (X_8)	0,82
Work schedule (X_9)	0,91

All the coefficients of pair correlations are positive - the higher the consumer assessment of the quality of provided services - the higher their readiness to purchase additional services. And the most impressive (in descending order), as shown in table 3, the readiness to purchase additional services is influenced - by "Adequacy of services", - $r = 0,93$, "Work schedule" - $r = 0,91$, "Emotional comfort of interaction (responsiveness, courtesy, friendliness)" - $r = 0,82$, "Efficiency of reaction to citizens' complaints" - $r = 0,81$, "the Quality of the state of a building" -

$r = 0,73$. The correlation coefficient values for these factors are close to figure one. Therefore, satisfaction with the quality of these services primarily increases the consumers' readiness to purchase additional services. This conclusion can be used by MCs for making management decisions, since it shows what levers should be used first. The proposed method allows to assess not only the level of satisfaction, but also to highlight the factors, which to a greater or lesser extent, affect its formation, and also to estimate (to measure) the degree of this influence. As a result, a manager possesses an effective tool for analysis and improvement of managerial decisions. This method allows to find those economic indices and to influence those activities of MCs, which to the greatest extent form the customers' readiness to purchase additional services.

REFERENCES:

1. Balashov L. Postroyeniyesistemloyal'nostikliyentov // Marketing. No2. 2007 c.37.
2. Latyshova L.S. Safronova N.B. Lebedeva A. Issledovaniyeudovletvorennostipol'zovateleyuslugami ZHKKH/ «Mekhanizatsiya stroitel'stva»,№5-2012s.15-18
3. Latyshova L.S. Safronova N.B. Urubkov A.R. Faktory, vliyayushchiyenapovysheniyeudovletvorennostipol'zovateleyuslugami ZHKKH v usloviyakhmodernizatsiizhilishchnogokhozyaystvaRossii/ Nauka. Kul'tura. Obshchestvo. M.: ISPI RAN №3 - 2012 C. 71 – 90
4. Safronova N.B. KorneyevaI.Ye. Marketingovyeyeissledovaniya M.: «Dashkov»,2012
5. Serkova N.V. Sotsial'no-psikhologicheskiiyeosobennostiloyal'nostiifactory, opredelyayushchiyeyeyeformirovaniye // VestnikTomskogogosudarstvennogopedagogicheskogouniversiteta. Seriya: Pedagogika. No. 5(42) - 2004. C. 131-134.
6. Urubkov A.R. Statisticheskiiyemetodyimodeli v biznese. M.: Izdatel'skiydom «Delo» RANKhiGS, 2011. - 324 s.
7. Tsysar' A.V. Loyal'nost' pokupateley: osnovnyeyepredeleniya, metodyizmereniya, sposobyupravleniya/ Marketingovyeyeissledovaniya, №. 3 - 2002,c.57 – 63
8. Oliver R.L. Whence customer loyalty? // Journal of Marketing. 1999. Vol. 63(4). P. 33–44.
9. Oliver, Richard L. Satisfaction: A Behavioral Perspective on theConsumer,1997. New York: McGraw-Hill Irwin, p.392
10. Reichheld F.F. The one number you need to grow // Harvard Business Review. 2003. Vol. 81(12). P. 46–54.
11. Griffin J. Customer loyalty. How to Earn It.How to keep It.1995, New York. USA: Lexington Books, p.75.
12. Keiningham, T.L., Cooil, B., Andreasson, T.W. &Aksoy, L. A longitudinal examination of 'net promoter' and firm revenue growth. Journal of Marketing, 2007, № 3, (71) pp. 39–51.

QUANTIFYING STRATEGIC PERFORMANCE INDICATORS OF R&D FUNCTION IN AN INDUSTRIAL ORGANIZATION

Duška Pešić¹, Aleksandar Pešić², Slavko Ivković²

¹ *Information Technology School, ComTrade Technology Centre, Belgrade, Serbia;* ² *Faculty of Business and Industrial Management, Union University, Belgrade, Serbia*

Abstract: The growing interest for measuring the performance and contribution of an industrial organization's R&D function emphasized the importance of alternative assessment techniques and methods that could be efficiently used in this complex management activity. This paper proposes an innovative quantitative approach that uses the characteristic traits of the Fuzzy sets. Due to the high usability of fuzzy logic in dealing with the inaccuracies and uncertainties contained in the available management data, proposed model overcomes some limitations of classical mathematical models based on probability and bivalent logic and enables more realistic, comprehensive assessment of strategic factors that influence overall R&D performance.

Keywords: Fuzzy model, quantification, performance indicators, R&D function, industrial organizations

1. INTRODUCTION

As Rousell **indicates**, industrial R&D has three main strategic purposes. First, it has to defend, support and expand existing business by modifying products to improve customer acceptance or adopting them to relevant standards and regulations. This also implies improvements in manufacturing processes or developing new manufacturing processes.

Second, it has to drive new business, ie. it has to provide opportunities for new businesses using existing or new technologies.

Finally, third strategic purpose of R&D is to broaden and deepen technological capabilities of the organization [7].

To respond to these various tasks, effective R&D management must be purposeful and connected with the overall business strategy, which means that general managers and R&D managers work as partners and realistically identify, assess and balance key strategic factors of R&D function in a way that is congruent with business strategy. Ensuring such a strategic orientation requires regular review of the R&D performance factors.

Chiessa and Frattini addressed the problem of measuring the performance of an industrial organization's R&D function and suggested that R&D performance could be measured on the basis of the four following classes of indicators:

1. Input indicators (eg. quantity of current expenses, quality of investments, used technologies, etc.);

2. Process (eg. average product life cycle length, the average time of redesign, the percentage of innovation projects that do not meet established schedules, etc.);
3. Output (eg. completed projects, patents, new products developed, etc.);
4. Outcomes (eg. percentage of sales from new products, degree of product improvements, average cost reductions, etc.) [1].

According to Lager measuring R&D performance and productivity is not very useful for an organization unless it gives an understanding of how well one is doing and how one could do better [3].

In order to improve R&D work and make it more efficient in the future, Lager argued that organization must look for “success factors” which he also called “leading indicators”.

In this context success factors or leading indicators represents specific working methods and practices that lead to successful development projects.

While this approach underlines the importance of R&D behavior and success factors, some authors still stress the importance of output performance measures. As a result, these two activities should be seen as complementary to each other in an efficient process of R&D performance improvement.

Consequently, managers have to summarize good behavior and best practices into well-defined success factors and to identify all relevant performance indicators of the company’s specific type of R&D.

The next task for managers is selection of the assessment approach. As the qualitative assessments are not expressed numerically, quantitative assessments are much more useful for the management of the industrial organization.

In practice, the most commonly used approach is based on the personal judgment of R&D manager whose subjective evaluation is translated into a numeric score. The challenge in this case is the selection of the most appropriate quantitative method. Due to characteristics of the R&D function, such as uncertainty and ambiguous of the strategic R&D factors, some standard and traditional quantitative methods can not provide satisfactory level of assessment.

Therefore, we propose a more sensible approach based on the fuzzy logic. Zadeh introduced Fuzzy set theory as a mathematical subdiscipline, a tool for decision making under ambiguous conditions [2].

In that sense intention of Fuzzy set theory is to provide a natural way of dealing with problems in which the source of imprecision is the absence of sharp defined criteria of class memberships [4].

According to Zimmermann, Fuzzy set theory provides a strict mathematical framework in which vague phenomena can be precisely and rigorously studied. Thus the utilization of fuzzy logic as an analytical tool arises in management and organizational decision models [9].

In this paper, some aspects of fuzzy set theory are also used for developing a model aimed to assess strategic R&D performance indicators.

2. FUZZY MODEL

Fuzzy assessment of R&D function performance inevitably begins with the identification of relevant performance indicators. In this phase managers should consider indicators relating to the accomplishments of R&D that have value for the industrial organization and indicators relating to the process of monitoring R&D in terms of results that it achieves. Thereby, special attention should be given to the success factors or so called “leading indicators” [3].

There is a number of leading indicators that could be find in industrial organization and evaluated by the general management and R&D managers. Some of them are defined as follows:

- Training and development of scientific manpower;
- Using formal innovation processes to manage business relevant innovation projects;
- Willingness to undertake risky projects,
- Knowledge of production structure and market conditions in the industry;
- Conducting detailed analysis of difficulties and failures during the project lifetime;
- Ability to distinguish what is important from what is not,
- Implementation of strong belief in project;
- Collaboration with research institutes;
- Skill and competency profiles of R&D managers [3].

After identification of relevant strategic indicators, managers should use specially designed questionnaire for the fuzzy assessment (Fig. 1).

In order to evaluate competitive impact of each indicator on the industrial organization, fuzzy quantification of strength and weakness of identified indicators is suggested.

In that sense, managers are required to assess value of each relevant performance indicator from the [-1,1] interval [6].

Negative numbers are used to estimate degree of weakness and positive numbers are used to estimate degree of strength for each indicators (for instance, if the value of some relevant performance indicator is estimated by the number 0.7 then, that indicator represents strength of the organization with 70% of the value, analogly it refers for the negative numbers but in the sense of weakness).

Questionnaire provides following information's for each relevant indicator I_i [$i = 1, \dots, n$]:

- I_i^{\min} - minimal value of the indicator I_i ;
- I_i^{\max} - maximal value of the indicator I_i ;
- I_i^{mp} - most probable value of the indicator I_i , ($I_i^{mp} \in [I_i^{\min}, I_i^{\max}]$, where $[I_i^{\min}, I_i^{\max}]$ is interval which contains the value of the indicator I_i).

$$\bar{I}_i(x) = \begin{cases} 0, & x \leq I_i^{\min} \\ \frac{x - I_i^{\min}}{I_i^{mp} - I_i^{\min}}, & I_i^{\min} < x \leq I_i^{mp} \\ \frac{I_i^{\max} - x}{I_i^{\max} - I_i^{mp}}, & I_i^{mp} < x < I_i^{\max} \\ 0, & x \geq I_i^{\max} \end{cases} \quad (1)$$

Graph of given membership function is presented in Fig. 2.

Next, the level of expert assurance in estimation of each relevant performance indicator I_i , $i = 1, \dots, n$ is also requested.

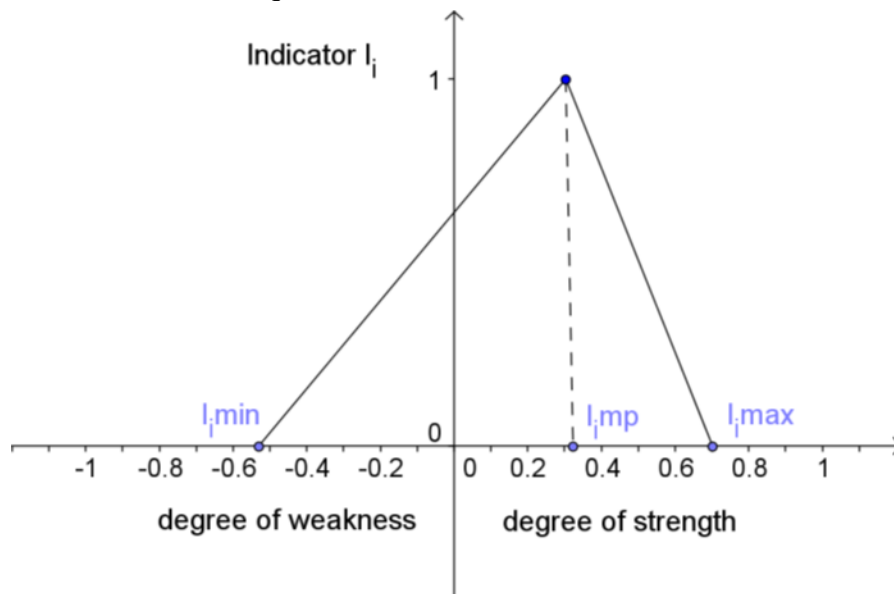


Figure 2. R&D performance indicator in the form of fuzzy triangular number

The level of expert assurance is denoted by a_i , with values ranging from 0 (0%) to 1 (100%).

Calculating the abscissas of the point of intersection of the horizontal line $y = a_i$ with the graph of the membership function of fuzzy triangular number \bar{I}_i , we obtain the boundaries of the a_i -confidence interval for the indicator I_i :

$$\begin{aligned} I_{a_i}^{\min} &= a_i \cdot I_i^{mp} + (1 - a_i) \cdot I_i^{\min} \\ I_{a_i}^{\max} &= -a_i \cdot I_i^{mp} + (1 + a_i) \cdot I_i^{\max} \end{aligned} \quad (2)$$

The a_i - confidence interval for the indicator I_i is denoted by $[I_{ai}^{\min}, I_{ai}^{\max}]$ (Fig 3).

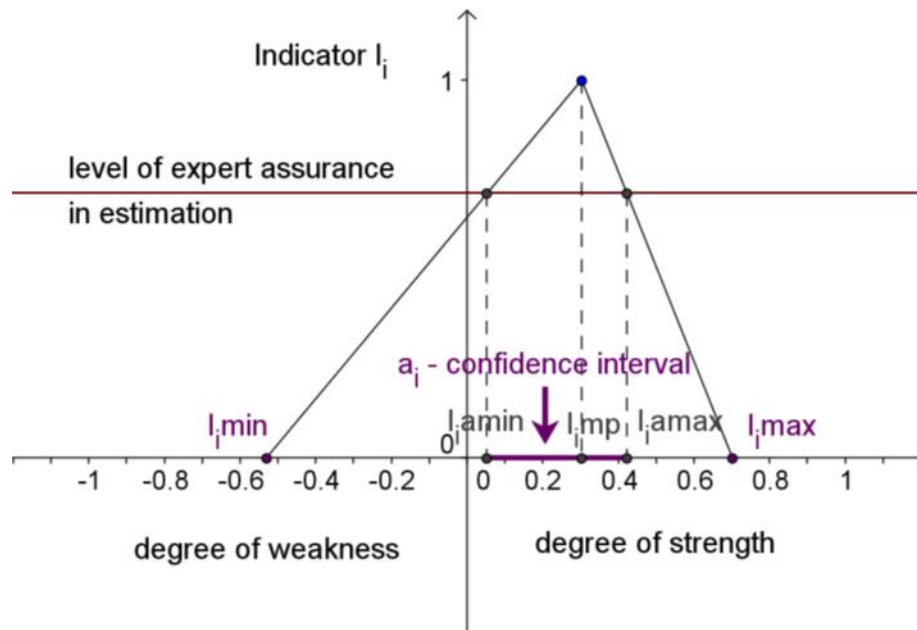


Figure 3. a_i - confidence interval of the R&D performance indicator

When managers receive the data of each relevant indicator, it is necessary to calculate mean of left and right boundaries of all confidence intervals in order to get the confidence interval of the R&D function:

$$\left[\sum_{i=1}^n \frac{I_{ai}^{\min}}{n}, \sum_{i=1}^n \frac{I_{ai}^{\max}}{n} \right] \quad (3)$$

Based on the obtained confidence interval of R&D function, managers can assess competitiveness of industrial organization by using linguistic variable: Competitiveness of the R&D function.

Competitive position of the industrial organization's R&D function is assessed by using linguistic variable Competitive advantage, which contained five terms:

- SiCD - Significant competitive disadvantage;
- SmCD - Small competitive disadvantage;
- NoCA - No competitive advantage;
- SmCA - Small competitive advantage;
- SiCA - Significant competitive advantage.

Each term is defined by an appropriate membership function (Fig. 4).

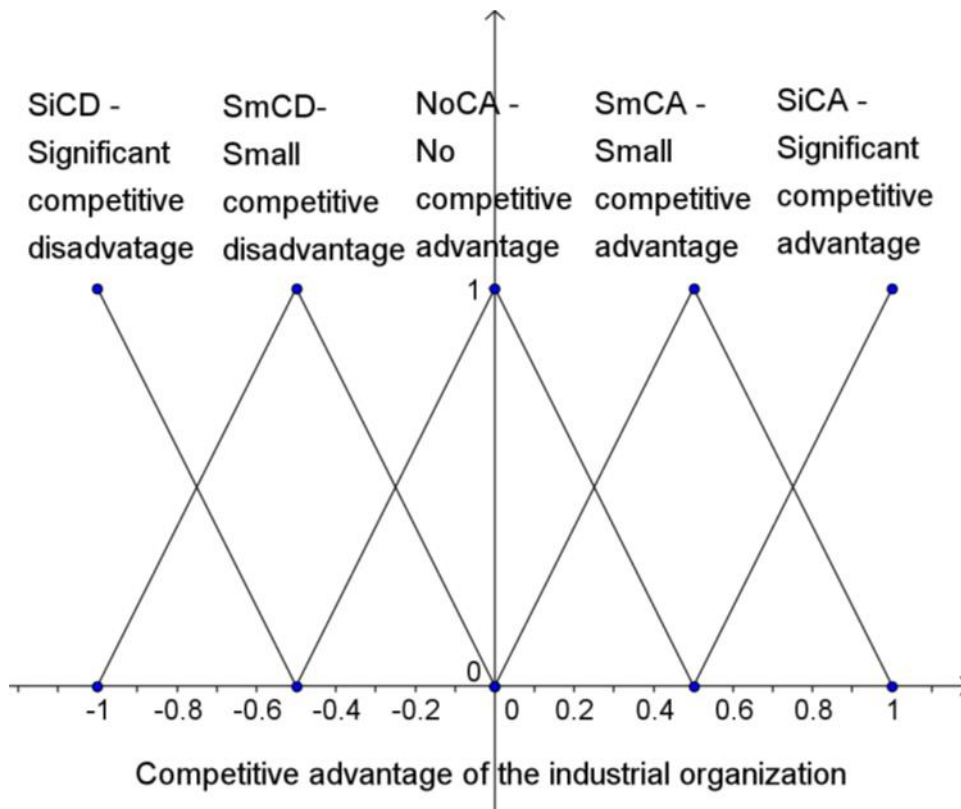


Figure 4. Linguistic variable: Competitiveness of the R&D function

3. CASE ILLUSTRATION

In an observed industrial organization, organization's executives identified 10 relevant performance indicators I_i , $i = 1, \dots, 10$.

Those indicators were assessed in the way described previously in the paper. The obtained results are shown in Table 1.

Table 1. Obtained data of the case illustration

Performance indicators	Fuzzy number	Expert assurance	Confidence interval
I_1 - Using formal innovation processes to manage business relevant innovation projects	[-0.45,-0.20,-0.05]	0.53	[-0.32,-0.13]
I_2 - Training and development of scientific manpower	[0.15,0.52,0.84]	0.80	[0.45,0.59]
I_3 - Knowledge of production structure and market conditions in the industry	[0.36,0.77,0.93]	0.73	[0.66,0.82]
I_4 - Patents, completed projects and new products developed	[0.46,0.69,0.87]	0.92	[0.68,0.71]
I_5 - Average cost reductions	[0.34,0.47,0.63]	0.80	[0.45,0.51]
I_6 - Integration of R&D with the company's other function	[-0.53,-0.30,0.20]	0.59	[-0.39,-0.09]
I_7 -Average product life cycle length	[-0.86,-0.73,-0.35]	0.89	[-0.74,-0.68]
I_8 Experience and creativity of R&D professionals	[0.06,0.26,0.47]	0.47	[0.16,0.37]
I_9 - Willingness to undertake risky projects	[-0.15,0.13,0.34]	0.41	[-0.04,0.25]
I_{10} - Collaboration with research institutes	[0.30,0.35,0.60]	0.72	[0.34,0.42]

On the basis of this data, following confidence interval for this organization is obtained:

$$[0.125, 0.227].$$

From the Fig 5. it is evident that this organization belongs to the set NoCA (No competitive advantage) to the degree from 0.55 to 0.75, and at the same time it belongs to the set SmCA (Small competitive advantage) to the degree from 0.25 to 0.45.

The degrees are found by substituting 0.125 and 0.227 for arguments into the membership function of the terms NoCA and SmCA. (Fig.5)

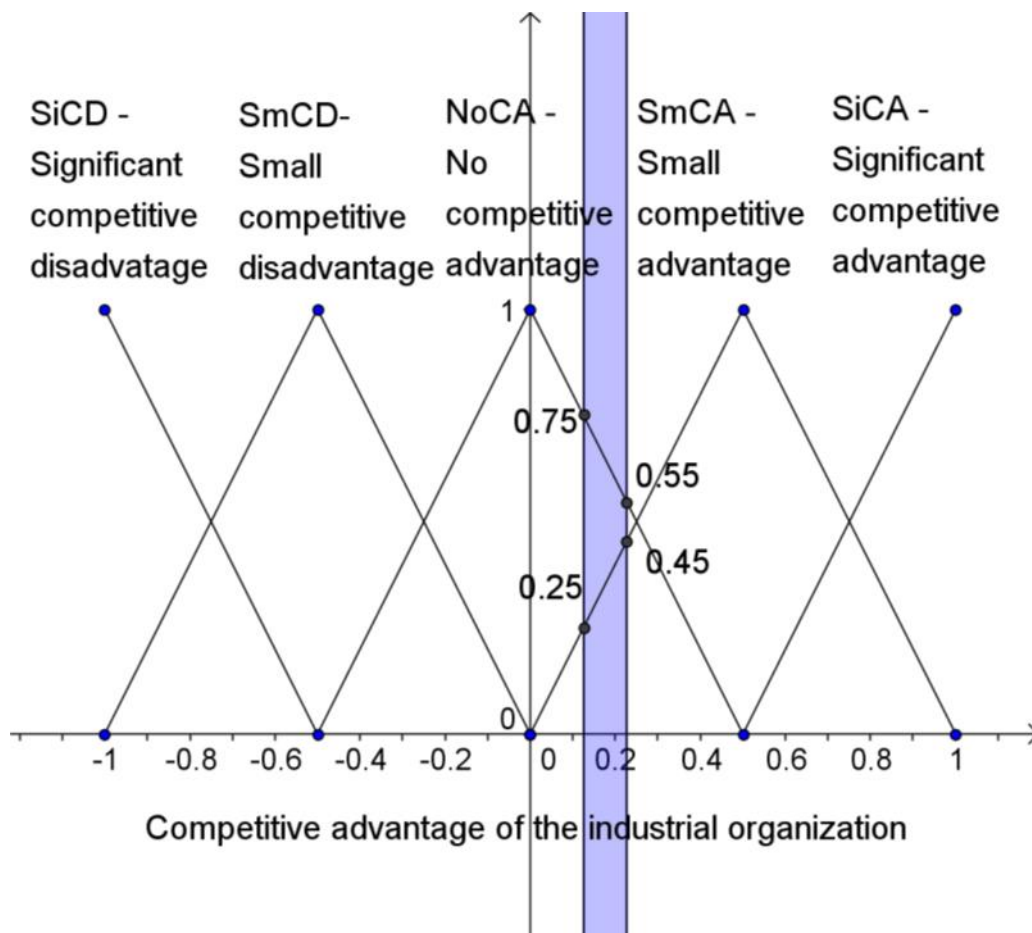


Figure 5. Linguistic variable: Competitiveness of the R&D function of the industrial organization's

4. CONCLUSION

The scope of this paper is built around the fundamental premise that in industry primary role of R&D is to fulfil overall business objectives and generate competitive advantage for the industrial organization.

Appraisal of the current state of success factors and identifying strengths and weaknesses of R&D function is an important and worthwhile task that has to lead to improving the performance of R&D and fulfilling the purposes of the industrial organization as a whole.

It stems that industrial organization's executives are very interested in assessing the contribution of R&D to economic value creation, in monitoring efficiency and effectiveness of the R&D activities and in evaluating R&D professionals' performance.

However, considering the complexity of R&D function and the vague nature of some key strategic R&D factors, their quantification is not an easy task for managers.

In order to provide a convenient answer to the problem of the ambiguity and uncertainty of R&D factors, we proposed framework based on fuzzy logic that could be viewed as very useful management assistance tool in organizational decision models.

The development of fuzzy set theory in management has been achieved by providing various software tools that make fuzzy set theory applications more applicable in practice.

Namely, applications of this theory can be found in many disciplines but one of the areas in which fuzzy sets have been applied most extensively is in modelling for managerial decision making.

Thus, we indicated on advantages of using fuzzy logic in solving management problems and introduce a fuzzy assessment model as adequate quantitative method to capture ambiguous and hard measurable aspects of R&D function.

Proposed fuzzy model allow managers to define priorities with greater clarity and to make optimal judgments about R&D activities in a particular corporate environment.

In that sense, R&D audit based on the fuzzy logic should be seen as continuous management process that enables managers to understand the alternative way of how the industrial organization can effectively assess and exploit its R&D recourses in order to build and maintain sustainable competitive advantage.

REFERENCES

1. V. Chiesa, F. Frattini, Evaluation and Performance Measurement of Research and Development: Techniques and Perspectives for Multi-Level Analysis, Edward Elgar Publishing, Inc. 2009.
2. L. Chinho, P. J. Hsieh, A Fuzzy Decision Support System for Strategic Portfolio Management, Decision Support Systems, Vol 38, 2003, p. 383 -398.
3. T. Lager, Managing Process Innovation: From Idea Generation to Implementation, Imperial College Press, 2011.
4. Y. M. Mansur, Fuzzy Sets and Economics: Applications of Fuzzy Mathematics to Non-cooperative Oligopoly, Edward Elgar Publishing Limited, 1995.
5. A. Pešić, D. Pešić, Diagram of The Information Systems Factors – Fuzzy Approach, EMC2011 (Engineering Management and Competitiveness), 2011, p. 423-427.
6. 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.
7. P. A. Rousell, K. N. Saad, T. J. Erickson, Third Generation R&D: Managing the Link to Corporate Strategy, Arthur D. Little, Inc, 1991.
8. A. Tepavčević, A. Pešić, Intuitionistic Fuzzy Sets and Applications in Management in Non-profit Organizations, Fuzzy Economic Review, Vol 10, No.1, 2005, p. 63 – 70
9. H. J. Zimmermann, Fuzzy Set Theory and its Applications, Four Edition, Kluwer Academic Publishers Group, 2001.

ANALYTIC METHOD TO DESIGN AND CALCULATE THE CONVENTIONAL DRUMS

Angélica Pimenta Fernandes

Universidade Federal de São João de Rei, Brazil

Abstract: This work developed a calculation that allows memorial design, verification and design of conventional drums, used in machines that perform transportation of bulk materials. Conventional drums are those with the disk / hub assembly the 'plate' type, united by a weld bead. This model is questionable for submitting the shaft and the set to high voltage, when is compared to other types of assembly, but for being the most exemplary employee in the market requires great attention and improvement of calculation methodologies.

The drums of the project presented in this paper were carried out by the analytical method of calculation, which requires defined input basic data and standardized with the design of machines. These basic data are the drum diameter, the distance between the bearings and the diameter of the shaft in the bearing. The other drum geometries will be calculate of the designer and verified by the procedure to be presented. And because it is a conventional and common model has been highly studied, and thus has a routine and tested mathematical methodology and experienced that will be presented in this article.

Routine calculation presented here was developed in the Mathcad software that allows you to compare the effective stresses acting with the allowable stresses of each component. In the shaft deflection, the lifetime of the bearing and the torque applied to the expansion ring. For this, it is necessary to know the load acting on the drum, the dimensions and material of each component. This type of scan requires little time designer dedication, machines with low average speed processors. What makes the project feasible and economic.

This work presents the verification of a drum by this method, and these results will be compared to calculations of the same drum through the SolidWorks software using the Finite Element calculation methodology, which competes with the method described.

The method of finite elements is the most feasible only in verification of unconventional drums, whose Analytical method lacks precision. The principles adopted in this course follow the criteria of standards CEMA (Conveyor Equipment Manufacturers Association) and NBR 6172/1995 (Transportadores de Correias-Dimensões de Tambores). In addition to the studies is recommended as additional literature NBR 8011 (Norma Brasileira de Transportadores de Correia – Cálculo da Capacidade), NBR 8205 (Norma Brasileira – Transportadores Contínuos), Bulk Solids Handling-Belt Conveyor Pulley Design, ANSI / ASME (1985) to alternating bending and torsion constant and Manual dos Transportadores Contínuos da FAÇO (Fábrica de Aço Paulista S.A.).

Keywords: conventional drums, memorial design, Mathcad

STRATEGIC CONCEPT OF HUMAN RESOURCES MANAGEMENT BY INTELLIGENCE SERVICE MEMBER

Dusko Tomic¹, Srdjan Tomic¹, Ljubica Tomic²

¹*Fakultet za inženjerski menadžment, Alfa univerzitet, Serbia;* ²*London School of commerce,
Metropolitan Cardiff University, United Kingdom*

Abstract: Intelligence system state has a role to inform executive authorities on potential dangerous which threatens to undermine the security of vital national values. State, as subject of security of modern society which has a monopoly on legitimate use of force, establishes a national intelligence system which consists of intelligence and counterintelligence service. Strategic concept of human resources management includes planning, recruitment and staff selection as well as their development, remuneration, health and social care. Due to the specific working environment and the nature of work of employees in the intelligence systems, it is required special access to the human resource management. Functionality and productivity of the state intelligence service is directly related to the quality of employees on one side, and on the other it is the indicator of strength of a system to defend and to find potential intentions of others, which is resulted with economic protection and advancement of the country.

Keywords: intelligence service, human resources, management, staff, productivity, efficiency.

1. INTRODUCTION

Man as a social being has an innate tendency towards obtaining information from its environment concerning a potential threat to its security and integrity. Discovering secrets of opponents and individuals, who are suspected to somehow endanger the safety, was characteristic of each stage of development of human society. The form of organization of cognitive activities in modern society is established through national intelligence systems within the state as the basic subjects and objects of security.⁴

The most important role of the intelligence system of the state is to ensure the survival and sustainable development with the help of well-informed about potential challenges, risks and direct threats aimed at the generally accepted values.⁵ Intelligence system state collects information about factors that potentially can threat security and at the same time trying to protect the country from the possibility that the enemy (within the country or abroad) finds information vital to the safety and survival of the state. Basic principles of operation of

⁴ Mijalkovski, Milan. Tomić, Duško. *Obaveštajni sistemi*, Pi Pres, Pirot 2013, str.14

⁵ Ibid.

intelligence service are criticism, self-criticism and objectivity.⁶ The ultimate goal of intelligence activities is finding out the facts and the truth about the security reality. In addition to technical and technological resources that significantly facilitate the work of the intelligence services, the use of agents (human intelligence) when collecting relevant information remains irreplaceable and most reliable form of the security services of each state, regardless of its development. For this reason, human resource management within the security services are provided with extra attention because "agents, as opposed to technical resources, can penetrate into the soul of man, reveal the plans, intentions and willingness of object intelligence research".⁷

Human resources management is a complex process of planning, selection and recruitment, as well as their further development, remuneration and health care.⁸ Human resources are a very important factor for the realization of the objectives of the organization. Specificity of human resources is reflected in a number of properties they own in relation to material resources. Human resources, whose capacity is fully utilized in an appropriate and constructive manner, provide synergistic effect because the overall results of work are greater than the individual.⁹ The relationship of the organization and its management toward employees has an impact that is economic, health and social nature. Self-recovery and development are very important qualities which human resources possess that while using or entering the work process does not invalidate but confirms and increases.¹⁰ In the opinion of many experts in the field of human resource management, investing in their development and management is more cost-effective than investing in any other resources, due to the fact that without human labor there is not possibility for the creation surplus of value.¹¹ Management structure of the organization, in order to achieve a higher degree of efficiency, seek to recognize the quality and potential of their human resources and at the same time neutralize the negative aspects of the same.

Striking a balance between achieving the organization's goals and objectives of the staff represents the ideal of human resource management. The basic principle which guides human resource managers is that the right people are in the right place at the right time and in accordance with their capabilities and demonstrated the results are adequately rewarded.¹² The main objectives of human resource management are economic and social nature. Economic goals are related to material prosperity of labor organizations while social objectives are associated with the strengthening of the material and social status of

⁶ Ibid.

⁷ Ibid.

⁸ Kulić, Živko. Milošević, Goran. Ristić, Slobodan. *Upravljanje kadrovima i njihovim potencijalima*. Viša železnička škola, Beograd 2005., str 12

⁹ Kulić, Živko. Milošević, Goran. Ristić, Slobodan. *Upravljanje kadrovima i njihovim potencijalima*. Viša železnička škola, Beograd 2005., str 12

¹⁰ Ibid.

¹¹ Kulić, Živko. Milošević, Goran. Ristić, Slobodan. *Upravljanje kadrovima i njihovim potencijalima*. Viša železnička škola, Beograd 2005., str 15

¹² Ibid

employees, providing adequate working conditions and human relations.¹³ A large number of internal and external factors affect the management of human resources. Among the internal factors are the characteristics of work organization, its employees and job characteristics that staffs are performing. Unlike internal factors that are under the direct control of the management structure, on the external factors work organization can not influence. External factors can through economic and social measures of state and authorities (i.e. the adoption of regulations in certain areas that directly affect the business) make an impact on the business environment and employees.¹⁴

Characteristics of employees belong to the most important factors of human resource management, since the quality and capacity of staff largely depends on the implementation of the objectives of the early organization. Personal characteristics of individuals resulting from the combination of social and biological factors, such as readiness of the initiative and creative thinking and not just passive execution directives contribute to the implementation of the business plan of labor organizations. The obligation of management is to recognize the quality and potential of employees, to motivate and reward appropriately in accordance with the achieved results. Additionally, the relationship of employees to work, the hierarchy of decision-making and their motivation for work are factors which, if properly channeled and directed towards the simultaneous achievement of collective and individual goals may be crucial for the success of a business system.¹⁵

The complexity of modern society and the vast number of actors in the security interactions constantly increase the need for training security system, actually staffs who are the main carriers of intelligence activities within the system. Due to the nature of the work that is unpredictable, dynamic and which often takes place in a stressful environment, intelligence operations carry a big risk for psychological and physical health of employees. For the above reasons, a special approach and application of specific criteria through planning, selection and training of staffs is required. The organizational structure of the intelligence services, with minor variations, mainly encompasses a wide and extensive network of employees from different structures. Greater part of the staff consists of officials such as analysts, intelligence and counter intelligence, while the function of external consultants is done by persons who, motivated by different interests, perform intelligence work. (aka. Agency service).¹⁶ Planning and conducting intelligence activities carried out in accordance with the principles of hierarchy and subordination through the work of managerial and authorities of the state intelligence system. The director of the intelligence services and administrative management bodies present two levels of decision-making, while the executive organs directly perform tasks.¹⁷

¹³ Ibid.

¹⁴ Ibid.

¹⁵ Ibid.

¹⁶ Ibid.

¹⁷ Mijalkovski, Milan. Tomić, Duško. *Obaveštajni sistemi*, Pi Pres, Pirot 2013, str.51

Agents of intelligence services can be classified on the basis of numerous criteria. When it comes to the motives, the work of agents can be stimulated by the material, ideological, revenge and many other reasons.¹⁸ Moreover, the agents can be private or official entities, which based on ability (intellectual or psycho-physical), are assigned the tasks of intelligence or no intelligence nature. Employees of intelligence services can do their job as residents who establish and maintain a connection with other agents, as couriers to transmit oral or written messages or aka. "Tiperi", actually agents that perform the selection of staff from the intelligence services.¹⁹ Due to these specifics of intelligence work, human resources management in the intelligence system takes a different approach for the selection, training and development of staff in relation to some other "standard" business systems and organizations. Most authors dealing with this issue agree in their assessment that the agents of the intelligence services must possess the following qualities and skills:

- Adequate education and intellectual capacity; fluency in at least one foreign language;
- The ability of active listening, asking adequate questions at the right time; possession of conversational skills for effectively transmitting and receiving information as well as possessing great powers of persuasion;
- The ability of critical and analytical thinking; using logic to find alternative solutions to problems;
- Possibility expressed social perception or understanding the motives of social action and reaction;
- Persistence regardless of the obstacles that may arise during the performance of intelligence tasks;
- Taking responsibility for your actions and possessing a positive attitude towards challenges;
- Skill objective consideration of its own procedures and the actions of other individuals and groups / organizations;
- Coordination and harmonization of procedures with their own actions and behaviour of other people;
- Making decisions and judgments based on analyzed potential gains or potential losses;
- Mediation skills, or having the ability to reconcile the differences between the parties;
- Knowledge of laws, political procedures and strategies for the most effective protection of data, people, and ultimately - State;
- Controlling their own emotions and to refrain from any form of aggressive behaviour or outbursts of anger regardless of the situation;
- Excellent knowledge of the psychology of human behaviour;
- Electronic literacy and good knowledge of modern technology trends (hardware and software);
- Knowledge of principles and phase human resources management; Positive attitude towards constructive criticism and high tolerance of stressful situations;

¹⁸ Ibid.

¹⁹ Ibid.

- Good team spirit and cooperative attitude; willingness to help others, especially peers;
- Understanding of social events; knowledge of geography and mastery of geographical units;
- Character traits such as loyalty, respect for ethical principles, reliability, self-control, flexibility;
- Excellent extreme psychological and physical health and motor skills;²⁰

Taking into consideration the above abilities and skills that every agent of intelligence service must possess, the role of human resource management in the intelligence systems lies in careful planning, selection, recruitment, training and development of appropriate personnel who have the capacity to respond to the specific requirements of intelligence operations.

2. STRATEGIC HUMAN RESOURCE MANAGEMENT MODEL OF INTELLIGENCE SERVICES IN THE UNITED STATES

Experts who deal with the management of human resources in the intelligence structures of the United States agree in their assessment that the recruitment of staff is delicate process that requires careful planning and good information about potential candidates. Intelligence service is one of the high-risk professions because of the situation in which the agents are often encountered, thus risking his life or freedom. The answer to the question why people become spies, many American authors from the period of the Cold War seen in four interrelated and complementary motives - money, ideology, coercion, ego (*money, ideology, compromise, ego – MICE*).²¹

Internal study, which included 104 American spies to active status of 1947-1989 was conducted with the aim of determining the primary motives of agents in carrying out intelligence work. Most respondents said that money is the only or the first on the list of motives which were directed at the intelligence direction.²² Ideologically motivated agents occupy special attention to HR professionals since specified types of agents is very loyal which constitutes an essential item in the selection of staffs, because the reliability of highly rated on a scale characteristics that an agent must possess. Agents who were recruited through blackmail and pressure can be used (i.e. as a source of information that are vital to the country) but is not a reliable staff because they are due to coercion full of accumulated anger and conduct business out of necessity to avoid punishment because of the situation that they were in a vise position spies under duress.

The complexity of the behavior and motives of potential agents is much broader than the narrow framework of MICE, says American psychologist of modern age Robert Cialdini.²³ In his studies dealing with the study of the principles underlying the recruitment

²⁰<http://www.mymajors.com/career/secret-service-agent/skills/>

²¹Burkett, Randy. *An Alternative Framework for Agent Recruitment: From MICE to RASCLS. Studies in Intelligence Vol. 57, No. 1 (Extracts, March 2013)*

²²Ibid.

²³Ibid.

and further development of agents of the intelligence services, Professor Cialdini highlights the importance of "reciprocity, authority, scarcity, commitment and consistency, affection and social approval (*reciprocation, authority, scarcity, commitment/consistency, liking, and social proof—RASCLS*)".²⁴ Items listed above, if the habitual practice form the basis for the manipulation of people and can serve recruiters intelligence services effective basis for finding potential candidates. The process of selection and recruitment of potential agents has several stages:

- spotting and identifying individuals who possess the skills, knowledge and abilities needed to work in the intelligence services
- Developing relationships with the selected candidate to assess whether it will be able to meet the needs of the service
- Regular recruitment process
- Training provided in the workplace, including simulation tasks that will be used as an agent to meet during the performance of intelligence tasks
- Adoption of a final decision on the admission of candidates to employment²⁵

The principle of reciprocity is applied in the initial stages of recruitment, when establishing relationships with potential agent. Small gestures of attention to the training agent (providing information about everyday problems, technical assistance, etc.) create a sense of obligation to the agent returned the favor. Position the authority of human resource management in relation to the candidate plays an important role because it affects the potential agent to be productive and compliant. *The principle of scarcity* is based on the fact that lies at the basis of human nature and refers to the increasing demand and desire for objects or phenomena that are not easily accessible. This principle is an important stage in the process of recruiting new staff because it creates the possibility of "out of play" and encourages agents in training to demonstrate the willingness and the real motives for working in intelligence. *Commitment and consistency* provide the opportunity to develop a sense of obligation for candidates, for example reference to a previously successfully carried out the task. *Liking* as principles governing recruiters intelligence agencies involves building a positive attitude towards the candidate with the purpose of seeing its potential weaknesses. *Social approval* is a principle that is used in the process of candidate selection for intelligence agencies to encourage candidates to think about its actions as a socially acceptable and the like, because it is inherent in human nature that some appear assign the epithet of eligibility through observing others and comparative analysis.²⁶

MICE theoretical framework for understanding the behavior and motivations of agents tends to view human resources in a negative light in contrast to the modern theoretical

²⁴Ibid

²⁵Burkett, Randy. An Alternative Framework for Agent Recruitment: From MICE to RASCLS. *Studies in Intelligence* Vol. 57, No. 1 (Extracts, March 2013)

²⁶Ibid.

approaches such as RASCLS, which provides a broader and deeper insight into the behavior of the candidates during the recruitment and selection.²⁷

REFERENCES

- Burkett, Randy. *An Alternative Framework for Agent Recruitment: From MICE to RASCLS*. Studies in Intelligence Vol. 57, No. 1 (Extracts, March 2013)
- Kulić, Živko. Milošević, Goran. Ristić, Slobodan. *Upravljanje kadrovima i njihovim potencijalima*. Viša železnička škola, Beograd 2005.
- Mijalkovski, Milan. Tomić, Duško. *Obaveštajni sistemi*, Pi Pres, Pirot 2013.
- <http://www.mymajors.com/career/secret-service-agent/skills/>

²⁷Ibid.

SIGNIFICANCE LOGISTICS CENTERS, THEIR ROLE AND TASK WITH REVIEW SITUATION IN THE REPUBLIC OF SRPSKA

Željko Stević

Univerzitet u Istočnom Sarajevu, Saobraćajni fakultet Doboj, Bosnia and Herzegovina

Abstract: In today's world it is impossible to efficient operations without the knowledge-based logistics, logistics personnel and information technologies that make up an integrated system. It is necessary to know the entire logistics supply chain, where logistic centers play a major role and are an indispensable part of the chain. The paper describes the importance of the functioning of logistics centers and benefits that are realized their existence. We analyzed the territory of the Republic Srpska where there is no logistics center, and have been proposed as potential locations for the construction of a logistics center based on studies, projects and studies that have been done in a given area.

Keywords: logistics center, location, transport, optimization.

1. UVOD

Danas u poslovanju bilo kog sistema logistika je itekako prisutna kao i logistički troškovi, koji imaju znatan udio u ukupnim troškovima poslovanja. Stoga racionalizacijom logističkih sistema, aktivnosti i procesa omogućava se smanjenje troškova, povećanje kvaliteta i smanjenje vremena trajanja isporuke robe ili vremena trajanja neke od logističkih operacija i sl. što u suštini predstavlja logistički trougao. Zadovoljenje i ispunjenje ovih zahteva postiže se razvojem i izgradnjom logističkih centara na povoljnim lokacijama koje su podobne i sa aspekta saobraćajne povezanosti i sa aspekta korisnika. Formiranjem logističkog centra vrši se konsolidacija robnih tokova a funkcionisanje logističkog sistema bez toga je danas neshvatljivo, neprihvatljivo i potpuno neracionalno, posebno ako se uzme u obzir količina robnih tokova koja se uvozi iz raznih zemalja Evrope i sveta. Način racionalizacije troškova jeste kontejnerizovanje robe i primena intermodalnog transporta, a opet to zahteva postojanje logističkog centra sa svim pratećim podsistemima i posedovanje određene pretovarne mehanizacije.

2. FAKTORI I CILJEVI RAZVOJA LOGISTIČKIH CENTARA

Logistički centri kao ideja i realna forma egzistiraju već duži niz godina. Međutim njihovi osnivači, funkcija, struktura i ciljevi razvoja su tokom vremena dobijali različite oblike i različite nazive i funkcije, kako u terminološkom tako i u tehnološkom smislu. Robni tokovi su uzročno-posledični faktor stalnog porasta prostornih, vremenskih i količinskih transformacija u neprekidnoj smenjivosti aktivnosti pakovanja, utovara, transporta, skladištenja, ponovnog pretovara, transporta, istovara, skladištenja, isporuke itd. Upravo ova

područja se neprekidno istražuju i analiziraju u pogledu mogućnosti racionalizacije, ubrzanja protoka robe, povećanja efikasnosti logističkih sistema, harmonizacije logističkih procesa i kooperacije učesnika u logističkim lancima. [10]

Razvoj mreže logističkih centara na nacionalnom i međunarodnom planu predstavlja preduslov optimizacije transportnih i logističkih lanaca. Osnivanjem i razvojem robno-transportnih centara višestruko se ostvaruju ciljevi saobraćajne politike jedne zemlje, ciljevi urbanizacije, ciljevi regionalne privrede kao i ciljevi zaštite prirodne i životne sredine.

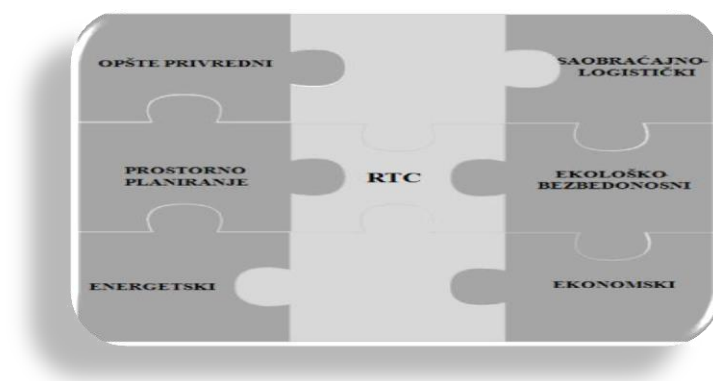
Za mesto i ulogu robno-transportnih centara u logističkim tokovima postoje dve osnovne opcije:

- o robno-transportni centri se nalaze u prostoru privrednih sistema koji šalju ili primaju robu, kao što su industrijski kompleksi, trgovački centri itd.,
- o robno-transportni centri se nalaze negde na putu između pošiljaoca (preduzeća) i primaoca robe (potrošača) i oni su u funkciji logistike nabavke, logistike distribucije ili logistike povratnih materijala. [10]

Ciljevi razvoja logističkih centara najčešće se klasifikuju prema području društveno-privrednog interesa, interesnim grupama, makro, meta i mikro aspektu posmatranja sistema robno-transportnog centra, a različiti aspekti posmatranja i izdvajanja ciljeva razvoja robno-transportnih centara omogućavaju njihovo različito strukturiranje, a u nekim slučajevima dolazi i do preklapanja ciljeva iz različitih grupa.

Zahteve za kvalitetnom logističkom uslugom kao što su: kompletnost, brzina, tačnost, pouzdanost, bezbednost, fleksibilnost, ekonomičnost i dr., uspešno mogu da ispune jedino transportni sistemi zasnovani na logističkim principima, kooperaciji, koordinaciji i tehnologijama kombinovanog, intermodalnog transporta. Parcijalni transportni sistemi i nosioci usluga nikada ne mogu samostalno i uspešno realizovati stroge tržišne zahteve. Logistički centar predstavlja sistem koji marketinškim, informacionim, organizacionim, tehnološkim i drugim rešenjima obuhvata različite vidove transporta, različite davaoce i korisnike usluga, a u cilju pružanja kompletne logističke usluge.

Zaštita životne sredine je jedna od najznačajnijih i najčešćih tema današnjeg savremenog društva i privlači veliku pažnju razvijenih evropskih zemalja na svim poljima razvoja i prosperiteta. Ova problematika je naročito izražena na području saobraćaja i transporta kao značajnog izvora zagađenja životne sredine, kako u pogledu emisije izduvnih gasova, tako i u pogledu buke. Razvojem logističkih centara obezbeđuje se intenzitet robnih tokova koji ekonomski opravdavaju primenu kombinovanih transportnih lanaca u kojima drumski transport prevladava samo u obavljanju odvozno/dovoznog rada od gradskih vlasti do nosioca realizacije i korisnika transportnih usluga. [1]



Slika 1. Ciljevi razvoja logističkih centara [1]

Logistički centri su polazni, završni i tranzitni čvorovi transportno-saobraćajnog sistema, locirani na obodu aglomeracija, vrše funkciju povezivanja i integriranja saobraćajne infrastrukture drumskog, železnickog i rečnog saobraćaja. To su infrastrukturna transportno-saobraćajna čvorišta koja stvaraju preduslove efikasnog usklađivanja i korišćenja saobraćajne infrastrukture i raspoloživih saobraćajnih sredstava u skladu sa tražnjom transportnih usluga, pri čemu se ostvaruje smanjenje troškova, zakrčenja u saobraćaju, poboljšanje protoka saobraćaja, sniženje troškova eksploatacije saobraćajne infrastrukture i sredstava, ukidanje glavnih uzroka saobraćajnih nezgoda itd.

Razvojem logističkih centara i njihovim povezivanjem u jedinstvenu mrežu na zaokruženom nacionalnom prostoru moguće je zadovoljiti širi skup ciljeva različitih interesnih grupa počev od državnih, regionalnih, opštinskih i gradskih vlasti do nosioca realizacije i korisnika transportnih usluga. [1]

Osnovna postavka od koje treba poći da bi se bolje razumela ideja o formiranju logističkih centara jeste pružanje logističkih usluga na mestima prekidanja transportnog lanca i dalje distribucije robe u okruženju.

Uloga logističkih centara, može se bolje razumeti analizirajući period šezdesetih godina kada je došlo do koncentracije rada na manji broj lokacija u okviru distributivnih mreža u Evropi, na nacionalnom nivou, u kom periodu umesto da isporučioци direktno isporučuju robu, ona se isporučuje iz distributivnih centara.

Na ovaj način stvaraju se logističke distributivne mreže u okviru kojih dolazi do stvaranja distributivnih centara iz kojih se proširuje delokrug opsluživanja čitavog područja. Ovakva distributivna mreža i distributivni centri prvo su se pojavili u industriji, radi snabdevanja iste repromaterijalima kao i kod trgovačkih preduzeća radi snabdevanja-distribucije robe, direktno u prodajnu mrežu ili indirektno preko distributivnih skladišta.

Stvaranje logističkih sistema u industriji i trgovini, dovelo je do stvaranja logističkih sistema i u oblasti saobraćaja, kako na nacionalnom tako i na međunarodnom nivou. Davaoci logističkih usluga su takođe konstruisali logističke mreže i u okviru njih skladišta, sabirne centre, terminale u nekoliko strateških tačaka, lociranih u aglomeracijama sa većom koncentracijom rada, koji imaju ulogu saobraćajnih čvorova a koji poprimaju karakter logističkih centara.

Logistički centri prema tome, predstavljaju kompleksna mesta u kojima se logističke mreže preklapaju, kojima može upravljati sama transportna organizacija ili to mogu da čine zajednički proizvođači, potrošači i distributeri uz korišćenje davalaca usluga.

Postoji tesna korelaciona veza između vrednosti proizvoda, troškova zaliha i učestalosti isporuke proizvoda. U organizacionom smislu, ova korelaciona veza ima veliki značaj za polarizaciju logističkih usluga, svođenje zaliha na nultu poziciju, što prouzrokuje različit pristup u formiranju logističkih mreža i zadataka logističkih centara kao njihovih polova. Logistički centri postaju amortizeri proizvođača sa šireg područja, pri čemu se stvaraju uslovi za optimalnu lokaciju logističkih centara, koje koriste veći broj proizvođača i distributera. Na ovaj način dolazi do polarizacije logističkih centara i uzajamne veze koristeći povratnu spregu. Polarizacija jedne lokacije utiče na polarizaciju druge, što dovodi do nastajanja velikih logističkih koridora.

Ključni faktor za izbor lokacije logističkog centra jeste pozicioniranje transportnih usluga, njihova vrsta kao i interes korisnika logističkih usluga.

Zato je važno da korisnici usluga budu što bliže logističkom centru kako bi se ostvarila projektovana efektivnost i efikasnost, stvorili uslovi za povećanu ponudu logističkih usluga, obezbedili: visoka produktivnost, kompatibilnost, multimodalnost, sinhronizacija tokova i racionalno korišćenje transportnih sredstava. [6]

Pored luka, logistički centri igraju ulogu glavnih čvorova u logističkim mrežama kao čvorišta najviše funkcionalnosti sa stanovišta njihove logistike i tehničke infrastrukture, uključujući infrastrukturu koja omogućava izbor transporta u odnosu na strukturu grane saobraćaja. [2]

3. OSNOVNA FUNKCIJA LOGISTIČKIH CENTARA

Logistički centri su prateći centri terminala svih vrsta, carinskih zona i robnih centara (robno-transportnih, robno-distributivnih centara i robno-trgovinskih centara). Logističke centre čine: specijalizovana skladišta, terminali, carinska skladišta, slobodne zone, robno-transportni centari, robno-distribucioni centri, robno-trgovinski centri i ostali logistički sistemi. Logistički centar ima mikro i makro sadržaje što pojedine aktivnosti zavise od funkcije, veličine i značaja logističkog centra i mogu se stalno prilagođavati zahtevima tržišta, kupaca, potrošača, korisnika roba i usluga dotičnog centra. Logistički centri su locirani u velike industrijske centre, velikih i srednjih gradova, regija. Logistički centri su po pravilu nacionalni, ali to ne znači da oni ne mogu i moraju imati i međunarodni značaj zavisno od potreba.

U funkcionisanju logističkih centara, osim objekata i uređaja poslovnog i skladišnog prostora te transportne i saobraćajne infrastrukture, veoma veliku važnost imaju i druga sredstva za rad, na primer: transportna sredstva, pretovarna mehanizacija i dr. U tim centrima deluju finansijske, carinske, veterinarske, fitosanitarne, sanitarne institucije, one moraju imati svoju funkcionalnu infrastrukturu i drugu opremu. Slično je i s turističkim i ugostiteljskim objektima i drugim sadržajima.

Vrednost međunarodne trgovine raste nasuprot globalnoj proizvodnji i zahvaljujući i razvoju logistike. Ovaj porast pokazuje nove vidike za sve sektore transportne industrije, kao što su tokovi materijala, transport robe, logistika, telematika, trgovini i putnički transport.

Kao putokaz buduće orijentacije tehnologije, strategije za uspeh i ljude sa novim vizijama, transportna logistika daje pečat tržišnom dobu. Logistika takođe služi da poveća korisničke sisteme u čitavoj industriji, unapređuje interdisciplinarno znanje «Know – how», koja je ključni faktor kada konkurencija omogućava povećanje prometa robe na domaćem tržištu. Globalizacija i povećana fleksibilnost utiču da su dobra kao i ljudi sve više u pokretu. To predstavlja izazov logistici danas kao i u budućnosti. Fokus sve većeg interesa su inovacije i strategije sa ciljem da se ekonomski i inteligentno nosi sa stalno rastućim protokom roba. [3] Primer savremenog logističkog centra dat je na sledećoj slici.



Slika 2. Kargo LC Grac [4]

4. ODREĐIVANJE OKRUŽENJA TERITORIJE LOGISTIČKIH CENTARA

Prema osnovnom opredeljenju uloga i zadatak logističkih centara je prikupljanje komadnih i drugih pošiljaka drumskim vozilima, po potrebi skladištenje, formiranje transportno manipulativnih jedinica i otprema železnicom i drugim vidovima transporta za određeni logistički centar, gde se roba dostavlja primaocu. Pored toga uloga logističkih centara (LC) je razmena roba između više vidova saobraćaja, po potrebi skladištenje i formiranje jedinice otpreme (vagon ili kamion) i dostava primaocu ili uputnoj stanici (odredištu). U otpremi, postupak je obrnut, tj. vrši se prikupljanje robe sa okruženja od pošiljaoca i formiraju jedinice otpreme.

Iz ove činjenice proizilazi potreba da se za svaki logistički centar (LC) odredi okruženje (teritorija) na kojem će se drumskim vozilima prikupljati, odnosno distribuirati roba. Što znači LC treba da opsluži određenu teritoriju koja se mora definisati i ograničiti krajnjim tačkama koje treba da budu locirane na drumskim saobraćajnicama. Unutar te teritorije treba da se nalaze komintenti od kojih će se preuzimati roba za prevoz, odnosno kojima će se dostavljati prispela roba.

LC su po pravilu locirani u gradovima koji predstavljaju administrativni, kulturni, prosvetni, industrijski, proizvodni, potrošni i tržišni centri.

U takvom sklopu LC treba da opsluže

- uže gradsko područje;
- šire gradsko područje i
- određeno okruženje (region), odnosno gravitaciono područje.

Veličina okruženja (gravitacionog područja) jednog LC-a je u funkciji niza faktora, a pre svega zavisi od veličine gradskog i industrijskog područja, razvijenosti putne mreže i dr. i kreće se sa radijusom od 40 do 120 kilometara. [7]

5. KVALITET USLUGA LOGISTIČKOG CENTRA

Kvalitet logistike značajno utiče na ukupan kvalitet proizvoda jer predstavlja rezultat svih funkcija u preduzeću. Kvalitet sistema logistike usluga LC-a, a time i kvalitet proizvoda preduzeća, zavisi, dakle od kvaliteta svake pojedinačne usluge u LC-u.

Potrebe kupaca proizvoda i usluga su vrlo varijabilne usled uticaja tehničko-tehnološkog razvoja, konkurencije i drugih faktora. Zbog toga postojeće usluge (po mišljenju korisnika) vrlo brzo postaju zastarele, neodgovarajuće i sa bitnim odstupanjima u odnosu na potrebe korisnika. To neminovno uslovljava da kvalitet logističkih usluga, kao izraz mere zadovoljenja zahteva kupaca, mora da ima izraženu dinamiku promena. Mora da se prilagođava u skladu sa potrebama privrede. Kvalitet usluga LC-a, opredeljuju sve karakteristike usluga koje su organizovane u LC-u i koje omogućavaju da se, sa manje ili više uspeha, podmiruju potrebe kupaca raznih proizvoda. Taj kvalitet je, u stvari, složenica od brojnih elemenata koja se može predstaviti u vidu funkcije:

$$K_n = f(X_1, X_2, X_3, X_4, X_5 \dots X_n) \quad (1)$$

gde su: K_n -kvalitet usluga LC-a kao zavisno promenljiva od svih usluga pojedinačno iz LC-a,

X_1 do X_n - nezavisno promenljive, tj. pojedinačne karakteristike kvaliteta usluga koje čine sistem (X_1 - kvalitet transportnih usluga do LC-a, X_2 - kvalitet istovara, utovara i pretovara, X_3 - kvalitet skladištenja, X_4 - kvalitet špediterskih usluga, X_5 - kvalitet dovoza i odvoza, X_n = kvalitet ostalih usluga LC-a).

Iz date funkcije proizilazi da ukupan kvalitet usluga LC-a zavisi od osobina, karakteristika i strukture njegovih sastavnih elemenata (usluga), kao i od njihovih promena u pozitivnom ili negativnom smislu.

Ako neka usluga iz sistema LC-a ne može da podmiri određenu tržišnu potrebu ona nema poželjan (minimalan) kvalitet. To znači da se pri definisanju kvaliteta, a naročito pri pružanju usluga mora početi od tržišnih potreba, a ne od raspoloživog stanja kapaciteta, organizacije, poslovne filozofije i ukupnih mogućnosti preduzeća i sl. Potrebno je stvoriti uslove da se upravlja kvalitetom usluga LC-a. [6]

6. STANJE U REPUBLICI SRPSKOJ I POTENCIJALNE LOKACIJE ZA IZGRADNJU LOGISTIČKIH CENTARA

Poseban akcenat se stavlja na teritoriju Republike Srpske kao područje koje ne poseduje logistički centar, a koje ima povoljan geografski položaj tj. povoljne predispozicije za izgradnju modernog logističkog centra koji bi umnogome koristio celokupnoj privredi. Zahtevi za transportom se modifikuju vremenom, tako da kada su u pitanju robni tokovi i isporuke trend je da su iste sve manje a frekventnije tj. sve manje količine robe se prevozi u

jednom dostavnom transportnom sredstvu a sve češće. To je još jedan od razloga za postojanjem odnosno izgradnjom logističkog centra koji bi izvršio konsolidaciju robnih tokova i tako racionalizovao transport.

Danas je veoma bitno sučeljavanje vidova transporta tj. mesta na kojima će dolaziti do konverzije jednog vida transporta u drugi. Zbog toga se u svetu ali i u okruženju logistički centri grade uz luke kako bi jednostavno mogli koristiti i rečni transport. Upravo iz toga razloga u radu se posmatra i potencijalna lokacija luke Šamac koja predstavlja neiskorišćeni resurs, jer transport putem reke Save nije iskorišćen ni približno u meri njenih potencijala. Pored ove lokacije u radu se razmatraju još dve lokacije: Banja Luka kao glavni grad republike i lokacija Doboj kao pogodno drumsko-železničko čvorište.






6.1. LOKACIJA LOGISTIČKOG CENTRA BANJA LUKA

Prioritet izgradnje glavnog logističkog centra u Banjoj Luci, definisan je studijom razvoja intermodalnog saobraćaja u (BIH) Republici Srpskoj, a paralelno s tim neophodno je nastaviti idejno tehničko-tehnološka rešenja i implementaciju logističkog distributivnog centra. Na slici 3. prikazana su šematski rešenja strukturalnih elementa logističkog centra Banja Luka.



Slika 3. Šematski prikaz kontejnerskog terminala na lokaciji 1 i šematski prikaz strukturalnih elemenata logističkog centra na lokaciji 2

Železnica Republike Srpske kao i grad Banja Luka su vrlo zainteresovane za razvoj logistike u oblasti transporta i LC-a kao strukturalnih elemenata intermodalnog i kombinovanog transporta, a naročito gde postoji realna mogućnost njihove izgradnje uz već postojeću-izgrađenu železničku infrastrukturu.

LEGENDA	—	Položaj kranske staze robno transportnog centra
	- - - -	Granica parcele u vlasništvu ŽRS A.D. Doboj
	—	Položaj koloseka LC-a
		Položaj prostora rezervisanog za važne sadržaje LC-a
		Položaj glavnog skladišnog-pretovarnog prostora
	—	Pozicija saobraćajnica unutar robno transportnog centra
		Pozicija parkinga za drumska vozila
		Pozicija upravnih zgrada robno transportnog centra
		Prostor rezervisan za odlaganje i skladištenje kontejnera, prikolica i poluprikolica

6.2. LOKACIJA LOGISTIČKOG CENTRA ŠAMAC

Luka Šamac je osnovana 1979. godine, kao izraz opšteg društvenog interesa. Izgradnja luke je planirana u tri faze:

- 1 000 000 tona/godina
- 3 000 000 tona/godina
- 5 000 000 tona/godina

Do 1992. godine bila je završena nekompletna prva faza. Luka je u periodu 1992-1995. potpuno devastirana. Ostala je bez radnika i sa onesposobljenim i uništenim osnovnim sredstvima.



Slika 4. Zatvorena skladišta sa obilaznim putem i operativna obala sa dizalicom [5]

Što se tiče godišnjeg proseka pretovara u Luci Šamac u zadnjih pet godina podaci su sledeći: istovar u luci oko 20 brodova (sa oko 20 000 t/god.), a utovari se oko 5 brodova (sa oko 5 000 t/god.), istovari se oko 1 000 vagona (sa oko 50 000 t/god.), utovari oko 100 vagona (sa oko 5 000 t/god.), u luci se utovari oko 3000 drumskih transportnih sredstava (sa

oko 70.000 tona /god.), i istovari oko 1 000 drumskih transportnih sredstava (sa oko 20 000 tona roba).

Neki od problema u radu luke su:

- Plovnost reke Save do Šamca-Siska, (brodari plove na vlastiti rizik), (smanjeno interesovanje za pretovar u luci jer nema kontinuirani prevoz, nezavisan od godišnjeg doba i vodostaja), (smanjen obim posla u luci),
- Opšta nelikvidnost koja se odražava i na luku (problematika u izmirenju obaveza-plate i doprinosi). [5]

6.3. LOKACIJA LOGISTIČKOG CENTRA DOBOJ

Analiza podataka za Doboj je ukazala da grad i region Doboj poseduje značajne robne tokove roba pogodnih za manipulisanje u nekim podsistemima RTC-a. Doboj ima povoljan položaj na drumskoj, a naročito železničkoj mreži.

Stepen i tendencija razvoja privrede koja gravitira u RTC-u ocenjuje se kao zadovoljavajući faktor za njegovo formiranje. Naročito su značajni robni tokovi koji tranzitiraju Doboj i to pre svega robe koje treba cariniti.

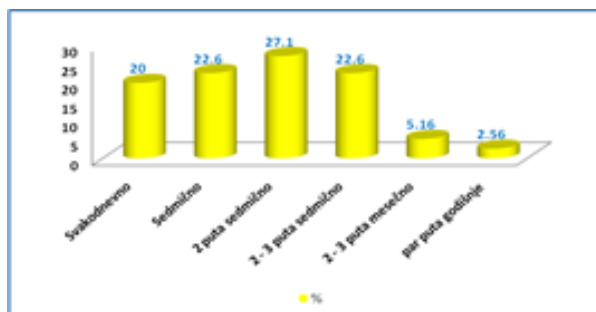
Kroz sam grad Doboj prolazi više magistralnih i regionalnih železničkih i drumskih saobraćajnica sa značajnim robnim tokovima, što ga čini predodređenim za formiranje i razvoj robno transportnog centra sa kompletnim transportnim i logističkim uslugama. Mrežu drumskih saobraćajnica kroz grad i region čine putevi:



Slika 5. Osnovne drumske i železničke saobraćajnice regiona Doboj [8]

Robni tokovi iniciraju potrebu stvaranja logističkih centara ili u najboljem slučaju mrežu istih, stoga sledi prikaz jednog dela tokova robe u urbanom području Doboja za 2011. godinu. Petina objekata robu dobija svakodnevno odnosno 20 %. To su veliki objekti sa velikim dnevnim prometom, zatim kiosci koji prodaju samo hleb i ostala peciva pa im roba stiže svakodnevno i to dva puta, zatim određeni broj prodavnica mešovite robe. Robu sedmično dobija 22,6 % generatora a tu se pre svih ubrajaju butici, dok dva do tri puta sedmično robu najčešće primaju kiosci, opet se tu pojavljuje određen broj butika koji u ovom vremenskom intervalu prima robu, broj takvih generatora procentualno iznosi 22,6 %. Butici su kao oblik trgovine na malo veoma kompleksni pa se i ovog puta javljaju kao objekti koji robu dobijaju dva do tri puta mesečno i to 5,16 % ili par puta godišnje 2,56 %. Par puta

godišnje robu primaju butici zbog toga što se bave prodajom sezonske robe. Na sledećoj slici je prikazana frekvencija isporuke robe. [11]



Slika 6. Frekvencija isporuka robe za trgovine na malo [11]

Jedan logistički centar u Doboju bi predstavljao značajnu kariku u procesu između makro i mikrodistribucije. Osnovni cilj formiranja ovakvog logističkog centra, i to baš u Doboju, je objedinjavanje svih bitnih logističkih delatnosti u distribuciji i transportu. Ovaj efekat međusobnog povezivanja ostvarivao bi se tako što bi i ponuđači usluga i korisnici RTC-a bili na jednoj lokaciji. RTC Doboju koristila bi preduzeća lokalnog drumskog i daljinskog saobraćaja, špeditorske organizacije, preduzeća za skladištenje robe sa različitom strukturom i namenom, kao i uvozna i izvozna preduzeća sa pomoćnim službama. U sklopu ovog centra nalazili bi se i terminali integralnog transporta, železnica sa robnim i industrijskim kolosecima i pratećim delatnostima, skladišta, carinske zone.



Slika 7. Idejno rešenje RTC-a Doboju

Značaj RTC-a se prvenstveno ogleda u optimizaciji distributivnih procesa, što je preduslov optimizacije procesa reprodukcije materijalnih dobara, na svim nivoima, od globalnog i nacionalnog u sklopu mreže RTC-a zemlje do užeg, parcijalnog u okviru uže gravitacione zone. [9]

7. ZAKLJUČAK

Posmatrajući logistiku naše republike i logistiku okruženja ili samo zemalja sa kojima se naša država graniči nemoguće je ne primetiti veliki zaostatak u razvoju logističke mreže, deficit logističkih kompanija, nepostojanje logističkih centara, veliki deo neracionalnog obima transporta i sl. Sve je to posledica nedovoljne logistike odnosno nedostatak infrastrukture. Na

primer Srbija uveliko radi na izgradnji logističkih centara odnosno stvaranju mreže logističkih centara što i jeste poenta same logistike. Primeri su logistički centri Batajnica, Apatin, Šabac i sl. Takođe Hrvatska je dobar primer razumevanja neophodnosti postojanja logističkog/ih centra/ara i pokušaju praćenja evropskih trendova, primer logistički park Zagreb. Čak i drugi entitet naše zemlje (Federacija BiH), tačnije Sarajevo poseduje jedan oblik logističkog centra koji se prostire na oko 11 000 metara kvadratnih koji je izgradila austrijska firma Bihateam.

Privlačenjem robnih tokova dolazi bogastvo jer robni tokovi u stvari sami predstavljaju bogastvo. Sa bogastvom dolazi i moć a ko ima moć ima sve. Kriterijumi, opravdanost, lokacija, sve je tu, samo još nedostaje logistički centar u Republici Srpskoj.

REFERENCE

- [1] G. Markovic, M. Gašić, Z. Marinkovic; Teorijski pristup regionalnom razvoju – metodologija istraživanja logističkih tokova IMK-14 Istraživanje i razvoj, god. XVI, br.37, 4/2010. str. 26-27
- [2] Ireneusz Fechner; Role of logistics centres in national logistics system, Electronic Scientific Journal of Logistics, Vol. 6 Issue 2 No 2 2010. p. 12
- [3] Ibrahim Jusufrić; Osnove drumskog saobraćaja (tehnologija-organizacija-ekonomika-logistika-upravljanje) Travnik 2007. str. 444.
- [4] Klaus-Jürgen, Uhl Example of successful Public Private Partnership in rail-transport 2007. p. 8.
- [5] Luka Šamac, Akcionarsko društvo robno-transportni centar informacije 2011.
- [6] Ljubivoje Čarapić i dr. Logistički centri na koridoru X ; Jugoslovenske železnice
- [7] Ljubivoje Čarapić, "Organizacija prevoza i kombinovani sistemi transporta" Zavod za NIPD JŽ, Beograd, 1992.
- [8] Projekat Robno-transportnog centra Doboj, grupa autora 1998.
- [9] Risto Perišić i ostali, Tehnološki projekat Robno-transportnog centra Doboj, Beograd 1988.
- [10] Slobodan Zečević, Robni terminali i robno-transportni centri, Saobraćajni fakultet Beograd 2006. str. 24-37.
- [11] Željko Stević, Parametri city logistike Doboja-trgovine na malo, III međunarodna konferencija Novi horizonti 24 i 25. novembar, Doboj, Bosna i Hercegovina 2011. str 569-574.

CALCULATION OF THE BASIC PARAMETERS OF QUEUING SYSTEMS USING WINQSB SOFTWARE

Željko Stević

Univerzitet u Istočnom Sarajevu, Saobraćajni fakultet Doboju, Bosnia and Herzegovina

Abstract: We live in period when the time has precious value, therefore, tends to be shorter stays in queues that are present in all areas of life, whether it be on the waiting customers at the bank, post office or transportation means within the supply chain. This lost time for us is just the cost. The aim of the functioning of all systems is the minimization of total operating costs, therefore, special attention is paid to the analysis of parameters in queuing systems. The paper presents the basic parameters of the above systems were calculated using the software WinQSB. The importance is reflected in the statistical analysis of the parameters of a given system, which allows the introduction of the necessary corrective measures, because they are included in the model and certain financial parameters.

Keywords: queue, winqsb, probability, optimization.

1. UVOD

Redovi čekanja predstavljaju veoma široku oblast kojoj se sve više posvećuje pažnje, predstavljaju oblast koja je prisutna u našoj svakodnevici, što u poslovnoj, sto u privatnoj sferi života. Veliki je broj radova koji izučava parametre sistema redova čekanja u različitim okolnostima kao npr. čekanje klijenata u banci o čemu svedoče radovi [7] i [8] ili istraživanje redova čekanja sa eksponencijalnom raspodelom [10] i Poasonovom koje predstavljaju najčešće korišćene raspodele u ovim sistemima. Najjednostavniji model za proračun i analizu jeste model sa neograničenim redom čekanja što potvrđuje [9] i u slučajevima kada postoji veliki kapacitet reda, može se pretpostaviti beskonačan kapacitet, upravo zbog olakšavajućih proračuna.

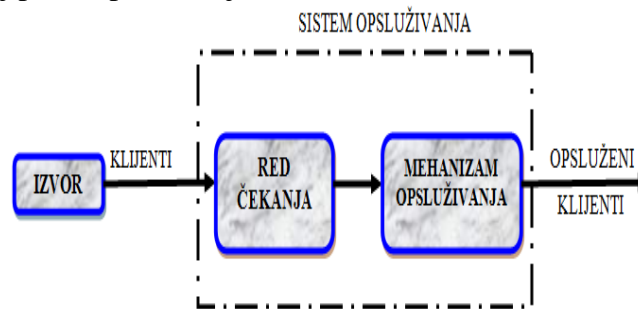
Veoma bitna karakteristika sistema koji se bave ovom problematikom jeste da postoji uticaj stohastičnosti, što upravo i jeste u primeru u ovom radu. Uticaj tih stohastičkih parametara u velikoj meri utiče na razvoj scenarija da jednostavno nismo u mogućnosti da predvidimo šta će se desiti, jer imamo odsustvo kontinuiranosti. U radu se obrađuje sistem luke gde dolasci brodova, a i vreme opsluživanja zavise od niza faktora, pa se stohastičnost javlja i kod intenziteta nailazaka brodova i kod intenziteta opsluživanja istih. Zahvaljujući programu u kojem se problem obrađuje, veoma lako se menjaju određeni parametri, tako da se mogu uočiti sve promene izlaznih rezultata sistema i način na koji utiču. Kao kriterijum optimizacije se koristi vreme koje brodovi provedu u luci i ukupni troškovi koji uzimaju u obzir troškove čekanja brodova, nezauzetosti pristaništa i troškove eksploatacije luke.

2. REDOVI ČEKANJA, OSNOVNE POSTAVKE I OZNAČAVANJE

Teorija redova (masovnog opsluživanja) proučava čekanje u svim navedenim oblicima. Teorija redova koristi matematičke modele da opiše različite tipove sistema (koji sadrže neku vrstu redova) koji se javljaju u praksi. Matematičke formule pokazuju kako će se odgovarajući sistem ponašati, uključujući i prosečno čekanje koje će se javiti, pod uticajem različitih okolnosti.

Modeli teorije redova su veoma pogodni za određivanje kako da sistem masovnog opsluživanja radi na najefikasniji način. Prevelik kapacitet opsluživanja u sistemu prouzrokuje nepotrebne troškove. Sa druge strane nedovoljan kapacitet opsluživanja rezultuje se kroz prekomerno čekanje i druge neželjene posledice. Konačno, modeli teorije redova omogućuju pronalaženje odgovarajućeg balansa između troškova opsluživanja i vremena čekanja.

Osnovni proces opsluživanja, pretpostavljen u najvećem broju modela teorije redova (masovnog opsluživanja) sastoji se iz sledećeg. Klijenti, tj. jedinice koje zahtevaju opsluživanje, se generišu u vremenu iz izvora. Klijenti ulaze u sistem opsluživanja i staju u red. U određenim vremenskim trenucima klijenti iz reda se prihvataju na opsluživanje po nekom pravilu tj. disciplini opsluživanja ili disciplini u redu. Nakon toga se klijentu daje zahtevano opsluživanje kroz mehanizam opsluživanja, posle čega klijent napušta sistem opsluživanja. [1] Ovaj proces prikazan je na slici. 1.



Slika 1. Osnovni proces opsluživanja

Osnovna karakteristika izvora bilo da se radi o ljudima ili jedinicama je njegova veličina. Veličina izvora je ukupan broj klijenata koji mogu da zahtevaju opsluživanje s vremena na vreme, tj. ukupan broj određenih potencijalnih klijenata. Populacija određenih potencijalnih klijenata, koji zahtevaju opsluživanje u datom sistemu opsluživanja, naziva se *dolazna populacija* koja može biti konačna ili beskonačna tj. izvor klijenata može biti ograničen ili neograničen. [1]

Uobičajena pretpostavka je da se klijenti generišu prema tzv. Poason-ovom procesu, tj. broj generisanih klijenata (x) do nekog određenog vremenskog trenutka (t) ima Poasonovu raspodelu: [2]

$$P_T(n) = \frac{(\lambda T)^n e^{-\lambda T}}{n!}$$

Red je mesto gde klijenti čekaju na opsluživanje. Red se karakteriše maksimalnim brojem klijenata koji mogu jednovremeno da budu u njemu. Redovi mogu biti konačni ili beskonačni zavisno da li je broj klijenata koji mogu jednovremeno da budu u redu konačan ili beskonačan. Uobičajena pretpostavka kod modela teorije redova je da je red beskonačan.

Disciplina opsluživanja se odnosi na pravilo po kojem se klijenti iz reda prihvataju na opsluživanje. Npr. prvi-prispeli-prvi-opsluženi (first-come-first-served FIFO), poslednji-prispeli-prvi-opsluženi (last-come-first-served LIFO), na slučajan način, prema nekom prioritetu ili prema nekom drugom pravilu. Pravilo prvi-prispeli prvi-opsluženi se uobičajeno pretpostavlja kod modela teorije redova, osim ako se ne naglasi drugačije.

Mehanizam opsluživanja se sastoji od jedne ili više faza (modula) opsluživanja, od kojih svaka sadrži jedan ili više paralelnih kanala za opsluživanje. Ako postoji više od jedne faze (modula) opsluživanja, klijent tada može da bude opsluživan kroz niz faza (kanali za opsluživanje postavljeni u red). Raspodela vremena opsluživanja koja se najčešće koristi u praksi je eksponencijalna raspodela. [1]

Jedna od osnovnih stvari koja je potrebna pre nego se počne sa istraživanjem elementarnih sistema redova čekanja jeste njihovo označavanje koje prema [11] je sledeće:

A / B / m / K / n / D

- A- raspodela vremena dolazaka,
- B- raspodela vremena opsluživanja,
- m- broj kanala za opsluživanje,
- K- kapacitet sistema,
- n- veličina dolazne populacije,
- C- disciplina opsluživanja.

3. ILUSTRATIVNI PRIMER REDA ČEKANJA

Morska luka ima 5 pristanišnih mesta za istovar brodova. Prosečno u toku meseca u luku pristigne sa tovarom 20 brodova veće nosivosti. Nailazak brodova u luku je slučajnog karaktera, jer oni polaze iz raznih luka i prelaze različita rastojanja do mesta istovara, a na njihovu brzinu kretanja utiču mnogi faktori (nepogode, vetrovi, zadržavanja u lukama). Vreme istovara svakog broda takodje je slučajna promenljiva koja zavisi od nosivosti broda, vrste tereta i drugih okolnosti. U proseku za istovar broda potrebno je 6 dana.

Ilustrativni primer je delom analitički rešen u knjizi Masovno opsluživanje autora Vukadinović (1988.). Pri izradi proračuna za potrebe rada koristi se program WinQSB.

Ulazni parametri sistema su:

$m=5$ što predstavlja broj kanala za opsluživanje

$\lambda=20$ brodova/mesec intenzitet dolazaka

$t_{opsl}=6$ dana što predstavlja prosečno vreme opsluživanja, odavde sledi $\mu=1/t_{opsl} \rightarrow \mu=30/6=5$ što predstavlja intenzitet opsluživanja (30 predstavlja broj dana u mesecu).

Parametar μ je, zapravo, propusna moć jednog pristaništa, a proizvod $S \times \mu$, gde je S oznaka za broj pristaništa, je propusna moć, odnosno kapacitet kontejnerskog terminala.

Osnovni pokazatelj sistema opsluživanja je stepen opterećenja pristaništa ili intenzitet prometa ρ koji predstavlja količnik intenziteta toka dolazaka i intenziteta opsluživanja: [4]

$$\rho = \lambda/\mu$$

Oznaka datog primera je M/M/5 što znači da je raspodela dolazaka Poasonova, raspodela vremena opsluživanja eksponencijalna i da ima 5 kanala za opsluživanje. Kada je ovako označen model, tj. nema oznaka posle broja kanala za opsluživanje, to znači da je beskonačan kapacitet sistema i disciplina opsluživanja prvi prispeo prvi opslužen.

Za M/M/m/∞ potrebne su sledeće formule za izračunavanje parametara:

$$L = \lambda \left(W_q + \frac{1}{\mu} \right) = L_q + \frac{\lambda}{\mu}.$$

L - ukupan broj korisnika u sistemu,

$$L_q = \frac{P_0(\lambda/\mu)^s \rho}{s!(1-\rho)^2},$$

L_q – broj korisnika koji čekaju u redu

$$W_q = \frac{L_q}{\lambda},$$

W_q – vreme koje korisnik provede u redu čekanja

$$W = W_q + \frac{1}{\mu},$$

W- ukupno vreme koje korisnik provede u sistemu, uključujući vreme provedeno u redu i vreme provedeno na opsluživanju

$$P_0 = 1 / \left[\sum_{n=0}^{s-1} \frac{(\lambda/\mu)^n}{n!} + \frac{(\lambda/\mu)^s}{s!} \frac{1}{1 - \lambda/(s\mu)} \right],$$

P₀- verovatnoća da je sistem prazan, tj. da su kanali za opsluživanje slobodni. [1]

Nakon postavljenih ulaznih parametara program daje izlazne rezultate što je prikazano na slici 2.

Iskorišćenje sistema je 0,8 ili 80%, prosečan broj brodova u sistemu je 6,22, dok je prosečan broj brodova koji čekaju u redu 2,22, a ostatak odnosno 4 broda se opslužuju u sistemu. Prosečno vreme koje brod provede u luci je 0,311 mesec ili 9,33 dana, dok je prosečno vreme koje provede u redu 0,111 mesec ili 3,33 dana. Verovatnoća da su sva pristaništa slobodna je 0,013, a verovatnoća da su sva pristaništa zauzeta je 0,55.

Performance Measure	Result
System: M/M/5	From Formula
Customer arrival rate (λ) per mesec =	20,0000
Service rate per server (μ) per mesec =	5,0000
Overall system effective arrival rate per mesec =	20,0000
Overall system effective service rate per mesec =	20,0000
Overall system utilization =	80,0000 %
Average number of customers in the system (L) =	6,2165
Average number of customers in the queue (Lq) =	2,2165
Average number of customers in the queue for a busy system (Lb) =	4,0000
Average time customer spends in the system (W) =	0,3108 mesecs
Average time customer spends in the queue (Wq) =	0,1108 mesecs
Average time customer spends in the queue for a busy system (Wb) =	0,2000 mesecs
The probability that all servers are idle (Po) =	1,2987 %
The probability an arriving customer waits (Pw) or system is busy (Pb) =	55,4113 %

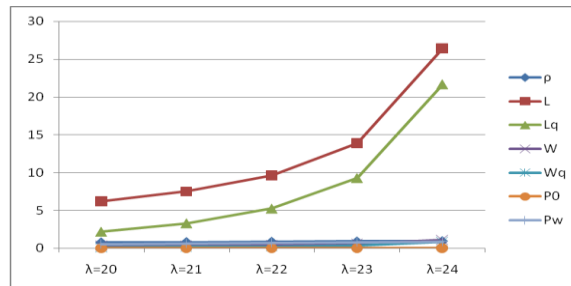
Slika 2. Rezultati modela

Na slici. 3 mogu se videti procenjene verovatnoće za broj brodova u luci. Može se uočiti da je najveća verovatnoća da će se u luci nalaziti 3 ili 4 broda. Takodje se vide već pomenute verovatnoće da je sistem prazan odnosno da nema nijedan brod u luci i da je sistem pun odnosno da su svih 5 pristaništa zauzeti.

02-07-2015 15:04:32	Estimated Probability of n Customers in the System	Cumulative Probability
0	0,0130	0,0130
1	0,0519	0,0649
2	0,1039	0,1688
3	0,1385	0,3074
4	0,1385	0,4459
5	0,1108	0,5567
6	0,0887	0,6454
7	0,0709	0,7163
8	0,0567	0,7730
9	0,0454	0,8184
10	0,0363	0,8547
11	0,0291	0,8838
12	0,0232	0,9070
13	0,0186	0,9256
14	0,0149	0,9405
15	0,0119	0,9524
16	0,0095	0,9619
17	0,0076	0,9695
18	0,0061	0,9756
19	0,0049	0,9805
20	0,0039	0,9844
21	0,0031	0,9875
22	0,0025	0,9900
23	0,0020	0,9920
24	0,0016	0,9936
25	0,0013	0,9949
26	0,0010	0,9959
27	0,0008	0,9967
28	0,0007	0,9974
29	0,0005	0,9979
30	0,0004	0,9983
31	0,0003	0,9987
32	0,0003	0,9989
33	0,0002	0,9991
34	0,0002	0,9993

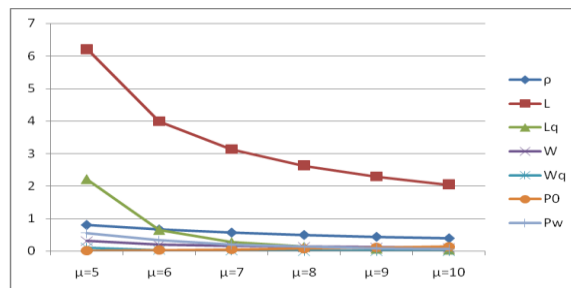
Slika 3. Verovatnoće broja brodova u luci

Program WinQSB nudi raznovrsnost u pogledu promene ulaznih parametara, tako da se veoma jednostavno može promeniti neki od ulaznih parametara i rezultati se oblikuju prema zadatim promenama. Tako npr. ako se u modelu postavi sa program simulira rezultate u zavisnosti od intenziteta dolazaka koji se kreće 20-24 dobijaju se rezultati predstavljeni na slici. 4. Ukoliko bi došlo do povećanja intenziteta dolaska a broj pristaništa i vreme opsluživanja ostalo isto, došlo bi do značajnih promena u luci kao npr.: broj brodova u redu bi dostizao čak i preko 20, vreme koje brod provede u luci bilo bi i više od mesec dana itd. Ovi pokazatelji govore da bi u ovakvom slučaju morali povećati broj pristaništa ili vreme opsluživanja.



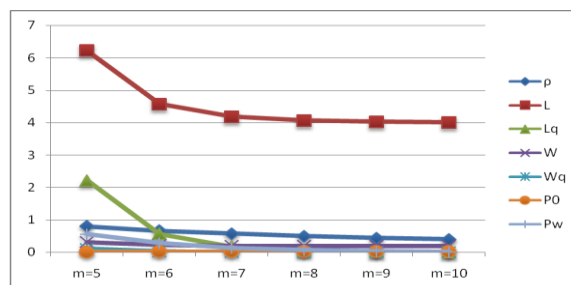
Slika 4. Rezultati modela u zavisnosti od promene intenziteta dolazaka

Ukoliko bi se povećalo vreme opsluživanja odnosno intenzitet opsluživanja dolazi do smanjivanja izlaznih parametara sistema kao što je prikazano na slici. 5.



Slika 5. Promena rezultata u zavisnosti od intenziteta opsluživanja

Ako se u modelu postavi sa program simulira rezultate u zavisnosti od broja pristaništa koji se kreće 5-10 dobijaju se rezultati koji su prikazni na slici. 6. Sa povećanjem broja kanala za opsluživanje smanjuje se iskorišćenost sistema.



Slika 6. Rezultati u zavisnosti od broja pristaništa

U oblikovanju sistema čekanja treba težiti ravnoteži između opsluge klijenata (kratki redovi, što implicira mnogo kanala za opsluživanje) i ekonomskog (ne previše kanala za opsluživanje). [6]

Efikasnost kontejnerskog terminala najčešće se u praksi određuje pomoću pokazatelja dužine vremena boravka broda na terminalu (vreme broda provedeno u redu čekanja i vreme opsluživanja broda) i ona se povećava ili povećanjem broja pristaništa ili skraćivanjem prosečnog vremena opsluživanja. Međutim, povećanjem broja pristaništa, povećava će se verovatnoća da su pristaništa slobodna, a to znači da će se povećati nezauzetost istih. Isto tako, skraćivanje vremena opsluživanja broda može uticati na kvalitet usluge, te na smanjenje broja dolazaka brodova.

Zato se efikasnost kontejnerskog terminala najbolje može odrediti uvođenjem vrednosnih pokazatelja, tj. pomoću troškova, budući da se u praksi čekanje broda plaća, a nezauzetost pristaništa se, takođe, može vrednosno izraziti. [4]

Troškovi broda na lučkom kontejnerskom terminalu, odnosno troškovi stajanja se sastoje od troškova broda tokom boravka na terminalu, kao što su troškovi za lučke takse (taksa za korišćenje operativne obale, taksa za tonažu i taksa za svetionike), troškovi pilotaže, troškovi remorkera te troškovi dovoza i odvoza. Troškovi koji nastaju tokom boravka broda na lučkom kontejnerskom terminalu obuhvataju više vrsta troškova od kojih se neki, s obzirom na korišćenje kapaciteta broda, posmatraju kao varijabilni, a neki kao fiksni troškovi. [3]

Da bi se moglo odabrati optimalno rešenje za navedeni problem, potrebno je u već postojeći model sa prvobitnim parametrima dodati i opisane troškove koji se javljaju kao kriterijum optimizacije. Ulazni parametri prikazani su na Sl. 7

Data Description	ENTRY
Number of servers	5
Service rate (per server per mesec)	5
Customer arrival rate (per mesec)	20
Queue capacity (maximum waiting space)	
Customer population	
Busy server cost per mesec	67 500
Idle server cost per mesec	60 000
Customer waiting cost per mesec	90 000
Customer being served cost per mesec	
Cost of customer being balked	
Unit queue capacity cost	

Slika 7. Ulazni parametri modela prošireni sa troškovima

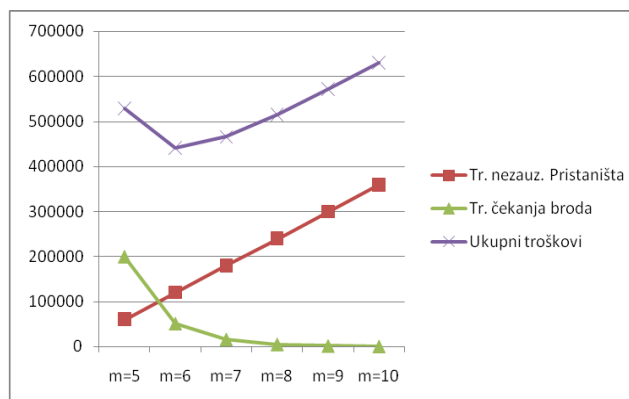
Nakon izvršenih proračuna postavljenog modela dobijaju se rezultati koji su predstavljeni na Sl. 8 odakle se može videti da ukupni mesečni troškovi koji se odnose na zauzetost pristaništa iznose 270 000 n.j, troškovi kada su pristaništa slobodna ukupno mesečno 60 000 n.j. i troškovi čekanja brodova na opsluživanje 199 480 n.j. što ukupno čini 529 480 n.j. na mesečnom nivou.

02-07-2015	Performance Measure	Result
1	System: M/M/5	From Formula
2	Customer arrival rate (λ) per mesec =	20,0000
3	Service rate per server (μ) per mesec =	5,0000
4	Overall system effective arrival rate per mesec =	20,0000
5	Overall system effective service rate per mesec =	20,0000
6	Overall system utilization =	80,0000 %
7	Average number of customers in the system (L) =	6,2165
8	Average number of customers in the queue (Lq) =	2,2165
9	Average number of customers in the queue for a busy system (Lb) =	4,0000
10	Average time customer spends in the system (W) =	0,3108 mesecs
11	Average time customer spends in the queue (Wq) =	0,1108 mesecs
12	Average time customer spends in the queue for a busy system (Wb) =	0,2000 mesecs
13	The probability that all servers are idle (Po) =	1,2987 %
14	The probability an arriving customer waits (Pw) or system is busy (Pb) =	55,4113 %
15	Average number of customers being balked per mesec =	0
16	Total cost of busy server per mesec =	\$270000,0000
17	Total cost of idle server per mesec =	\$60000,0000
18	Total cost of customer waiting per mesec =	\$199480,5000
19	Total cost of customer being served per mesec =	\$0
20	Total cost of customer being balked per mesec =	\$0
21	Total queue space cost per mesec =	\$0
22	Total system cost per mesec =	\$529480,5000

Slika 8. Troškovi na mesečnom nivou sa pet pristaništa

Troškovi se javljaju kao kriterijum optimizacije što je već navedeno, stoga sledeće što je potrebno uraditi jeste proračunati kako broj pristaništa utiče na ukupne troškove odnosno koji broj kanala za opsluživanje je optimalan.

Nakon izvršenih proračuna u zavisnosti od broja kanala za opsluživanje koji se kreće 5-10 dobijeni su sledeći ukupni troškovi na mesečnom nivou koji su predstavljeni u tabeli 1 i slici 9.



Slika 9. Ukupni mesečni troškovi u zavisnosti od broja kanala za opsluživanje

Prema kriterijumu optimizacije tj. minimalnim ukupnim troškovima na mesečnom nivou (troškovi stajanja odnosno čekanja brodova na opsluživanje tj. na pretovar, troškovi kada su kanali za opsluživanje nezauzeti tj. nema nijedan brod koji treba pretovariti i troškovi eksploatacije) koji su prikazani prethodnom slikom i sledećom tabelom, broj kanala za opsluživanje tj. pristaništa koje luka treba da ima a pritom da ostvari najniže troškove je šest.

Tabela 1. Ukupni troškovi u zavisnosti od broja pristaništa

m	λ	ρ	L	Lq	W	Wq	P0	Pw	Tr. zauz. pristan	Tr. nezauz. pristan	Tr. ček. brod.	Ukupni troškovi
5	20	0,8	6,217	2,217	0,3108	0,1108	0,013	0,5541	270000	60000	199480,5	529480,5
6	20	0,6667	4,57	0,57	0,2285	0,0285	0,0167	0,2848	270000	120000	51256,96	441257
7	20	0,5714	4,18	0,18	0,209	0,009	0,0178	0,1351	270000	180000	16213,22	466213,2
8	20	0,5	4,059	0,059	0,203	0,003	0,0182	0,059	270000	240000	5313,96	515314
9	20	0,4444	4,019	0,019	0,201	0,001	0,0183	0,0238	270000	300000	1710,567	571710,6

4. ZAKLJUČAK

Kroz obradjeni primer sistema masovnog opsluživanja može se uvideti značaj sistema redova čekanja jer se svakodnevica odnosno redovi čekanja koji se formiraju na različitim mestima u različitim oblastima mogu na veoma efikasan način poboljšati. Vreme provedeno u sistemu koje uključuje vreme čekanja u redu i vreme provedeno u kanalu opsluživanja uzima se kao jedan od najčešćih kriterijuma za optimizaciju ovih sistema. U konkretnom primeru najkraće vreme koje je brodovi provedu u luci jeste 6 dana, što znači da bi trebalo biti 10 pristaništa koji bi vršili pretovar. Medjutim mala razlika je kada luka ima 7 ili 10 pristaništa kada je u pitanju vreme provedeno u sistemu i ono za 7 pristaništa iznosi 6,27 dana, a troškovi s druge strane znatno manji za manji broj pristaništa. Kao optimalan broj pristaništa koje luka treba da poseduje jeste 6 jer se pri tom broju ostvaruju najmanji troškovi, a vreme koje brodovi provedu u luci je 6,85 dana.

Na osnovu svih prikazanih rezultata može se zaključiti da luka treba proširiti svoje kapacitete za još jedno pristanište, jer trenutno raspolaže sa 5 pristaništa.

REFERENCE

- [1] Frederick S. Hillier Gerald J. Lieberman Introduction to Operations Research Seventh Edition Stanford University 2000. pp 834-857
- [2] Scott Sampson Quantitative Tools for Service Operations Management 2012.
- [3] Zdenka Zenzerović, Siniša Vilke, Mia Jurjević: Queuing theory in function of planning the capacity of the container terminal in port of Rijeka, Scientific Journal of Maritime Research• 25/1(2011) • str./pp. 45-69
- [4] Zdenka Zenzerović Kvantitativne metode u funkciji optimalnog funkcioniranja sustava kontejnerskoga prijevoza morem Pomorski zbornik 43 (2005)1, str. 165-191
- [5] Svetozar Vukadinović: Masovno opsluživanje, Naučna knjiga, Beograd 1988. str. 136-138

- [6] <http://people.brunel.ac.uk/~mastjjb/jeb/or/queue.html>
- [7] Adamu Muhammad, Analysis of Single Queue – Single Server and Single Queue - Multi Server Systems using Simulation: Case Studies of ECO and First Banks, International Journal of Scientific & Engineering Research, Volume 6, Issue 1, January-2015. pp 1284-1296
- [8] Ranko Božičković, Zdravko Božičković, Siniša Božičković, Waiting line simulation using WinQSB software, 13th International Research/Expert Conference "Trends in the Development of Machinery and Associated Technology" TMT 2009, Hammamet, Tunisia, 16-21 October 2009. pp 377-380
- [9] [B. F. Kosenko](#), Accelerated calculation of the basic parameters of queuing systems with unbounded waiting in the queue, [Cybernetics](#) July–August, 1976, Volume 12, [Issue 4](#), pp 588-591
- [10] Habib K. Chaleshtari, Ali Mazlomi, Iman G. Khondabi, and Mehdi Fathi, Analyzing an exponential queuing model based on stepwise time rates, Proceedings of the International MultiConference of Engineers and Computer Scientist 2011. Vol II IMECS 2011., march 16-18 Hong Kong pp1478-1483
- [11] János Sztrik, Basic Queueing Theory, University of Debrecen, Faculty of Informatics 2012. pp 14

CONCESSIONS IN BULGARIA AS A MANIFESTATION OF PUBLIC-PRIVATE PARTNERSHIPS

Gena Velkovska

Trakia University - Stara Zagora, Bulgaria

Abstract: Concession is a legal institution that creates legal environment for effective public-private partnership. Historically, the concession in the Republic of Bulgaria in the late 19th century, the state has provided its exclusive dealers by significant year for the period 1883-1941 concessions. The legal basis of concessions in the Republic of Bulgaria is a modern, corresponding to the role of public-private partnership in economic and social life. This legal framework includes:

- law on Concessions;
- public-private partnership;
- mineral Resources Act;
- law on municipal property;
- state property law;
- etc.

The report gives an overview of the legislation in some specific aspects. Addressed are:

- the legal nature of the concession;
- forms of concession;
- objects and subjects of concession;
- procedures for granting concession.
- etc.

In conclusion, based on an analysis of practice have made some recommendations reflect the views of the author

Keywords: Concession, public-private partnerships

1. INTRODUCTION

Concession as a legal institution in the late nineteenth century was reliable incentive for partnership between the public and private sector in Bulgaria. The State has provided its exclusive dealers in order generating a profit during the period 1883 - 1941, were provided significant concessions for: production of bakery products (1891) processing of iron ore (in 1892), production of salt (1884) build a factory for the manufacture of glass (1892) and others. -In operation of the Act for the development of folk industry from 1883 .; extraction of ores and other minerals -In operation of the Act to promote local industry by 1895; granting of monopoly rights for the production of certain objects given area and for a limited period -In operation of the Act to promote local industry by 1909, which first defined the term "industrial concession". With Law of State Property of 1941 introduced concessions on state

property as an alternative to rent, with a maximum term of 25 years. This law regulated the granting of a concession to the river and sea and beaches construction of sea and river shores. After a long break, the Law on Foreign Investment in 1991 and mainly Constitution of the Republic of Bulgaria in the same year in Bulgarian legislation recovering the concessions institution. Subsequently (in 1995), this institute is regulated in detail by the Concessions Act as a general law that sets out the basic rules and procedures for granting concessions. Special laws such as the Law on Mineral Resources Act, the Water Act, the Civil Aviation Law of the sea Spaces, Inland Waterways and Ports of the Republic Bulgaria, the Roads Law et al., Designated the various types of objects and nakontsesiyata institute was developed by regulation of the specific provision in their concession²⁸.

2. LEGISLATIVE FRAMEWORK FOR CONCESSIONS

a/ regulations in European Union law

In the Treaties of the European Union concept of concession there. Secondary legislation concept opens wide regulations and directives of the European Union and content close to the concepts of authorization and license under Bulgarian law. It has no single obshtoupotrebyaem sense. Its meaning is derived specifically from the provisions of the Act and only for the purposes of this act. For example, Regulation № 1634 / 13.09.2002, on the European Commission regulates the issuance of licenses (permits) for the submission of certain goods from Bulgaria, Czech Republic, Slovakia, Romania, Poland and Hungary in the European Union. Directives are aimed at facilitating the creation of a common transparent and equitable market between the European Union and the forthcoming enlargement. Within the meaning of Directive 55/2003 of the European Parliament and the European Council, subject to regulation by gas concession species concept is similar to the license, permit, consent and approval, covered by indicative list of the generic term „empowerment" under Article 4 para 1. it is issued by the national authorities of a State Party to the Directive, which allow at commercial operators of other State also party to the Directive, for the construction or use of industrial facilities, pipelines and associated facilities. Member shall ensure by internal legislative measures objective equality of foreign entities and non-discriminatory implementation of the grounds for refusal to issue a license. Refusal can only be explicit and addressed to the applicant and shall be subject to appeal. His regime is entirely domestic in.

In accordance with Directive 2014/23 / EU of the European Parliament and of the Council by February 26, 2014 for the award of concession contracts, Member States should introduce into their national legislation the laws, regulations and administrative provisions to April 18, 2016

The new legislation sets out the legal framework governing the partnership between the public sector and (usually) a private company that has demonstrated added value in specific areas such as the development of infrastructure.

²⁸ <http://www.conces.government.bg/show?action=13&lang=1>

Usually concessions are used in sectors such as road and rail, port and airport services, maintenance and management of highways, waste management, energy and heating, leisure facilities and parking.

Concessions for mobilizing private capital and know-how in addition to public resources and allow to attract new investments in public infrastructure and services without increasing public debt.

What is the difference between concessions and public procurement?

In the contract the company is paid a fixed amount to carry out the work or provide services.

For example: a private company builds and manages highway for a fixed amount.

Concession now remunerated on the basis of an authorization to manage and operate facilities or provide services and is exposed to potential loss of investment.

For example: a private company builds and manages highway and is remunerated by charging fees in which assumes the risk to revenues do not cover its investment and other costs.

Risks concession contracts are inherent in any contract, such as:

- ✓ bad management;
- ✓ failure of contract;
- ✓ force circumstances.
- ✓

What's concession?

- ✓ Licenses and permits - unilateral acts of public authority to create of conditions under which businesses can that out certain Economic activity;
- ✓ Grant aid or subsidies - financing, which is not transferred ownership or benefits from activity or service of public authority him it is provided;
- ✓ Contracts for grant below rent of land and public property - where which public body establishes only general conditions for use of down public resources asland or other property (eg. sea property, internal ports or airports), without that ordered specific building activities or services;
- ✓ Rights of way - use of public property for provision or operation Fixed lines or networks are service to society (eg. installation of electric cables) without public authorities that impose obligations for delivery or purchase;
- ✓ Systems for free choice - all undertakings performing down conditions are right that out certain activity (eg. systems for User choice and vouchers for services).

Award criteria in concessions must ensure:

- ✓ ensure equal treatment of all participants;
- ✓ not discriminatory, which means that it can be targeted and can not give preference to local or national products or companies;

- ✓ be related to the subject of the concession (eg. a criterion linked to the percentage of job seekers employed for the concession would be acceptable as a criterion linked to the general employment policy of the company or with the general training provided to local people Jobseekers who is not related to the concession would be illegal).
- ✓ be objective and not to grant unrestricted freedom of choice of public buyer (eg. the criteria that are "satisfactory to the contracting authority" or giving preference to a tenderer who is "the most acceptable to the contracting authority" are not acceptable).
- ✓ to be announced in advance and listed in descending order of importance. This obligation of transparency which allows the bidders to prepare their proposals well and prevents adaptation of criteria from buyers to offers received. However, if the buyer received public offer, which offers an innovative solution to an extraordinary level of functional results, which could not be provided by a bona fide purchaser, he may amend the terms of the award criteria in order to take this into account. In this case, the buyer must ensure equal treatment of any current or potential bidders by issuing a new call for tenders, or in some cases by publishing a new notice of concession.

Duration of concessions

The Directive does not provide for a maximum number of years for the duration of the concession, but they should be limited in time.

In concessions lasting more than five years, the duration should not exceed a reasonable period within which the concessionaire could regain the investment.

The maximum duration of the concession should be specified in the concession documents as a point which is negotiated (may be part of the award criteria and thus be determined by competition) or as part of the fixed conditions.

What are the factors influencing the calculation of the maximum?

For each project may identify specific factors, such as:

- ✓ general size of investment (including author's rights, patents, logistics);
- ✓ opportunities of assets that generate revenue;
- ✓ charges use of Infrastructure and costs Use and Support asset.
- ✓ possibly it is that to take account initial and additional provided investment needed for operation of concession.
- ✓ investments needed for achievement of some specific agreed objectives also can that be taken account (eg investment in training of staff aimed to ensure minimum level of quality of service).
- ✓ Concessions can that be extended, but this must that to assessed in accordance with conditions for amendment of contrac.

The scope of the directive do not fall following forms of concessions:

- ✓ Concessions for drinking water -
concessions for provision or exploitation of stationary networks

- intended for provision public service in connection with production, transport or the distribution of drinking water or delivery of drinking water to such networks;
- ✓ Concessions for outlet or purification of channel waters are related with provision or operation of the above networks for water supply or with delivery of water to such networks;
 - ✓ Concessions related to hydraulic projects, irrigation or drainage, which related spreadstavyaneto or operation of above networks for water supply or with delivery of water to such networks, condition that quantity water, to use d for supply of drinking water represents more 20% of general volume water supplied from such projects or plant for irrigation or drainage.
 - ✓ Concessions related to services of general economic interest in the field of public railway and automobile transport
 - ✓ Concessions for services that fall within the scope of Article 5 of Regulation № 1370/2007.
 - ✓ It should be noted that the services for the transport of goods covered by Directive concessions. Similarly, the award of public works concessions by public authorities, public enterprises or individuals with exclusive rights (in other words, in "classical" sectors or sectors of "utilities") is covered by the provisions of the Directive.
 - ✓ Concessions awarded by public authorities and by entities other than public enterprises and individuals enjoying exclusive rights, as in "traditional" sectors, and in the sectors of "utilities".
 - ✓ Concessions awarded by an economic operator, on the basis of an exclusive right.
 - ✓ Of the Directive excludes service concessions awarded to economic operators that are active in the utilities sector.

In these cases must be two conditions are met:

- ✓ Economic operator that there is previously exclusive right to provided services are subject of concession;
- ✓ This right it is been provided on power of published National or administrative provision in accordance with Contract and with acts of EU define common rules on market access, applicable to public service activities (eg concessions in electricity sector covered by Directive 2003/54 / EC, as amended by Directive 2009/72/EC, and concessions for natural gas covered by Directive 2009/73/EC).

Service concessions related to the organization of lotteries, awarded on the basis of pre-exclusive right which has been granted in accordance with applicable national laws, regulations or administrative provisions in accordance with the Treaty, are not covered.

In other cases, gambling activities covered by the directive when they have the form of concession contracts (eg concession casino). Gambling activities carried out on the basis of permits and licenses, are not covered.

When awarding concessions which are not covered by the Directive should apply Treaty principles of equal treatment and transparency.

What are procedural safeguards?

The directive does not include specific procedures for the award of concession contracts. The public purchaser is not obliged to follow special procedures, including the "open" or "restricted" procedures as in public procurement.

The public purchaser is free to structure the national standards or according to their own preferences, provided they comply with certain basic rules.

In these cases, the public purchaser is obliged to:

- ✓ published notice for concession in Official newspaper of EU, which must to: a description of the concession; announced the conditions for participation in the award of concession, eg. a minimum turnover of a certain type and amount of equipment, experience with certain types of labor or services.
- ✓ inform potential and actual participants in the procedure the minimum requirements ikriterii award in the notice of concession or other Dokkum for the umpteenth concession; examples of minimum requirements: number of lanes on the highway, size and shape of tunnels, frequency of bus service, etc .;Examples of award criteria: the fees paid by users, environmental performance of vehicles will be used to provide the service, and others.
- ✓ comply with statutory requirements and not to allow candidates who do not meet them;
- ✓ exclude from the procedure candidates who have been convicted of certain crimes, such as fraud and money laundering;
- ✓ give all participants a description of the manner in which the procedure will be organized, and an indicative calendar. If there is likely to change at a later stage (Eg because the negotiations last shorter or longer), the public purchaser must inform all participants in advance.

The public purchaser can negotiate with candidates and tenderers, but certain elements of the original invitation to tender can not be changed during the procedure and therefore can not be negotiated. This applies to:

- ✓ the object of the concession;
- ✓ award criteria; and
- ✓ minimum requirements.
- ✓ must provide a record of all stages of the procedure, using the most appropriate for this equipment (eg. audio or video recordings, protocol, confirmed under oath by external, independent observers, etc.).

The directive applies only to contracts for public works concessions or services whose value is equal to or greater than 5 million. Euro.

How to calculate the estimated value of the concession?

In calculating the estimated value of the concession buyer must take into account:

- ✓ total turnover, the concessionaire will generate during the contract;

- ✓ the net amount of VAT;
- ✓ what kind of works and services are subject to the concession and what services may be needed for these works and services.

The buyer must:

- ✓ to provide the estimated value of the concession, and not the actual value. In most cases it is not possible to accurately calculate future overall turnoverconcessionaire, because the very nature of concessions involves a risk. Therefore, the turnover will vary depending on various factors (eg. The number of users or circumstances affecting the possibility of using asset, such as weather conditions).
- ✓ that provide the most accurate estimate. He must calculate the estimated value of the concession based on an objective method in concession documents. This estimate must be valid at the moment the published notice of concession, or, if not required notice in the moment buyer shall initiate the procedure for the award of kontsesiya.No if the real value of the concession in the time that it is taking place, is higher by more than 20% of the estimated value, the amount that should be taken into account in order to implement the threshold the value of the concession at the time of award²⁹.

b / framework law of the Republic of Bulgaria

Concession may be defined as the granting of rights by the state to use certain public property or to perform certain activities. According to the Law on Concessions³⁰, concession right to operate a facility of public interest provided to the concession holder to build, manage and maintain the object of the concession at its own risk. The concession is granted on the basis of long written contract with a financial interest concluded between the grantor and the concessionaire. The deadline for concession is up to 35 years without the right of extension. Depending on the subject of granted concessions, they are:

- ✓ Construction - is subject to execution of construction under the license and its management and maintenance after introduction into service and remuneration consists in the right of the concessionaire to use the site of concession
- ✓ Service - the object of managing and maintaining the subject of concession and remuneration consists in the right of the concessionaire to use the object of concession. Service concession may include chatichni construction works;
- ✓ Mining - is engaged in the operation of natural resources and remuneration consists in the right of the concessionaire to use the object of concession.

Granting the right to ekspoatatsiya objects concession having to perches kntsesionera obligation to perform to kontsendenta konsionno payment. The amount of payment is

²⁹ http://velimar.blogspot.com/2014/09/blog-post_17.html

³⁰ <http://lex.bg/laws/ldoc/2135523562>

determined for each case depending on the economic benefits that will concessionaire will receive seeks equitable distribution of economic benefits m / t kontsendenta and the concessionaire. Under the law the term fFor concession may be up to '35 without the right of extension. Concessions are granted a threat to national security and defense of the country in danger for October environment, health and others. Basic prerequisites for granting concessions are:

- ✓ The state does not have sufficient financial resources for the effective use of their property by e ystvashtite public organizations.
- ✓ By providing the right to operate a state-owned private companies state gets not only financial resources, but also an opportunity to regulate their activities in favor of public interest.

Objects of concessions can be divided into the following groups:

- ✓ Objects declared state property (natural resources, beaches, national roads, water, forests, parks, reserves, etc.).
public state or public municipal property, which o business is conducted.
- ✓ Objects private state or municipal property, which o business is conducted.
- ✓ Properties owned by public organizations that o business is conducted.
- ✓ Conceding can be MS (state owned), OS (for municipal property) and heads of administrative bodies of public organizations. Concessionaire can be any natural or legal person or association of such³¹.

3. SOME PROBLEMS IN THE CONCESSION LAW OF THE REPUBLIC OF BULGARIA

Concessions, undoubtedly, have an important role in the economic life of the Republic of Bulgaria as a manifestation of public-private partnership. However, the addition, certain forms of concession are questionable from the standpoint of their effectiveness.

Some sources of information indicate that a decade Bulgaria has lost about 50 billion. Lev from unprofitable contracts for concessions of gold, silver, copper and other precious and rare metals.

Ridiculously low fees that the state collects from concessionaires are less than one percent of profits that make a company which has its strategic reserves of mineral resources in the country.

Although the constitution is written that "Mineral Resources are exclusive state property" and according to Art. 16 "must be managed in the public interest" in the last decade Mineral Resources of Bulgaria are stolen from foreign and domestic economic circles.

Currently concession fees are 0.75 percent for gold to 4-5 per cent for mineral extraction industry.

³¹ <http://www.bg-ikonomika.com/2012/09/38.html>

For comparison with comparable countries like Romania us companies that have a concession contract for precious metals targets pay 38% of their income in the form of stamp duty.

A blitz poll question you rob Bulgaria through concessions shows that 72.36% of Bulgarian respondents answered positively to this question, apparently referring to mainly mining concessions. 15.45% of respondents disagreed and 12.19% answered that they have no idea probably due to lack of interest in the subject or due to lack of information.

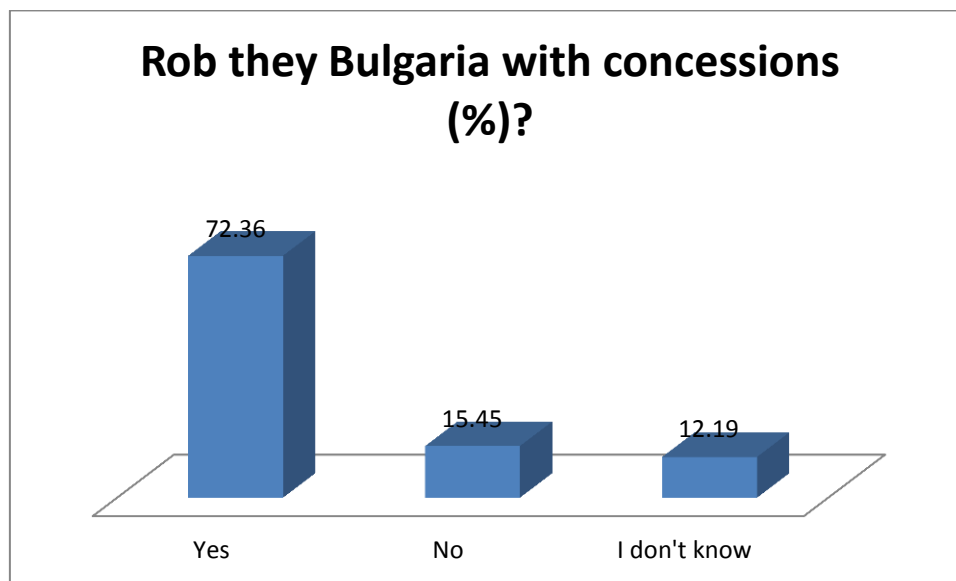


Figure 1. Results of the survey

4. CONCLUSION

Concessions sector is characterized by a specific and a large volume of legislation that regulates all aspects relating to the award of contracts by the state and municipalities.

Interaction between the public sector and business is the engine of modernization of society. As with any partnership, and here the main factors in achieving successful collaboration is trust and good communication, which must stand on a stable legal framework provides sufficient clarity on the rights and obligations of each party³².

Despite some imperfections of the legal framework for concessions, statistics show a number of good results from the implementation of concession contracts - for example, port terminals. To 31.12.2013 subject to supervision were 14 contracts - for port terminals Lesport

³² <http://www.eurolex.bg/bg/eurolex/%D1%81%D1%84%D0%B5%D1%80%D0%B8-%D0%BD%D0%B0-%D0%B4%D0%B5%D0%B9%D0%BD%D0%BE%D1%81%D1%82/%D0%BA%D0%BE%D0%BD%D1%86%D0%B5%D1%81%D0%B8%D0%B8-%D0%BF%D1%83%D0%B1%D0%BB%D0%B8%D1%87%D0%BD%D0%BE-%D1%87%D0%B0%D1%81%D1%82%D0%BD%D0%B8-%D0%BF%D0%B0%D1%80%D1%82%D0%BD%D1%8C%D0%BE%D1%80%D1%81%D1%82>

Balchik, Svishtov, Oryahovo, Somovit, Rosenets Burgas East-2-west Burgas, Vidin, North-South Vidin, Lom, Nikopol Ruse-west, and civil airports in Burgas and Varna.

Concessionaires of port terminals for 2013 are recognized total investment of EUR 14 914 456.68 lev and the concession contract for the airports in Varna and Burgas "Fraport Twin Star Airport Management" account investments 82,826,964, 55 lev

Revenues resulting from the concession activity amounted to 28 816 370.52 lev According to the reports and checks carried out, concessionaires fulfill the legal requirements for the implementation of airport and port services, including recommendations to the competent authorities to improve operational activity³³.



Photo: Port Terminal

REFERENCES

1. <http://www.bg-ikonomika.com/2012/09/38.html>
2. <http://www.conces.government.bg/show?action=13&lang=1>

³³ http://money.bg/news/id_322376161

3. <http://www.eurolex.bg/bg/eurolex/%D1%81%D1%84%D0%B5%D1%80%D0%B8-%D0%BD%D0%B0-%D0%B4%D0%B5%D0%B9%D0%BD%D0%BE%D1%81%D1%82/%D0%BA%D0%BE%D0%BD%D1%86%D0%B5%D1%81%D0%B8%D0%B8-%D0%BF%D1%83%D0%B1%D0%BB%D0%B8%D1%87%D0%BD%D0%BE-%D1%87%D0%B0%D1%81%D1%82%D0%BD%D0%B8-%D0%BF%D0%B0%D1%80%D1%82%D0%BD%D1%8C%D0%BE%D1%80%D1%81%D1%82>
4. http://europa.eu/index_bg.htm
5. <http://www.investor.bg/forum/showthread.php?t=12725>
6. <http://lex.bg/laws/ldoc/2135523562>
7. http://money.bg/news/id_322376161
8. <http://www.parliament.bg/students/index.php?action=displays&id=171>
9. http://velimar.blogspot.com/2014/09/blog-post_17.html
10. <http://www.24chasa.bg/Article.asp?ArticleId=4716726>

PRESENT ISSUES RELATED TO STRATEGIC CRISIS DECISIONS

Mariana Kuzmanova

University of National and World Economy, Department of Management. Bulgaria

Abstract: The paper discusses important issues related to strategic crisis decisions. Thus, key activities which play a significant role in this particular study are set out. These key activities are related to crisis management and provide flexibility in organizations' behavior as well as in their potential development. Competitive strategies in a global crisis make management teams face several challenges. The effective crisis strategy is oriented not only to preserve the organization, but to increase its competitiveness. The business environment of contemporary organizations is distinguished by its complexity and changeability, which makes the task for improving planning decisions vital. The intensive competition, the necessity of accelerated innovation and the transmission of knowledge into a key factor to success are only a part of the various changes in the external environment and the internal variables of the organization, which part determine the necessity of building up a new modern management concept. In this relation, a variety of opportunities for improving planning decisions oriented towards stimulating creativity and adaptability can be indicated. An important role plays the building of modern information system, which creates a great number of advantages: conduction of competent analysis providing a basis for development of decision options and their reasons; increasing control effectiveness; reporting the contribution of every single employee in the process of achieving goals; improving cost structure and raising quality; communication stimulation; restriction of crisis unfavorable influence, etc.

Keywords: Strategic crisis decisions, crisis management, decision planning

"To what degree is your company prepared to meet a crisis - notwithstanding whether it is predictable or unpredictable? Do you have at your disposal a suitable plan for reaction to a possible crisis? Is there formed a crisis team, is it placed at readiness? If you reply with "no" to any of these questions, you should take yourself in hand. And sooner, the better."

R. Lukey

1. INTRODUCTION

The crisis management is an important element of the management in the contemporary conditions of instability and great number of crisis phenomena and processes. Besides, the crises are more and more accepted as a normal phenomenon, which requires from the managers to know them well and to be capable of suggesting appropriate solutions for their prompt and successful overcoming. Therefore, the efforts should be directed towards timely prognostication of the crisis situations, softening of the unfavourable impact of the crisis phenomena, development of an effective crisis strategy and etc.

The effective management of the contemporary organizations through flexible strategic crisis solutions determines the topicality of the problems – an object of considering in the present publication. The applying of a proactive strategic approach in the conditions of dynamically changing and unpredictable environment allows to be identified the symptoms of the crisis duly and if possible to be avoided, in order to be preserved the capacity of living of the organization and its crisis stability to be increased in a long-term perspective.

2. PLACE OF THE CRISIS MANAGEMENT IN THE SYSTEM FOR MANAGEMENT OF THE CONTEMPORARY ORGANIZATIONS

The crisis management is complex as per its character. It is considered as:

- Management of the organization during the passing of the crisis;
- Monitoring of the environment with view to the duly recognition of the symptoms of the crisis;
- Analysis and evaluation of the potential crises;
- Solving of the problems, which are connected with overcoming of the insolvency of the organization;
- Prevention of the bankruptcy of the organization;
- Realization of a system of actions for taking the organization out from the crisis;
- Preparation of the people in the organization for carrying out of the crisis plans for its recovery;
- Development of a crisis strategy of the organization and plans for action with purpose prevention or overcoming of crises and etc.

Besides, there should not be forgotten the interdisciplinary character of the crisis management, which requires in the process of taking of effective crisis decision the managers to be well prepared in the field of the strategic management, the management of the changes, the organizational behaviour, the risk management and etc.

According to some authors, the crisis management should be accepted as: means for mobilization and implementation in the practice of the operative solutions in the organization; a manual for implementation of the sensible ideas, connected with the priorities for its management; an instrument for overcoming of the problems in the development of the organization through development and applying of new concepts; an engine for unfolding of the potential of the organization not through the applying of reactive strategies, and through the stimulation of the creativity at complete usage of this potential. [13]

According to R. Daft the crisis management should be considered not as management during a crisis, and as management, which is capable of predicting the crisis, to counteract to it or to prepare the organization for an eventual crisis depending on the reasons for it, as well as to soften its passing and consequences [2].

The organizations are put under permanent changes as per line of the external and internal environment. This imposes changes and in the methods of management. Therefore,

the crisis management also bears changes, in order the organizations to be able to adapt in an appropriate way towards the new conditions.

J. R. Caponigro defines the crisis as an event or an action, which has the potential to affect negatively the functioning and the efficiency of the business, so that the business can go out of control [1]. This way the author explains the crisis quite generally, i.e. according to J. R. Caponigro great number of events may be considered as crisis situations.

Consequently, the crisis is a peculiar condition or situation (*in a static aspect*), which is characterized by exceptionally difficult or dangerously unstable condition and uncertainty, which threatens with the occurrence of negative consequences and which requires efforts for searching of a rescue decision. The crisis may be described and as a process (*in a dynamic aspect*), which is connected with changes in the system and its encirclement. Besides, it is possible the serious changes to lead to violation of the equilibrium of the system. "The crisis can be characterized as a specific combination of social-economic phenomena and processes, which leads to violation of the stability and steadiness of the system of business activity." [14]

The crises threaten the successful development of the organizations, since they are connected with the appearance of different types of risks for them:

- ❖ *Strategic risk*: revoking of a licence for practising of the activity; loss of key personnel and etc.
- ❖ *Reputational risk*: loss of trust (publicly, internally); negative media publications; deterioration of the servicing of the customers; incorrectly planned actions for provision of the ceaselessness of the business and etc.
- ❖ *Operational risk*: loss/ impeded access to the working places; interruption of the supply of electricity, water, steam heating; absence from work of employees because of a disease and etc.; collapse in the information-communication system; problems with equipment, which provide normal working conditions (heating, supply, cooling, humidity and etc.); protest actions of employees;
- ❖ *Technological risk*: a collapse in the telephone services and in the transference of data; inaccessible, falsified or obliterated data; a damage or robbery of technological equipment and etc.
- ❖ *Legal risk*: breaches of contractual obligations; initiating of legal proceedings; not observing of regulatory requirements and etc.
- ❖ *Financial risk*: expenses for substitution of broken equipment; imposing of fines; robbery or inexpedient spending of financial resources and etc.

3. PLANNING AND CRISIS SOLUTIONS

The contemporary organizations confront with various problems of the planning, which have to be duly and competently solved:

In the first place, quite often the parent-organizations drop plans to the affiliate and associated companies without knowing sufficiently well the local conditions.

In the second place, a priority task, which has to be solved through the developed plans, is the optimization of the personnel in the conditions of a crisis. For the purpose are

taken directive decisions for decreasing of the number of the personnel, as its number is limited up to the carrying out of the vital functions for the organizations. In connection with this with special sharpness is set the question for the measuring and the standardization of labour (metrification of the execution).

In the third place, for the rest activities are sought appropriate solutions, which are connected with outsourcing. For the purpose are organized auctions. There are drawn up *policies, rules, procedures and instructions* for carrying out of the auctions and for the technology of communication with the chosen participant (exchange of information; reporting of the carrying out; way of payment; there are set quantitative and qualitative criteria ; which persons shall be responsible for the operative communication; in case of necessity – a clause for confidence of the information; if possible – clauses for exclusiveness: the company to be serviced with priority over the rest of the contracting parties.; terms and etc.).

In the fourth place, in the conditions of a crisis are done significant changes in the plans for training and development of the human resources. The training of the personnel is reduced up to the most necessary knowledge and skills for carrying out of the key activities, the wide-educational trainings are limited at the expense of the organizations. The care for the career development of the personnel has dropped off, because of big offering on the labour market. The work of the managers is additionally complicated in the conditions of conflicts, insecurity and lack of perspectives.

In the fifth place, before the crisis the business contingency plans are formal or according to legal requirements. Currently they are considered as a priority activity (the basic activity is reduced up to the key processes; limited personnel; restricted market with limited dynamics; restricted financial resource and etc.).

On the base of the above set problems in the field of the planning can be drawn several important conclusions and recommendations for their solution. A serious potential in this direction is contained in the *concept for metrification of the management*. In connection with this it should be emphasized, that the systems for measuring of the results allow the purposes of the organization to be operationalized and the achieved to be measured. They include various complex of activities: *planning of the results* (formulation of the strategy – achieving of the purposes; development of a model for concretization of the strategy – specification of the strategic factors for success and the indicators for evaluation of the achievements); *guiding of the process of achieving of the purposes* (achieving of the purposes; important tasks and expenses – direct and indirect realization of the results) and *check up and perfection of the results* (determination of the diversions, zones of intensified attention – analysis and measuring: periodicity of observation, first signals for alert, diversions for observation). "The readiness of the company to function in crisis situations is connected with forming of its mission, determination of the strategic purposes and the choosing of a crisis strategy." [10]

The purposes occupy key place in the system for management of the organization. They determine the basic directions for development of the organization, they assist the planning and the coordination in the organization, they are a flexible instrument for evaluation and control, etc. The system of purposes of the organization includes great number of purposes (as per formulation – quantitative and qualitative; as per period of range – short-term and long-term; as per degree of importance – strategic and tactical; as per content - production, marketing, financial and etc.). It is various regarding their hierarchy, relative

importance, temporal component. This considerably impedes the evaluation of the efficiency because of the necessity of interpretation of heterogeneous indexes. Besides, for the different phases of the life cycle of the organization are typical specific objective-oriented priorities.

Rule SMART for determination of the purposes

More and more organizations apply this rule in the process of purpose setting. According to it the well formulated purposes should be:

- ◆ *S – specific;*
- ◆ *M – measurable;*
- ◆ *A – acceptable;*
- ◆ *R – realistic;*
- ◆ *T – Time-bound.*

The purposes of the organization are distinguished by relations of harmoniousness, competitiveness and indifference in between. Besides, the criteria for efficiency are also various, as some of them are even contradictory: profit, quality, productiveness of labour, flexibility of the organization, consent as per the purposes, interpersonal communications, management of the human resources and etc. [11]

In the organizations there exit difficulties at the usage of appropriate indicators of the activity, and from here and the degree of achieving of the purposes. On the other hand, many of the purposes are not set in evident mode or they do not have quantitative expression. This way is impeded the process of determination of the arising diversions between purposes and achievements, as well as the taking of well-grounded decisions for overcoming of the diversions.

The different plans of the organization form a system and are developed at an iterative base up to the final binding between purposes, resources, frame conditions and restrictions. Besides, the strategic plans are developed by the leaders at high management level on the base of the mission of the organization and the formulated strategic purposes. The tactical plans are developed by the leaders at medium management level on the base of the strategic plans and the defined tactical purposes of the organization. On its behalf, the tactical plans and the operative purposes are a base for the development of the operative plans of the local management level. Consequently, the purposes and the planning are interconnected. The correctly formulated purposes are a landmark for action of the working in the organization and an important source for their motivation, evaluation and control. In case that the purposes are inadequate and unachievable, there can occur serious difficulties in connection with realization of the developed plans and the efficient participation of the human resources.

Through the development of a system of plans the organization provides flexibility in its behaviour as a response to the constant changes in the environment.

"Factors, causing chaos. There is necessary a new strategic framework for work in the conditions of permanent and unpredictable turbulence.

Today's world of increased interconnectedness and interdependence means also an increased risk for every company. The critical factors, which are increasing the risks are:

- Technological progress and information revolution (cloud computing: virtualization and emulation, augmented reality and the social networks; the software, which assists them and etc.).
- Destructive technologies and innovations (mini steel foundry factories; ships for transportation of containers; desk publishing systems; digital photography; semi-conductors; personal computers; music downloads and sharing of files; electronic books and etc.).
- "The Rise of the Rest" (Accelerated development of companies from China, Argentina, Brazil, Chile, Egypt, Hungary, India, Indonesia, Malaysia, Mexico, Poland, Russia, Thailand, Turkey, Vietnam and other most unexpected places.).
- Hyper-competitiveness (Development of destructive strategies: satisfying of the shareholders; better investigation of the future customers' desires; high speed of responsive reaction of the competitors; usage of the surprise as a means for blocking of the competitors. Applying of destructive tactics: sending of signals for strategic intentions for domination over certain markets, which block the competitors; change of the rules on the market; simultaneous or consecutive incitements.).
- Sovereign funds of wealth (Investment body Abu Dhabi; Norwegian governmental pension fund, SAFE Chinese investment company; Kuwaitian investment company and etc.).
- Environment (a strategy for business stability, accompanied by increasing of the nature conservational initiatives and the „green” investments).
- Authorization of the customers and the shareholders (intensive communications between customers and companies in Internet and the world network)." [6]

Currently in the organizations a priority activity in the field of the management through purposes are the formulation of business purposes as per trimesters in value and in natural expression (very detailed in natural expression) and the usage of bonus systems for employees and for customers of top products. The possibility of losses is planned in the conditions of a crisis. With purpose the crisis to be limited are intensified the conservatism in the expectations and the restrictive approaches for management of the risk. Besides, there are undertaken preventive and recovering measures for softening of the risks (reduction of the potential losses). There are closed objects, which do not conform with the criteria for efficiency. Regarding the plans for investments and innovations the available resources are reduced to minimum (deficiency of own resources; the providing of attracted resources is expensive). Therefore, there is necessary a change in the priorities and usage of new methods for analysis, prognostication and planning.

In the process of development of the system of plans there can be used and the balanced scorecard. [12] As per its essence the balanced scorecard is a complex programme for change, through which is possible to be "changed practically every aspect of the

organization". [9] The very name (*score*) emphasizes on the necessity of ranging with view to the providing of equilibrium between the important parameters of the activity of the organization in the process of management of the changes in it.

The developed by Kaplan and Norton model provides *a balanced evaluation* of the results from the long-term activity of the organization, regarding: external and internal indexes; qualitative and quantitative indexes; monetary and non-monetary indicators; indexes, connected with the evaluation of past actions of the organization (with a retrospective character), and quantities, which influence over its future success (anticipating indicators). [4, 5]

4. STAGES OF DEVELOPMENT OF THE CRISIS STRATEGY

The development of a crisis strategy includes the following stages:

First stage: An expert group develops the system of strategic purposes within the framework of the crisis management in the organization.

Possible purposes are:

- Increasing of the crisis stability of the organization.
- Preserving of the image of the organization.
- Carrying out of the engagements of the organization towards the groups of influence over it.
- Efficient management of the changes and etc.

Second stage: The expert group defines the factors, which can create crisis situations at greatest degree (as a result of the test for the vulnerability of the organization towards a crisis):

- 1) Lack or deficiency of key personnel.
- 2) Lack or deficiency of building fund or impeded access to the working places.
- 3) Collapse or deficiency of key equipment.
- 4) Collapse in the information backup of the organization.
- 5) Dropping off of a key supplier, including outsourcing activities and etc.

Within the framework of this stage is sought a well grounded answer to the following questions:

- With what frequency shall be displayed the factors, which create crisis situations (within the framework of the following 3 - 5 years)?
- What shall be the strength of their impact?
- To what degree is the organization in condition to control the environment? Which factors influence in this direction (human resources, production processes, computer technologies, suppliers, external events and etc.)?
- With what kind of risks is connected the activity of the organization?

Third stage: Self-evaluation and control of the risks in the organization. For the purpose are analyzed in detail the business processes in the organization regarding engaged persons (professional training and qualification, possibilities for replaceability and etc.), duration, admissible period of interruption of the work. The evaluations should allow the management of the organization to take decisions, which to avoid the causing of tension in the interrelations with the users, the suppliers and the other groups of impact over the organization.

Fourth stage: There is drawn up a plan for action as per eventual risk events within the framework of every factor: Within the framework of this stage are settled various questions: there are saved reserve powers; there are created reserve channels for supply; there are developed alternative computer technologies; there is expanded the training of the personnel with purpose combination of functions and etc.

Fifth stage: Carrying out of trainings and simulations with the personnel. There are organized crisis trainings and pseudo-crisis.

Sixth stage: Evaluation of the efficiency of the developed crisis strategy, undertaking of correcting actions, searching of reserves and etc.

The process of formation of crisis strategies should not be distinguished from the process of their realization. It is possible parts of them to pass simultaneously with view to the training from the gained experience. This way "the permanent integration between the simultaneously passing incremental processes of formulation of the strategy and of its realization is the very essence of the art of the efficient strategic management" [7, 8]. In this sense, the three tasks of the strategic management – the strategic planning, the realization of the strategy and the strategic control - are in close relation and interaction and are parts of a complex process, which is connected with creation of the necessary preconditions for achieving of the system of purposes and overcoming of the possible diversions. [3]

The method of Jeffrey Caponigro is used widely in the process of monitoring of the environment with purpose *increase of the crisis sustainability* of the organizations. [1] The crisis sustainability is considered as ability of the organization to restore its trajectory of development under influence of changes in the factors of the external and internal environment. It allows to be ranked the weak points of the organizations in accordance with their importance and term for elimination. The results from this are used at the development of a crisis strategy within the framework of the activity for elimination of the threats for a potential crisis in the organization, since according to Caponigro the threats are dangerous symptoms, which can transform into a crisis, if they remain unnoticed.

The methods of the traffic lights of J. R. Caponigro is exceptionally useful, because it is used as a base for the development of quantitative evaluations for the amount of the losses as per eventual risk events for the frequency of their occurrence during the respective planned period. Besides, each organization shall determine by itself the respective scales according to the opinions of the experts, who participate in the process of development of the crisis

strategy. For the purpose usually is used a scale for the two indexes, as in the developed matrix are defined three zones: green, yellow and red.

5. CONCLUSION

In *conclusion* it should be emphasized, that in each organization the process of planning is specific. Besides, the cases, in which the successful realization of the developed crisis plans is impeded, because of the occurrence of opposition against the change, the action of different accidental disturbing factors, deficiency of resources and time and etc. are not rarity. The formulation of inadequate purposes can cause problems, connected with the long-term successful development of the organization, because of decreasing of the innovations, striving for expanding of the market share at intensive competition and so on. The determination of unachievable purposes and the usage of incorrect systems for remunerations affect negatively over the motivation of the people in the organization. The overcoming of the difficulties is connected with perfection of the purpose setting, increasing of the efficiency of the communications between the separate levels of management, widening of the participation of the personnel in the planning process and provision of uninterruptedness of the planning.

The contemporary global and complex financial and economic crisis sets a number of challenges in the field of the crisis management. For the purpose, a modern information system is necessary to be built in the organizations, through which to be carried out permanent monitoring of the environment and on this base to be increased their crisis stability and to be provided their sustainable development through continuous stimulation of the changes.

REFERENCES

1. Caponigro, J. R., *The Crisis Counselor. A Step-By-Step Guide to Managing a Business Crisis*, Contemporary Books, Lincolnwood, Chicago, 2000, p. 5
2. Daft, R., *Organization Theory and Design*. 8th edition. Thomson: South-Western, 2004.
3. Kamenov, K., M. Pamukchiev, *Situation Management*. Sv., Publ. of D. A. Tsenov Academy of Economics, 1999, p. 121 (in Bulgarian)
4. Kaplan, R. S., D. P. Norton, *The balanced scorecard - measures that drive performance*. in: *Harvard Business Review*, January - February, 1992, pp. 71 - 79
5. Kaplan, R. S., D. P. Norton, *The Balanced Scorecard: translating strategy into action*. Boston, Harvard Business School Press, 1996.
6. Kotler, Ph., J. A. Caslione, *Chaotics: The Business of Managing and Marketing in the Age of Turbulence*. S. Locus-Publ., 2009, pp. 42 - 68 (in Bulgarian)

7. Milcheva, G., Issues on Strategic management of the organization. Paper - Scientific Conference "Contemporary Approaches in Management of economic Structures", Pamporovo, 2003, pp. 52 - 53. (in Bulgarian)
8. Mintzberg, H., Br. Ahlstrand, J. Lampel, Strategy Safari: A Guided Tour Through The Wilds of Strategic Management. Saint Petersburg, Publ. House "Piter", 2001, p. 152 (in Russian)
9. Niven, P. R., Balanced Scorecard Step-by-Step: Maximizing Performance and Maintaining Results. /Dnepropetrovsk "Balans-Club", 2003, p. 299, p. 33 (in Russian)
10. Philipova, M., Management in crisis situations. Publ. of SWU "Neofit Rilski", Blagoevgrad, 2013, p. 43 (in Bulgarian)
11. Robins, St., Organization theory: Structure, Design and Application. Prentice Hall Int., Inc., 1998.
12. Slinkov, V. N., Strategic Planning on the Basis of Balanced Scorecard. Strategic Control. Practical Recommendations. Kiev, DAKOR. KNT, 2008. (in Russian)
13. Tiessen, A. (Hrsg.), Handbuch Krisenmanagement. Springer VS, Springer Fachmedien Wiesbaden, 2013.
14. Zgonnik, L. V., Crisis Management. M.: Publ. House "Dashkov & K", 2010, p. 6 (in Russian)

IMPACT OF LEADERSHIP ON THE FUNCTIONING OF THE QUALITY SYSTEM ISO9001 UNDER TRANSITIONAL CONDITIONS IN SERBIA

Predrag Djordjevic, Marija Savic, Jelena Spasic, Zivan Zivkovic

University of Belgrade, Technical Faculty in Bor, Serbia

Abstract: This paper presents the results of an empirical investigation of the impact of leadership on of quality planning strategy in manufacturing companies with a certified Quality Management System (QMS) according to the requirements of ISO 9001:2008, in the southern region of Serbia.

Theoretical structural model and hypothesis of the impact of leadership on the elements of strategy of quality planning were defined. Path coefficients in the structural model were determined using LISLER v.16 software, which proved the defined hypothesis, except the hypothesis of customers and suppliers involvement in quality planning.

Performed research shows that under the conditions of transitional economy in Serbia, which have been present for a long time, QMS certification according to the requirements of ISO 9001:2008 has been conducted pro forma and it does not function within the suppliers - company - customers supply chain.

Keywords: Leadership, Quality System, ISO 9001: 2008, customers, suppliers

PERFORMANCE APPRAISAL FOR PROJECT TEAMS

Lilyana Stankova

University of National and World Economy, Department of Management, Bulgaria

Abstract: One of the most important and most difficult functions that project managers have is project team performance management, which includes identifying performance objectives, measuring performance results, providing feedback, assessment and subsequent control.

This is an important task because both the project team and the project manager would benefit from its effective performance. Team members get information about how they could cope with the performance of their tasks and what they could improve, in what direction they should develop, and project managers get information about how to get the best out of their team and to achieve the project objectives within the provided resources. The difficulty comes from the inability to fully cover the actually completed and the supervised work. Project managers find it easy to make an assessment but they find it hard to explain it to the team members in such a way that they would understand and accept it.

In this connection the report offers methodological directions for effective project team performance management. The idea that the effective assessment and appraisal of project team members' performance leads to faster, more qualitative and most of all more motivated performance of the project objectives is substantiated.

Keywords: project management, performance appraisal, project teams

1. INTRODUCTION

Modern organizations operate in conditions of an extremely dynamic and competitive market, of permanently changing technologies and constantly increasing requirements. Such severe turbulence of environment imposes the need of taking quick, adequate and creative decisions, developing innovative and high quality products and trying to constantly increase customer satisfaction. In their efforts to provide an adequate and timely response to market needs and to maximize profits, more and more organizations resort to using the project-oriented approach.

In order to successfully cope with the challenge, to select the right people and to manage to motivate them to achieve particular goals, project managers must find answers to the following questions:

- What kind of people are needed to achieve the project goals?
- Why would the most appropriate people like to take part in the project team?
- How should we treat people in order to get the best out of them for the successful realization of the project?

One of the ways to find the correct answers to the above questions is to carry out performance appraisals of project team members on a regular basis.

Performance appraisal of project team members has an important role in the system of their management. It provides the required information for taking important decisions related to selection, training and development, to fixing salaries, to planning career development, etc.

People appraise their own contribution and compare it to the contribution of their colleagues. They also compare the results of their work to the results of the other associates' work. Fairness of the appraisal is a really important factor that could increase motivation and satisfaction with the personal efforts. Applying a regulated and fair performance appraisal facilitates successful achievement of the set goals with view of the efforts of the personnel.

In this connection, this report focuses on the key role of performance appraisal of project team members for the successful project completion. Performance appraisal is an useful practice for each organization that employs the principles of the project oriented approach, since it provides regular feedback on the performance of project team members, identifies their need of training and development and motivates them to perform more effectively and efficiently at the same time. Yet, for the purpose, it is particularly important that everyone understands the objective of this process and its effect on the effective achievement of project goals.

2. ESSENCE AND OBJECTIVE OF PERFORMANCE APPRAISAL OF PROJECT TEAM MEMBERS

Performance appraisal in organizations may be presented as a structured process, "based on a specially developed appraisal system; in this system, the subject and object of the appraisal are identified, as well as the functions and roles that they perform, along with the rules and standards, mechanisms and procedures, their regularity, periodicity, and way of coordination." [1] Performance appraisal in organization plays the role of "feedback" with regard to the particular employee.

In terms of project management, performance appraisal may be discussed as a process, in which the contribution of each project team member is being observed, interpreted and assessed under certain set criteria and according to the identified goals within a certain period of time. The system of performance appraisal of project team members provides the project manager the opportunity to get aware of the contribution of each of his associates. Appraisal is the tool that allows each different employee to develop his abilities to the possible maximum, makes it possible to achieve the project goals and facilitates for achieving project success. Performance appraisal is not simply an opportunity for an employee to get an idea of the achieved results for a past period within a particular project but it is also an occasion to discuss with the project manager the options for his future development, to draw up a plan on how to improve his performance, to discuss his perspectives and intentions for involvement in future projects. In this connection, the appraisal system is perceived as a powerful motivating factor with a long-term effect.

Performance appraisal of project team members could be divided in two types – informal and formal appraisal. This division would help project managers to manage more effectively the overall process related to performance appraisal, including setting goals, measuring performance results, providing regular feedback, assessment and subsequent control. A comparison between the two types of appraisal is presented in the table below.

Table 1. Types of appraisal

Informal appraisal	Formal appraisal
Runs throughout the whole period of project realization	Usually conducted once at the end or right after completion of the project
Requires less preparation	Requires careful preparation
Concerns a short period of time	Concerns the whole period of project realization
Usually related to using non-material incentives to increase motivation	May be connected to receiving material incentives to increase motivation
Provides feedback on a regular basis	Provides summarized feedback about the overall performance of the employee
Corrects undesired behavior and promotes positive behavior and good performance	Provides directions for future development of the knowledge and skills of the employee

Performance appraisal of project team members has two main goals:

- To improve the performance of employees by helping them realize how they cope with their work in the project, what they could improve and in what direction they should develop;
- To provide project managers information for taking decisions related to the work under the project – how to get the best out of the team members and how to achieve best results.

An important condition for effective flow of the overall process of performance appraisal of project team members is binding the appraisal goals to the human resources management goals and to the organization's business strategy.

Another important moment for effective flow of performance appraisal is the selection of one or a combination of several approaches for conducting the appraisal. The most frequently used appraisal approaches in practice are: quality-oriented approach; behavioral approach; result-oriented approach; target-based approach. The approaches used for the purposes of conducting performance appraisal of project team members could be summarized in two basic groups: approach, focused on performing management control and approach, focused on developing employees. In the first approach, the focus is on the formal conducting of the appraisal – filling the attestation forms, strict adherence to the stages in the process and observing the rules and main requirements. This approach works best when everybody has clear and particular goals or when the organizational culture encourages competition. The second approach focuses on the communication between the manager and the employee. The

approach works best with professionals, motivated and confident, capable of being constructively critical and only if the work environment is positive and there is mutual trust.

The effective application of the selected approach is based on a good knowledge of the position and the people that hold it. Nevertheless, considering the specifics of project management, we believe it is more expedient and effective for project managers to use the second approach, which is focused on the development of employees.

Appraisal of employees aims at optimizing the project performance effectiveness via a better organization of human resources. The benefits for the organization, which realizes the project, from an effectively conducted process of performance appraisal of project team members, include the opportunity for creation of a target-oriented program for development of the personnel, identification of talents and assessment of the employees' potential, which could help for engaging the right people in different projects. Even though only indirectly, the appraisal system helps for improving the organizational relations, for developing a corporate culture and forming a corporate identity.

Using appraisals, the project manager develops an opinion on the evaluated employee and the employee, on his part, gets an idea of his place in the group. Appraisals motivate for increasing qualification and improving performance. Using appraisals, the evaluated employee is made sure that the goals and expectations about his performance are being observed by the management. Appraisals contribute to forming and developing the personality and educate criticism towards one's own performance.

The properly conducted appraisal is also useful for developing internal communication and for forming good work relations. Using the appraisal and the feedback for it, project managers could achieve agreement with the employees regarding their level of performance and receive information about important future steps related to specialization, career, payment, and motivation.

3. REQUIREMENTS FOR EFFECTIVE PERFORMANCE APPRAISAL OF PROJECT TEAM MEMBERS

The system of performance appraisal of project team members should be conformable to the human resources management policy, the company culture and the maturity of the organization, in which the project is being realized. This system could be developed by the project manager but it may also use other specialists' experience, appraisal systems already developed in other organizations, which could be adapted for the specific needs of the appraisal of the particular project team. Some of the main requirements for the development of the appraisal system are given below:

- Sensitivity – the attestation system should be able to differentiate effective from ineffective employees, i.e. effective from ineffective performance.
- Reliability – compatibility of the decision in appraising, i.e. no matter who is appraising the employee, the appraisal should be identical or very similar.

- Acceptance – the appraisal system should be accepted by the project team members; it is the project manager responsibility to define as clearly as possible the type and level of performance behavior, expected and required from employees.
- Practicality – the tools and methods for appraisal should be easily understandable and employable by the managers and employees.

The project manager ensures the overall organization for conducting the appraisal. He is the one, who actually conducts the appraisal, since he constantly observes and controls the performance of project team members. For larger and longer projects that require involvement of a larger number of people in the project team, it is advisable to have appraisals conducted by the employees' direct managers. On the other hand, the project manager's appraisal could also be conducted either by a senior manager in the organization or by the portfolio manager, if there actually is one, officially appointed and in charge of the management of all projects in the organization.

Performance appraisal may be conducted only once – either at the end of the project or immediately after its completion. For longer and more complex projects, shorter periods for appraisal are recommended (at a period of three or four months as the project manager decide). Given the quick changes today, it is not realistic to expect that absolutely concrete goals could be set for a long period in future, neither that the proper way for their achieving could be planned without the need of regular reviews and updates of these goals and the ways they are to be realized.

The final objective of the appraisal process is improving the project team members' performance. The meaning of appraising is not to give an assessment but to promote a change to better performance. The easy part is gathering information, analyzing data and making appraisal. The difficult part is provoking an actual change to a better performance. Such a change is possible if there is a common idea about what needs to be done, if there is a common understanding about how it should happen and when the following is present:

- interest and active support by the superior management;
- highly qualified specialists in charge of the appraisal;
- preparation of documents that regulate the work of the appraisal system;
- timely information for project team members about the goals and content of the appraisal system;
- clear connection between the achieved results and the reward system.

4. THE PROCESS OF PERFORMANCE APPRAISAL OF PROJECT TEAM MEMBERS

The process of performance appraisal of project team members includes the following stages:

4.1. PRELIMINARY STAGE

The first stage is related to the preparation and organization of the complete appraisal process. It begins with the formulation of the individual goals. The main principle for the process of setting goals is that individual goals should be identified in such a way that their achievement at the level of the employee (the lower levels) would guarantee achievement of the goals at the higher levels and ultimately achievement of the project goals, i.e. there should be “cascading” of goals through which their realization would be achieved.

Setting and achieving goals is the groundwork of the effective and efficient project management. Adherence to certain rules in the process of setting goals, correction, and system control considerably increase the chances for understanding, accepting and achieving the goals within the provided time and resources.

The manner of setting the goals greatly predetermines the wanted **result**. In this connection, the checklist below could be used by project managers to assess the effectiveness of the individually set goals of project team members. The included questions are «closed-ended» and the ones that have a negative answer point out the problematic areas, which should be reviewed by the manager.

Requirements	Questions	✓
Realistic	Did you analyze the situation objectively? Did you formulate the goals clearly and precisely? Do you have a system to measure the progress?	
Effectively communicated	Did you explain the set goals? Are you sure that the goals are properly understood?	
Significant	Are the goals important for the success of the project, the unit, the particular executor?	
Unifying	Did you explain to the employees how exactly achieving their individual goals would affect their work, the work of their colleagues, the success of the complete project?	
Laborious	Are the set goals a challenge to the employees? Do the goals allow the employees to show their abilities and to develop their potential and skills?	
Time bound	Did you fix a deadline for achieving the goals?	

Once the goals are set, the manager, together with the employee, who is going to work on them, have to develop action plans by identifying the standards (indicators, control points) that are to be used for assessing the success in achieving the set goals. Planning makes it possible to attend to all important aspects for achieving the goal and allows identifying potential difficulties and problems. Moreover, planning is helpful for the proper distribution and coordination of the work.

Action plans may be both formal and informal but it is always best to have them written down. Thus, both the manager and the employee can always go back to them and

check the progress and directions for improving. The main items that must always be included in the action plan are: goals (what end result is to be achieved); strategy (what particular tasks are to be performed for achieving the goals); resources (what resources are required for achieving the goals); criteria (which are the set indicators for determining the degree of achievement of the goals) and deadlines.

Well-structured action plans could be later on supplemented and used as a basis for developing the appraisal forms, which are required for the next two stages of the appraisal process. The following information needs to be added for the purpose: formal information about the appraised employee; scales for quantitative assessment of performance; place for comments by the appraised person and the appraiser as well as recommendations for development – what are the employee's interests, what kind of projects he wishes to take part in, what are his chances to participate in other projects, etc.

4.2. INTERIM STAGE

During the interim stage, it is advisable to hold interim meetings for discussing the achieved goals, based on the set goals and tasks, as well as to practice effective coaching.

Coaching is an integral part of performance appraisal. Every organization that wishes to apply a good performance appraisal system in order to develop its employees must practice effective coaching. Coaching may be defined as the assistance that the project manager provides to the employees for increasing their performance effectiveness. One of the main tasks to coaching are: to ensure an undisturbed environment, in which employees are able to freely express their worries and problems; to develop in employees an understanding of their strengths and weaknesses; to observe the employees' progress in achieving their individual goals; to identify the problems that are a holdback to progress; to assist for the creation of alternatives and a final action plan for coping with the identified problems and, in general, to help employees realize their own potential.

When conducted effectively, coaching could be very useful by helping employees get actively involved in achieving project goals and develop commitment and satisfaction with the job done. But in order to have an effective coaching, the following must be present: friendly atmosphere; manager's commitment; effective dialogue; focus on the goals related to performance. [2]

4.3. FINAL STAGE

The final stage of performance appraisal is mostly related to conducting an attestation interview, which is actually a formal conversation between the project manager and the employee, aiming at finding an answer to the following questions: What part of the planned tasks have been completed?; What part of the planned tasks have not been completed?; What is the reason for not completing the planned goals and tasks?; and What could the employee do to perform better from now on?

The project manager must prepare well for this conversation and he must also prepare the employees for it. It is advisable to conduct one preliminary conversation with them, so that they would know that to expect, when and where it would happen and how it would

proceed. During the preparation process, it is also advisable that the project manager get well aware of what he wants to achieve with the conversation, what he wants to focus on and how, and what solutions he will propose to the one he is appraising.

The conversation should be held in an appropriate time and it should also take its time. It should not be held in-between the other operative tasks but during some special time, consistent with both the manager's and the appraised person's work schedule. The time that should be spared for the conversation depends mostly on the maturity of the relations between the appraised person and the appraisers and on the duration of the appraisal period but, in general, the full-value conversation related to performance throughout the whole period of realization of the project could not take less than 40-60 minutes.

The project manager should be well aware of what he is appraising. Whether he is appraising the results, i.e. the past, or he is appraising the current level of competency, i.e. the present, or he is appraising the potential, i.e. the future. It would be best if he is appraising all three elements but he must be careful to appraise them separately and not to mix them up.

The recommendable approach to holding the conversation is the Problem Solving Approach but only if both the manager and the appraised person are sufficiently mature employees (both have the desire and the required knowledge and skills to achieve goals). In this approach, the employee is active in the discussion regarding his behavior, in the identification of measures to improve it. The final appraisal of his performance is put into final shape during the conversation, instead of given in advance by the manager.

During the conversation the feelings of the appraised person should be taken into account. Everyone seeks approval to what he does well or at least expects that if he is to be criticized, criticism would be done in a reasonable and justified way. This could be achieved if criticism is given not from a position of a judge, expert, or a psychologist, but when the described behavior is actually observed and described with objective and real terminology. And the focus should be on the behavior that the employee is able to change rather than on the behavior that is a result of some factors beyond the employee's reach.

The feedback is the essence of the attestation interview. When appraising, it is good to know that people get feedback not only from their managers. They also get it from themselves, from other colleagues and from the very job itself. For example, the successfully completed difficult task itself gives feedback, implying that the person has coped well. Thus, when someone is deciding on what efforts he should make as a result of the appraisal, he first thinks of whether the feedback source is someone he could trust and whether the appraisal system is fair. The feedback is effective when the manager ensures that it:

- Is focused on the behavior of the subordinate rather than on his personality;
- Concerns behavior that could be changed;
- Is particular rather than general and is based on data rather than impressions;
- Encourages positive behavior and good performance;
- Is timely.

In summary, we could say that the structure of the attestation interview comprises the following stages:

- First, the objective and the structure of the conversation should be identified and a positive environment for holding the meeting should be created.
- Second, a review of the facts should be made, i.e. what has happened, and the facts should not be interpreted but the principle “facts speak for themselves” should be employed instead.
- Third, the subordinate should be allowed to express his opinion on what he could improve in his work.
- The project manager expresses his opinion as early as the fourth step.
- Then, as the fifth step, an analysis on how the employee’s performance could be improved may be made. The fields that need change are identified and the ways this could be done are discussed as well as the resources needed, the periods, etc. If there are any misunderstandings between both of them, here is the moment to settle them out.
- Only then it could be proceeded to the last step – setting developmental goals, and it is important that they be attainable, measurable and motivating for the employee.

“Each of these steps could be shorter or longer but it is advisable that this sequence be followed so that one can really expect commitment to what needs to be achieved as well as taking an active role by the appraised person.” [3]

5. POSSIBLE PROBLEMS IN PERFORMANCE APPRAISAL OF PROJECT TEAM MEMBERS

Performance appraisal may create a number of problems, which could question the effective flow of the process. The possible errors that could be made during appraisal may be related to:

- Bias – the appraiser is biased against the person appraised or is extremely careful to remain unbiased and both cases may result in wrong appraisal;
- “The halo effect” – the common sympathy or antipathy to the person appraised influences the unbiased appraisal;
- Contrast – when several employees are being compared to each other rather than being compared to the performance standards;
- The error “of the present moment” – when the appraisal is given based on the current behavior of the person appraised, this error is most probable when the appraisal is being conducted for a large period of time and no information is collected for the complete period;
- Everybody is “about average” – the appraiser does not differentiate between good achievements and bad results but appraises everybody against an average level instead;
- Appraising wrong features – it is not the actual work of the employee that is being appraised but other behavior that is easier to observe, e.g. looking busy, being friendly, etc.

- Focusing on the past – appraisers fail to realize the opportunities, provided by performance appraisals to not only appraise the past but, much more important, to prepare the employee for success in the future; too many discussions on performance appraisal are focused only on identifying what used to work in the past and particularly what did not work in the past; performance appraisal could much more effectively be used as a trampoline to an open discussion on the expectations for the future.

The above errors could be overcome by “developing a system of indicators in accordance with the roles in the project, selecting an adequate appraisal method and compulsory training” [4] of project managers, who are in charge of the effective flow of the process of performance appraisal of project team members.

6. CONCLUSION

Performance appraisal of project team members is a difficult and stressful work for project managers because this process requires from them to use different skills, additional resources and patience. Nevertheless, all efforts are worth the time, since appraisal contributes to increasing the strengths of project team members, reducing their weaknesses and, in general, it facilitates the development of their potential.

It is a fact that project managers do not get from project team members the behaviour they say they want to see, but they get the behaviour they appreciate and encourage. Performance appraisal is a great opportunity to assess this behaviour and to encourage it in a proper way.

REFERENCES

1. Harizanova, M., Human Resource Management, Sofia (2004), p. 82, (in Bulgarian)
2. Pareek, U., T. Venkateswara Rao, Performance Coaching, The Pfeiffer Library Volume 20, 3rd Edition, Copyright © 2003, John Wiley & Sons, Inc.
3. Docheva, D., The Puzzle – Appraisal interview, Conference Report, Capital Careers, Sofia (27.02.2004) <http://www.karieri.bg/>, (in Bulgarian)
4. Harizanova, M, T. Kicheva, Career Management, Gabrovo (2013), p. 160, (in Bulgarian)
5. Vuchkovich, A., Performance Evaluation, Moscow (2010), (in Russian)

NOISE MONITORING AND MANAGEMENT IN AGRARIAN ISSUES

Saša Spasojević, Ljiljana Tanasić

Higher Agricultural School of Vocational Studies, Serbia

Abstract: The presence and increase of noise in agricultural production is a result of development and ever-growing use of machinery and specific-purpose devices. As such, it makes an increasing problem for employees. Significant results in the protection against noise can be achieved by understanding, managing and monitoring the noise. The appearance of procedures, materials and means which raise the level of protection against noise contribute to the finding of efficient solutions to these problems.

Keywords: Noise, monitoring, management, agriculture

1.UVOD

Posmatrajući pravce razvoja mehanizacije i same proizvodne prakse u poljoprivrednoj proizvodnji, dolazi se do zaključka da je buka, i problemi koje ona proizrokuje, sve prisutnija u toj oblasti. Otvorenost tržišta, slobodnog protoka tehnologija i postupaka, razmena ideja, dostupnost znanja bi prebalo da utiču na sve veću efikasnost u zaštiti zaposlenih u agraru od buke. Međutim, to se još uvek ne dešava. Očigledna nespремnost poljoprivrednog sektora da prihvati korišćenje metoda za smanjenje buke je verovatno posledica, bar delimično, potrebnih troškova za njihovu primenu.

2. POSLEDICE KOJE DONOSI BUKE

Teško je proceniti broj radnika u poljoprivredi koji trpe oštećenja sluha od povećane izloženosti visokim nivoima buke u R.Srbiji. Studijom u Sjedinjenim Američkim Državama iz 1981.god. se došlo do podataka da je 10% radnika na farmama, njih 3,6 miliona, izloženo većem od prosečnih dnevnih nivoa buke u uznosu od 85 decibela, dok uticaj buke na porodice farmera nije istraživani. [1]

Izlaganje glasnoj buci, naročito tokom dužeg vremenskog perioda, može izazvati oštećenje i gubitak sluha. Duža izloženost buci, koja je nastala kao posledica upotrebe poljoprivredne mehanizacije, može dovesti do trajnog gubitka sluha, ukoliko se ne preduzmu mere za kontrolu i zaštitu od buke. Buka može izazvati i druge probleme, u interakciji sa drugim opasnostima na radnom mestu, i na taj način povećati rizik po zdravlje zaposlenih:

- može uzrokovati pojavu stresa, koji se kasnije reflektuje na pogoršanje zdravstvenog stanja zaposlenih: povišen krvni pritisak, razdražljivost, nevoljnost, anksioznost, osećaj nesigurnosti, narušavanje psihomotorne ravnoteže (beleži se povećan broj

- grešaka pri radu), oštećenje mentalnih funkcija, smanjenje preciznosti i koordinacije pokreta, vrtoglavica i gubitak ravnoteže,
- može otežati komunikaciju između zaposlenih i maskirati razne zvuke upozorenja,
 - u interakciji sa raznim hemikalijama i njihovim isparenjima može dovesti do oštećenja sluha i uzrokovati gluvoću.

Dugotrajna izloženost visokim nivoima buke može prouzrokovati trajni gubitak sluha koji se ne može lečiti, ali se može sprečiti. Poslodavci imaju zakonske obaveze da spreče ili smanje izloženost radnika buci.

U tabeli broj 1. su dati nivoi buke koji su zabeleženi prilikom rada određenih mašina na poljoprivrednim poslovima:

Tabela broj 1: Primer nivoa buke u agraru [1]

Example of Noise levels in Agriculture	
Agricultural Machinery	L [dB(A)]
Cascade grain drier	93.4 dB(A)
Cross flow grain drier	93.8 dB(A)
Green crop drier	89.8 dB(A)
Roller/crusher mill for feed preparation	92.3 dB(A)
Hop cleaner/picker	93.9 dB(A)
Vegetable preparation area/packing shed	91.6 dB(A)
Beet harvester	91.7 dB(A)
Tracklayer	97.5 dB(A)
Blower/duster (man carried)	89.4 dB(A)
Chain saw	103.9 dB(A)
Turkey plucker	99.8 dB(A)
Turkey house	94.4 dB(A)
Orchard Sprayer	85-100 dB(A)
Use of Tractors	
Tractor with Disc Mower	91.1 dB(A)
Tractor with high density baler	96.8 dB(A)
Tractor with hedge cutter	89.6 dB(A)
Tractor with orchard sprayer	97.9 dB(A)
Tractor with straw chopper	90.4 dB(A)
Tractor with cab	73-90 dB(A)
Tractor without a Cab	91-99 dB(A)
Tractor at full throttle	105 dB(A)
Tractor at Full Load	120 dB(A)
All Terrain Vehicle	100 dB(A)

3. PREVENCIJA I SMANJENJE BUKE U POLJOPRIVREDI

Bukom se mora aktivno upravljati kako bi se smanjila izloženost radnika njenim negativnim efektima. Taj menadžment proces se može predstaviti i posmatrati kroz sledeće faze.

1. Izvršiti procenu stanja: nadležna osoba treba da proceni rizike koji se javljaju pri izlaganju buci.
2. Eliminirati: ukloniti izvore buke.
3. Kontrola: iskoristiti sve mere i mogućnosti da se spreči nepotrebno izlaganje kao i nepotrebno stvaranje buke, pa sve do korišćenja sredstava za ličnu zaštitu kao poslednjeg sredstva.
4. Monitoring: pratiti stanje, proveravati da li ima nekih promena u radu, i vršiti izmene u metodama procenjivanja na osnovu nastalih promena, kao i kontrole nad njima.

Procena

Izloženost radnika buci je potrebno konstantno procenjivati. U tom postupku je potrebno posebnu pažnju obratiti na sledeće:

- izloženost radnika, uključujući:
 - nivo buke, tip buke i trajanje izloženosti buci i da li radnik pripada određenoj grupi rizika;
 - izvršiti procenu efekata ototoksičnih supstanci (materija koja može da ošteti sluh) u interakciji sa bukom i vibracijama na zdravlje i bezbednost radnika;
- rizici po zdravlje i bezbednost radnika usled nemogućnosti primanja signala upozorenja i alarma;
- proširenje izloženosti buci van redovnog radnog vremena koja su u nadležnosti poslodavca;
- tehničko znanje i informacije, uključujući:
 - znanje o informacijama o emisiji buke koje obezbeđuju proizvođači opreme za rad;
 - postojanju alternativne opreme za rad, projektovane da smanji emisiju buke;
 - relevantne informacije iz zdravstvenog nadzora;
 - dostupnosti odgovarajućih zaštitnih sredstava protiv buke.

Eliminacija buke

Gde god je to moguće, izvore buke bi trebalo eliminirati. To se može postići primenom odgovarajućih metoda pri samom projektovanju i izgradnji. Kada eliminacija buke nije moguća, onda je potrebno njome upravljati i kontrolisati je.

Kontrola

Postoje tri koraka u zaštiti radnika od buke, koristeći tehničke i organizacione mere [2]:

1. smanjenjem nivoa buke na samom izvoru;
2. korišćenjem kolektivnih mera zaštite;
3. upotrebom individualnih zaštitnih sredstava.

Smanjenje nivoa buke na samom izvoru:

- upotrebljavati mašine sa manjom emisijom buke;
- smanjiti uticaj vibracija pojedinih delova ili sklopova;
- postaviti prigušivače;
- vršiti redovno preventivno održavanje.

Kolektivne mere zaštite:

Akcije koje se mogu preduzeti da se smanji izloženost buci svih onih koji mogu biti izloženi. Te mere uključuju:

- izolovanje bučnih procedura i ograničavanje pristupa bučnoj sredini;
- eliminisanje vazdušnih puteva prenosa buke upotrebom kućišta i barijera;
- korišćenje absorbujućih materijala, radi manje refleksije zvuka, u zgradama gde se vrši uzgoj stoke (štale), spremanje hrane (mlinovi i pogoni za proizvodnju stočne hrane);
- organizacija posla bude takva da vreme provedeno u bučnoj sredini bude ograničeno (npr. mehanički ili automatski sistemi hranjenja mogu smanjiti potrebu ulaska u zgradu kada nivo buke dostigne svoj vrhunac);
- planiranje radnih obaveza treba da bude organizovano na način da što manji broj zaposlenih bude izložen povećanim nivoima buke a da se radna obaveza nesmetano obavi;
- sprovođenje radnog rasporeda koji kontroliše izloženost buci.

Individualna zaštitna sredstva:

Individualna zaštitna sredstva treba koristiti kao poslednje sredstvo u zaštiti od buke. Na koji način se mogu koristiti:

- individualna zaštitna sredstva se moraju koristiti na radnim mestima koja zahtevaju njihovu upotrebu;
- moraju da budu odgovarajuća za određenu vrstu posla, tip i nivo buke koje radno mesto donosi i da bude kompatibilna sa drugom zaštitnom opremom;

- radnici treba da imaju izbor odgovarajuće opreme za zaštitu sluha, koja će im pružiti odgovarajuću udobnost i nesmetanost pri radu;
- zaposleni moraju imati adekvatna znanja o korišćenju i održavanju opreme koju koriste.

Monitoring

Češće preispitivati procenu rizika od buke i u skladu sa njom vršiti korekcije i izmene u upravljanju bukom.

Obuka

Obuka je važan deo upravljanja bukom. Osobe koje su obavezne da prisustvuju obuci koja tretira pitanja zaštite od buke:

- lica koja su izvršila procenu rizika od buke;
- menadžeri, kako bi mogli da ispune svoje obaveze u pogledu upravljanja, kontrole i evidencije;
- radnici, koji treba da znaju kako i zašto se koristi oprema i mere kontrole u svrhu zaštite od buke kao i smanjenju izloženosti buci.

Obuka treba da se zasniva na što konkretnijim i praktičnim primerima. Cilj treba da bude minimiziranje uticaja od izloženosti buci svih zaposlenih. Pri obuci posebnu pažnju treba obratiti na novozaposlene.

Zdravstveni nadzor i praćenje

Radnici imaju pravo na odgovarajuću zdravstvenu zaštitu i nadzor. Potrebno je povremeno vršiti audiometrička merenja da bi se ustanovilo da li radnici imaju oštećenja sluha. Rezultati i saznanja do kojih se dolaze prilikom ovakvih kontrola mogu se koristiti za pregled mera procenjivanja i upravljanja rizikom.

Konsultacije sa radnicima

Radnici vrlo često znaju dosta o konkretnim problemima koji se javljaju u vezi sa bukom. Takođe, imaju i vrlo konstruktivne predloge za njihovo rešavanje. Konsultacije među zaposlenima i njihova neprekidna saradnja i komunikacija, mogu dosta doprineti u proceni rizika od buke, kao i o uspešnoj borbi protiv nje.

4. ZAKLJUČAK

Ubrzani razvoj tehnologije i tehnike će svakako, u narednom periodu, olakšati i usavršiti poljoprivrednu proizvodnju. Međutim, ovakvi pravci razvoja će zasigurno povećati

broj izvora buke. Da bi se uspešno borili od narastajućih efekata buke u poljoprivrednoj proizvodnji, potrebno je da se svi uključeni u te procese pridržavaju preporučenih pravila i mehanizama, da aktivno prate i učestvuju u rešavanju problematike a sve radi što uspešnije borbe sa narastajućom pojavom buke.

REFERENCE

1. Bruel & Kjaer, Measuring Sound, Denmark. 1984.
2. M. Praščević, D. Cvetković, Buka u životnoj sredini, Fakultet zaštite na radu, Univerzitet u Nišu, Niš, 2005.
3. http://www.bclaws.ca/Recon/document/ID/freeside/296_97_00
4. <http://www2.worksafebc.com/publications/ohsregulation/guidelinepart7.asp#SectionNumber:G7.2>
5. BC Ministry of Agriculture factsheet *Siting and Management of Dairy Barns and Operations*
6. BC Ministry of Agriculture factsheet *Siting and Management of Poultry Barns*
7. <https://osha.europa.eu/en/sector/agriculture/noise>

THE IMPORTANCE OF POWER SHARING AND EMPOWERMENT OF EMPLOYEES IN MODERN ORGANIZATIONS

Srdjan Zikic, Jane Paunkovic, Aleksandra Mitrovic

Faculty of management, Zajecar, Serbia

Abstract: A small number of events and phenomena in groups, organizations, and society in general, can be explained without the concept of power. A significant part of the life and work of people in organizations is determined by the sources and processes of acquisition and use of power. A positive way of using power by managers means that managers elicit the best and the highest quality of work from employees. One of the strategies for this kind of use of power in the organization is the power sharing, which could empower employees to utilize their skills and talents in the best possible way. The essence of growth and development or empowerment of employees consists of four dimensions: the harmony between the role of employees and their values and beliefs; competence; confidence and influence employees. The results of the research conducted in the corporation "Žitopromet" in Zajecar show how modern managers use their power in the organization and how much employees are self-empowered.

Keywords: Power, influence, power sharing

1. UVOD

Pojam moći, koji sam po sebi predstavlja važan socijalni fenomen, još uvek nije striktno definisan. Koncept moći drevan je i sveprisutan, kako u ljudskoj istoriji, tako i u svakoj društvenoj teoriji. Brojni mislioci i filozofi, od Platona i Aristotela, preko Makijavelija i Hobsa, do Pareta i Vebera, posvetili su naročitu pažnju moći, kao i pojavama vezanim za nju. Reč moć, ali i njeni sinonimi, utkani su u jezicima naroda širom sveta, od drevnih civilizacija, sve do danas. Ideja moći jeste da se utiče na druge, bilo kroz taktiku ili kroz otvorenu prinudu. Moć je mera u kojoj pojedinac može uticati na druge da izvrše određenu naredbu. Ukupna moć koju menadžer poseduje sastoji se iz dve različite vrste moći: pozicione i lične moći. Poziciona moć je moć koju donosi pozicija menadžera u organizaciji, dok lična moć predstavlja moć koja proističe iz odnosa menadžera sa drugim zaposlenima. Menadžeri svoju ukupnu moć mogu povećavati povećanjem lične moći [2].

Moć se definiše kao sposobnost donošenja odluka, odnosno kao sposobnost da se kontroliše ponašanje drugih. Pa ipak, moć ne dolazi do izražaja samo u odnosu između dve osobe. Zato potpunije određenje moći predstavlja sposobnost pojedinaca ili grupe da utiču na ponašanje drugih pojedinaca, odnosno grupa. Osobe, grupe i podgrupe koje imaju moć, nazivaju se centrima moći. Jedna grupa može imati više centara moći, pa se onda o odnosu moći koji poseduje svaki od centara, može govoriti kao o raspodeli moći [1].

2. POJAM I DEFINICIJA MOĆI

Reč moć ima više značenja. U latinskom jeziku „*potentia*“ znači sila, odnosno moć, a „*potestas*“ – vlada ili vlast. U engleskom, reč „*power*“ označava moć, snagu, jačinu ili autoritet. Moć je definisana na vrlo različite načine. Moć se može definisati kao sposobnost pojedinaca da ostvare svoje želje. Druge definicije moći naglašavaju promenu ponašanja inferiornog učesnika u odnosu na moć uticaja, odnosno da osoba A ima moć nad osobom B u onom stepenu u kojem može da privoli osobu B da učini nešto što inače ne bi učinila. Sve definicije ukazuju na to:

- da je moć socijalnog karaktera, odnosno da ona postoji samo ako postoje najmanje dva učesnika u međusobnom odnosu
- da moć predstavlja sposobnost superiornog aktera da u tom odnosu promeni ponašanje inferiornog aktera i da ga prisili na određene akcije, čak i kada je to protivno njegovim željama i interesima [9].

Može se zaključiti da moć predstavlja sposobnost socijalnog aktera, bio to pojedinac ili grupa, da u datom socijalnom odnosu promeni ponašanje drugog socijalnog aktera. Što je veća sposobnost uticanja na druge da bi se ostvarili sopstveni ciljevi i potrebe, to je i moć veća [10].

3. KORIŠĆENJE I IZVORI MOĆI

Postoje brojni načini i putevi da se moć iskoristi za postizanje unapred određenih ciljeva. Ona se najbolje koristi tiho, bez privlačenja posebne pažnje. Pojedinci sa velikom količinom moći obično rade tiho, nevidljivo i strpljivo, „iza scene“, izbegavajući preterani i nepotrebni, a ponekad i bilo kakav publicitet. U praksi funkcionisanja organizacije, moć je poluga za ostvarivanje određenih ciljeva, kako organizacije, tako i pojedinaca. Moć je sredstvo da se određene stvari urade, odnosno, ona predstavlja oruđe za rad. Korišćenje moći podrazumeva da se iz ljudi, kolega na poslu, saradnika ili podređenih, izvuče ono najbolje i najkvalitetnije što svojim radom i aktivnostima mogu da pruže. Sama po sebi, moć ne predstavlja ni pozitivnu ni negativnu, ni dobru niti lošu osobinu ili karakteristiku. Pojedinac može da nauči da je koristi i upotrebljava, da pomoću nje bude značajniji, bogatiji i srećniji, ali i korisniji sebi, organizaciji u kojoj radi i sredini u kojoj živi. Učenjem se raspoznaju znaci prave - istinske moći, kao načini borbe, metode i mehanizmi za konkretizovanje, ispoljavanje i jačanje lične moći [5].

John Kotter je definisao šest ključnih karakteristika moći. Menadžeri koji sa uspehom koriste moć:

1. razumeju izvor svoje moći,
2. shvataju da svaki izvor moći ima svoju težinu, rizik koji mu je svojstven, ali i koristan ukoliko se moć pravilno primeni,
3. shvataju da je svaki izvor moći koristan i značajan za njihov rad,

4. imaju cilj kojem teže u karijeri,
5. ponašaju se zrelo i imaju samokontrolu,
6. shvataju da je moć neophodna kako bi se posao dobro obavio [7].

Izvori moći pojedinaca najčešće se opisuju klasifikacijom koju su dali French i Raven:

- *Moć nagrađivanja* – moć koja proističe iz činjenice da posednik moći može da nagradi drugu osobu. Ukoliko želi da osvoji nagradu, ta druga osoba mora da izvršava naloge koje daje ili samo nagoveštava osoba posednik moći. Nagrade ne moraju biti samo materijalne, mada su one najčešće. To mogu biti i pažnja, ljubav, podrška.
- *Moć kažnjavanja* – bazira se na sposobnosti posednika moći da kazni lice izloženo moći ukoliko ono ne izvrši određeni nalog. Kazna je obično u formi uskraćivanja resursa, kao što je: onemogućavanje napretka, novčana kazna, otkaz.
- *Legitimna moć* – je oblik moći koji se bazira na formalno datom pravu posedniku moći da vrši moć.
- *Ekspertska moć* – je oblik moći u kome posednik moći kontroliše znanje ili informacije kao resurs koji je drugome potreban. Posednik moći ostvaruje uticaj na druge zahvaljujući sopstvenom znanju ili informacijama koje poseduje.
- *Referentna moć* - resurs koji posednik moći kontroliše u ovom slučaju je sam posednik moći i njegove lične karakterisitike. Njegova moć proističe iz želje inferiorne osobe da se druži, poistoveti ili oponaša posednika moći. U tom slučaju, superiorna osoba ostvaruje uticaj na inferiornu, čak i kad to ne želi ili toga nije svesna [6].

4. DELJENJE MOĆI

Pozitivan način korišćenja moći od strane menadžera podrazumeva da se iz zaposlenih izvuče ono najbolje i najkvalitetnije što svojim radom i aktivnostima mogu da pruže. Jedna od strategija za ovakav vid korišćenja moći u organizaciji predstavlja deljenje moći, čime će se zaposleni osnažiti da iskoriste svoje veštine i talenat na najbolji mogući način. Kako moderne organizacije postaju sve više ravnije, odnosno u sve većoj meri gube hijerarhijske nivoe, tako deljenje moći postaje sve važnije. Conger i Kanungo definišu moć kao „postavljanje uslova za veću motivaciju kroz razvoj jakog osećaja lične samoefikasnosti“ [3]. Ovo podrazumeva deljenje moći na način koji omogućava da pojedinci učestvuju u procesu odlučivanja, što predstavlja najbolju soluciju da se iskoriste veštine i talenti zaposlenih. Spreitzer i sar. smatraju da suštinu rasta i razvoja odnosno samosnaživanja zaposlenih čine četiri dimenzije:

1. sklad između uloge zaposlenih i njihovih vrednosti i verovanja
2. kompetentnost
3. samopouzdanje
4. uticaj zaposlenih [11].

Sklad između uloge zaposlenih i njihovih vrednosti i verovanja predstavlja motor kroz koji zaposleni postaju motivisani za svoj posao. Ukoliko srce zaposlenih nije u onome što

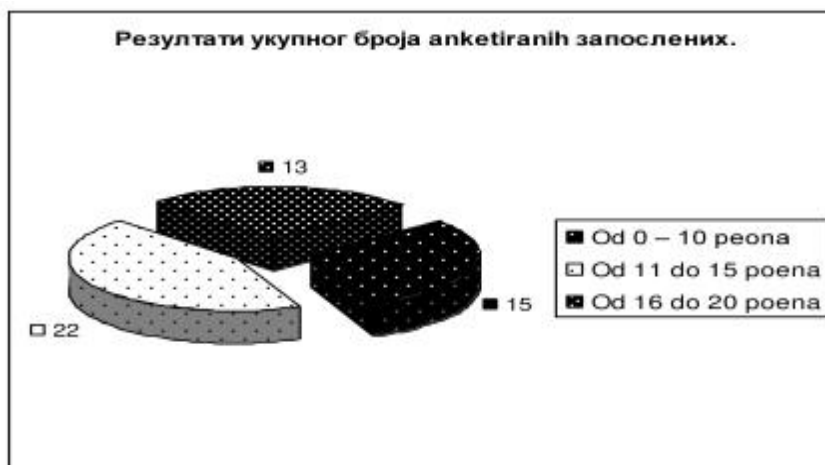
rade, oni ne mogu biti osnaženi. *Kompetencija* je verovanje da neko ima sposobnost da svoj posao radi dobro. Bez kompetencije, zaposleni će se osećati neadekvatnim. *Samopouzdanje* znači da pojedinac ima kontrolu nad onim što radi i da to radi efikasno. Zaposleni koji samo prate naređenja svojih pretpostavljenih ne mogu imati osećaj snage. Bez adekvatnog *uticaja* i osećaja da mogu da doprinesu ciljevima organizacije, zaposleni ne mogu biti osnaženi. Zaposlenima su neophodne sve četiri dimenzije samoosnaživanja da bi se osetili u potpunosti moćnim, i tek tada će organizacija požnjeti rezultate iz procesa motivisanja. Rezultati ovakvog načina rada odlikuju se efektivnošću, satisfakcijom i manjkom stresa na radnom mestu. Lako je zalagati se za osnaživanje, ali ga je teško sprovesti u praksi.

Menadžeri mogu pomoći svojim zaposlenima da steknu samopouzdanje kroz sledeće smernice:

- menadžeri treba da ukažu poverenje zaposlenima i postave visoka očekivanja. Pozitivna očekivanja mogu doneti dobre performanse.
- menadžeri treba da daju šansu svojim zaposlenima da učestvuju u procesu donošenja odluka. To znači učešće i u glasanju i u konačnom izboru. Zaposleni ne treba da budu upitani samo za svoje mišljenje o nekom pitanju; oni moraju da imaju i pravo glasa prilikom donošenja odluke.
- menadžeri treba da izbace birokratska ograničenja koja guše autonomiju. Kompanije često imaju zastarela pravila i politiku koja sprečava zaposlene da upravljaju sami sobom.
- menadžeri treba da postave inspirativne i smislene ciljeve. Kada pojedinci osećaju svoj lični cilj i korist, više su zainteresovani da preuzmu odgovornost kako bi se taj posao dobro obavio [8].

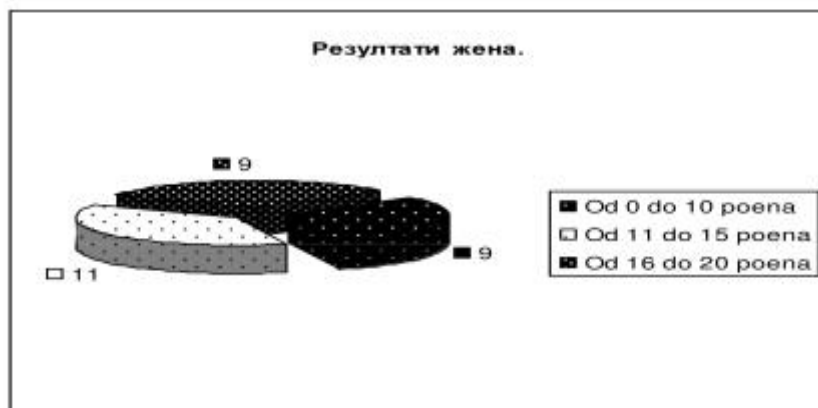
5. REZULTATI ISTRAŽIVANJA

Istraživanje je sprovedeno u akcionarskom društvu „Žitopromet“ – Zaječar, čija osnovna delatnost obuhvata mlevenje žitarica i proizvodnju: brašna, hleba, peciva, slanah štapića i testenine. Od ukupno 85 zaposlenih u a.d. „Žitopromet“, 50 je popunilo anketni upitnik pod nazivom „Are you self-empowered“ preuzet iz udžbenika „Organizational behavior“ [8]. U anketiranju je učestvovalo ukupno 29 žena i 21 muškarac. Ispitanici su odgovarali na pitanja koja se tiču njihovog ponašanja u određenim situacijama. Svojim odgovorima trebalo je da pokažu koliko su samoosnaženi, odnosno koliko imaju samopouzdanja, te kakvom energijom zrače u svom privatnom i poslovnom okruženju. Bodovanje se vršilo prema unapred utvrđenom ključu. Poeni koje su zaposleni ostvarili klasifikovani su u 3 grupe: od 0 do 10, od 11 do 15 i od 16 do 20 poena. U nastavku su dati neki od rezultata.



Grafikon 1. Rezultati ukupnog broja ispitanika

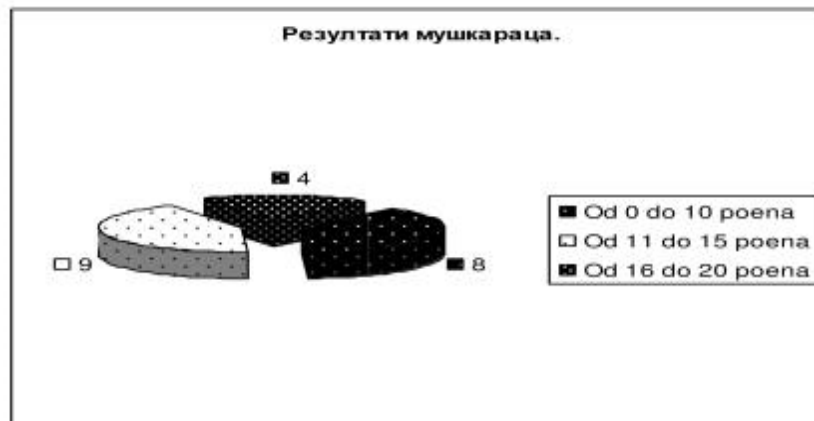
Ovakav rezultat ankete, gde je čak 22 od ukupno 50 anketiranih zaposlenih, imalo od 11 do 15 poena, pokazuje da zaposleni u a.d. „Žitopromet“ nisu najspremniji da se uhvate u koštac sa krupnijim problemima. Oni rešavanje složenih situacija radije prepuštaju drugima, nego što su u stanju da se sami izbore sa njima. I pored uloženog truda, ponekad svojim negativnim ponašanjem i melanholičnim pristupom životnim problemima utiču na sopstvenu produktivnost. Stoga nisu u stanju da preuzmu odgovornost za velike projekte. Oni se drže pravila „zlatne sredine“.



Grafikon 2. Rezultati anketiranih ispitanika ženskog pola

Na osnovu grafičkog prikaza dobijenih rezultata, može se zaključiti da je najviše anketiranih žena imalo između 11 i 15 poena. To pokazuje da one nema ju dovoljno samopouzdanja i da rešavanje komplikovanijih problema prepuštaju drugima, dok one jednostavnije rešavaju same. One ulažu napor da savladaju strah od preuzimanja odgovornosti, ali ih u tome sprečava nedostatak samopouzdanja. Njih 9 od ukupno 29 anketiranih, nimalo ne veruje u svoje sposobnosti. Stalno su nezadovoljne i nespremne za

složene situacije. Misle da njihov trud i zalaganje neće promeniti ništa. One zapravo veruju da je svet kontrolisan sudbinom. Drugih 9 žena su u stanju da preuzmu odgovornost u svakoj situaciji. Rade čak i poslove koji se drugima čine nemogućim. Svoje nadređene poštuju, ali umeju da odbrane svoj stav i mišljenje, čak i onda kada se oni ne poklapaju sa mišljenjem i stavovima nadređenih. Vole izazove i promene. Veruju u sebe i misle da mogu promeniti svet.



Grafikon 3. Rezultati anketiranih ispitanika muškog pola

Sa datog grafičkog prikaza, može se uočiti da jer najveći broj muškaraca (njih 9), ostvarilo između 11 i 15 poena. Kao što je slučaj sa ženama, i muškarci zaposleni u a.d. „Žitopromet“, nisu najspremniji da se uhvate u koštac sa složenijim problemima. Oni žele da rade i trude se, ali kad naiđu teška vremena, radije odgovornosti prepuštaju drugima. Njih 8 pati od nedostatka samopouzdanja. Stalno se žale i nisu u stanju da se nose sa problemima bilo koje vrste. Ne mogu da nađu motiv da napreduju. Gotovo uvek traže mane, kako se bi tako i drugima. Apsolutno su nezainteresovani za sve što se događa oko njih. Samo 4 muškarca je imalo između 16 i 20 poena. Oni su uvek budni, spremni da krenu u akciju. Svoje stavove izražavaju jasno i argumentovano. Izazovi ih motivišu.



Grafikon 4. Rezultati ispitanika sa nižom stručnom spremom.

Najveći broj zaposlenih sa nižom stručnom spremom imao je od 0 do 10 poena. Dobijeni rezultat ukazuje na činjenicu da su zaposleni sa nižim stepenom obrazovanja

podložniji depresivnom ponašanju i negativnom razmišljanju. Ovi ljudi nisu u stanju da misle pozitivno ni o jednom segmentu svog života. Na svet oko sebe gledaju sa setom i veruju da ga ništa što oni urade neće učiniti boljim. Zbog takvog poimanja života, na ove ljude je veoma lako uticati, jer oni nemaju ni volje ni želje da se bore za svoje „mesto pod Suncem“. Svega 2 ispitanika je ostvarilo između 11 i 15 poena, što pokazuje da su oni nešto spremniji da preuzmu odgovornost za neke sitnije zadatke, ali ne i da rešavaju one krupnije i komplikovanije. Nijedan od zaposlenih sa nižom stručnom spremom u a.d. „Žitopromet“, nije imao od 16 do 20 poena, što ukazuje na to da su ovo ljudi na koji nemaju svoje „ja“ i na koje je vrlo lako uticati.



Grafikon 5. Rezultati ispitanika sa srednjom stručnom spremom

Najviše zaposlenih sa srednjom stručnom spremom imalo je od 11 do 15 poena. Takav rezultat pokazuje da većina njih pokušava da rešava složene probleme, ali da ih u tome remeti njihovo, s vremena na vreme, negativno ponašanje. Ovi ljudi su sposobni da urade jednostavnije stvari koje se od njih traže, ali kad naiđu na teži problem, skloni su da se povuku i to prepuste drugima. Samo mali broj zaposlenih sa srednjim stepenom obrazovanja, svega 3, ne poseduje želju da napreduje. Oni imaju sklonost da kritikuju i sebe i druge. Čak njih šestoro sa srednjom školom poseduje jaku želju za uspehom. Ovi ljudi se ne plaše lica od autoriteta, već im ukazuju poštovanje, ali svoje stavove i mišljenja ne menjaju lako. U stanju su da ih iskažu, čak i onda kada se od njih baš to i ne traži.



Grafikon 6. Rezultati ispitanika sa višom stručnom spremom.

I zaposleni sa višom stručnom spremom, poput onih sa srednjom, vole „zlatnu sredinu“. Oni žele da rešavaju jednostavne probleme, dok se pred onima koji su od vitalnog značaja za njihovo preduzeće – povlače. Vrlo je iznenađujuće što je čak 3 od ukupno 8 anketiranih sa višom stručnom školom, imalo od 0 do 10 poena. Oni su nezadovoljni sami sobom, a ljudima koji se trude da svoj posao obavljaju najbolje što mogu, isključivo traže greške.



Grafikon 7. Rezultati ispitanika sa visokom stručnom spremom.

Od ukupno 13 anketiranih sa visokom stručnom spremom, po 6-oro njih je imalo između 11 i 15, odnosno između 16 i 20 poena, dok je samo jedan zaposleni imao od 0 do 10 poena. Ovakav rezultat pokazuje da su ljudi sa visokim obrazovanjem znatno spremniji da rade na složenijim projektima i da rešavaju složene probleme. Oni „pucaju“ od samopouzdanja, spremni su da brane svoje stavove po svaku cenu. Svet je za njih područje koje treba istražiti i pokupiti ono najbolje što on pruža.

6. ZAKLJUČNA RAZMATRANJA

Iz rezultata dobijenih anketiranjem zaposlenih, može se zaključiti da bi u akcionarskom društvu „Žitopromet“ iz Zaječara, svoje „mesto pod Suncem“ trebalo da pronađu sve četiri Kongerove dimnezije samoosnaživanja: značenje, kompetencije, samopouzdanje i uticaj. Da bi rezultat njihovog rada bio zadovoljavajući, zaposleni moraju raditi ono što vole. Ukoliko to nije slučaj i ukoliko rade samo ono što moraju, rezultati njihovog rada biće loši, što će se odraziti i na funkcionisanje preduzeća u celini. Jedan nezadovoljan radnik – problemi u najavi za čitavu organizaciju.

Zaposleni moraju obavljati isključivo one poslove za koje poseduju stručna znanja i sposobnosti. Kada to nije tako, dobijamo gomilu nespretnih radnika koji jedva čekaju da pobegnu sa radnog mesta. Da bi ljudi u potpunosti pružili svoj maksimum u poslu koji obavljaju, moraju posedovati samopouzdanje. U tome će im pomoći menadžer (šef, nadređeni), koji će im pokloniti svoje poverenje i pred njih postaviti veliki izazov, kao dokaz da veruje da upravo oni poseduju sva znanja i sposobnosti da to urade na najbolji mogući način. Taj izazov biće test koji zaposleni moraju da prođu, a poverenje menadžera – jak motiv da se taj test uspešno položi. Četvrta dimenzija – uticaj, proizilazi iz samopouzdanja. Kada neko od zaposlenih veruje u sebe, to nesvesno čine i drugi. Time se u organizaciji stvara svest da je baš taj pojedinac neophodan, kako bi se posao dobro obavio.

Da bismo imali uspešnu organizaciju, nije dovoljno da ona samo uspešno posluje. Koliko je važna materijalna dobit, toliko mora biti važno i moralno zadovoljstvo zaposlenih. Zaposlene treba motivisati, i to ne samo novčanom nagradom za dobro urađeni posao već i javnom pohvalom za uloženi trud, čak i kada on nije rezultirao pozitivno. Takvim pristupom i sagledavanjem psihološkog profila svojih podređenih, menadžer može kontrolisati posao, sa jedne strane, i dati ljudima motiv da rade i da svoj posao obavljaju sa zadovoljstvom, sa druge strane. Menadžer nije samo pretpostavljeni, to je pre svega prijatelj. Prijatelj – koji razume želje i potrebe svojih zaposlenih, i koji će im pomoći da iste ostvare.

REFERENCE

1. R. Bojanović, Psihologija međuljudskih odnosa. Centar za primenjenu psihologiju. Beograd. 2009.
2. C. Certo, S. Certo, Modern Management. Mate, Zagreb. 2008.
3. J. Conger, R. Kanungo, Charismatic Leadership: The Elusive Factor in Organizational Effectiveness. New York: Jossey-Bass. 1998.
4. R. Dahl, A Preface to Democratic theory. University of Chicago Press. Chicago. 1956.
5. N. Janićijević, Organizaciono ponašanje. Data Status. 2008.
6. M. Jovanović, M. Živković, T. Cvetkovski, Organizaciono ponašanje, Megatrend Univerzitet, Beograd. 2003.

7. J. Kotter, *Leading change*, Harvard Business School Press, Boston. 1996.
8. D. Nelson, C. Quick, *Organizational behavior*. Fourth edition. Thomson, South-Western. 2003.
9. S. Robbins, T. Judge, *Organizacijsko ponašanje*. Mate, Zagreb, 2009.
10. G. Sallancik, J. Pfeffer, *Who Gets Power And How They Hold On It, A Strategic Contingency Model of Power*, *Organizational dynamics*. 1977.
11. G. Spreitzer, M. Kizilos, S. Naso, *A dimensional analysis of the relationship between psychological empowerment and effectiveness, satisfaction and strain*. *Journal of management* 23. p.679-704. 1997.

FISCAL MANAGEMENT OF MACROECONOMICS

Kristijan Ristić¹, Žarko Ristić²

¹Fakulteta za poslovnoindustrijski menadžment, Serbia; ²Univerzitet za poslovne studije
Banja Luka, Bosnia and Herzegovina

Abstract: Fiscal finances within macroeconomic theory anglobiraju global and waist tour options collection (mobilization), the distribution and allocation of limited financial resources of the state and its political-territorial collectivity on all of the alternative uses of the expected (programmed) yields (effects) investment funds in the process of covering the costs of financing social activities and social standards, and alimentating public needs and public sector development. Modern theories of fiscal management formulate criteria decision-making publicly financed investment decisions in the sphere of public functions of the state and its entities, which anglobiraju issues (a) who, what and how much investment should amount to determine how quickly the public sector has to grow (b) when and how the fiscal investment be fund to determine the preferred tax and budget structure, and (c) what sort of structure (and volume) of budgetary investment should be to find out in which segment of the public spending growing or decreasing effects (yield) from the point of quacktures of public services, efficiency of public needs and rationality of public spending. These are precisely the goals of fiscal management that optimize decisions on the mobilization and allocation of financial resources to the principle of maximizing the profitability of the public sector and minimizing the cost of public alimentating needs, while maintaining a satisfactory level of liquidity of the country (without falling into deficit) and increase the efficiency of tax policy and rationality budgetary policy.

Keywords: fiscal management, public economics, public sector, public management, public subsidies.

1. FISKALNI MENADŽMENT

U teoriji firme, primarni cilj finansijskog menadžmenta jeste maksimiranje dobiti u korist vlasnika kapitala (vlasnički koncept) i maksimiranje prinosa angažovanog kapitala (poslovni koncept) [2]. U fiskalnoj teoriji države, primarni cilj fiskalnog menadžmenta jeste maksimiranje socijalnog blagostanja i društvenog bogatstva. U suštini, fiskalni menadžment eksplicira fiskalno poslovanje države, poresku strukturu društva, izvore finansiranja javne potrošnje i razvoja javnog sektora, upravljanje alokativnim mehanizmom budžetskih institucija, efikasnost ulaganja društvenih i socijalnih delatnosti, obim, dinamiku i strukturu javnih izdataka države, cene javnih usluga i ekonomske efekte u privredi.

Fiskalni menadžment jeste jedna od esencijalnih ljudskih aktivnosti savremenog sveta, koji se definiše kao proces kreiranja poreskih i budžetskih uslova za efikasno postizanje odabranih (ili alternativnih) fiskalnih ciljeva (racionalno alimentiranje javnih potreba i efikasno zadovoljenje korisnika javnih usluga), rentabilno poslovanje javnog sektora i produktivno obav-

ljanje javnih funkcija država (efektivnost fiskalnih poslova) sa što manjim obimom angažovanih sredstava. U tom kontekstu, fiskalni menadžment jeste i nauka (kao organizovano znanje) i umetnost, koji su međusobno komplementarni. Zato je i zadatak fiskalnog menadžmenta da osigura sredstva za finansijska ulaganja u javni sektor i da novčana i kapitalna ulaganja transformiše kroz menadžersku funkciju u blagostanje i kroz preduzetničku funkciju u bogatstvo. Kvantitativni i kvalitativni doprinos rastu koeficijenta profitabilnosti ukupne privrede i stope oplodnje kapitala preduzeća jeste nova standardna mera evaluacije razvojne poreske i budžetske politike u procesu podsticanja biznisa, rizika i inicijative, uz tržišno ponašanje države i konkurentnu transparentiju javnog sektora.

Fiskalni menadžment je važan segment komparativnih javnih privreda iz razloga što nudi odgovore na pet osnovnih pitanja: (1) koja sredstva stoje na raspolaganju državi (fiskalni potencijal), (2) kako država dolazi do finansijskih sredstava (naplata poreza, prodaja dobara i usluga na tržištu, zaduživanje), (3) kako država alocira prikupljena sredstva (budžetski i fondovski mehanizam), (4) koje troškove država alimentira (funkcionalni, investicioni i transferni) i (5) koje potrebe država zadovoljava (odbrana, nerazvijena područja, državni organi, intervencije u privredi, zdravstvo, nauka, obrazovanje, kultura i socijalno osiguranje). Zato fiskalni menadžment mora poznavati, raspolagati i koristiti čitavu paletu finansijskih mera i instrumenata, efikasne fiskalne mehanizme, racionalne fiskalne institucije, efektivne fiskalne institute i diversifikovanu fiskalnu infrastrukturu [3].

U fiskalnim strukturnim odlukama, fiskalni kapacitet, poreska tehnika i budžetsko snabdevanje novcem uplivišu na opipljivi deo finansijskih operacija javnog sektora. Međutim, fiskalna infrastruktura nije opipljiva, budući da anglobira organizaciju, kadrove, informacione sisteme, upravljačke parametre i javne usluge. I kako fiskalna politika postaje sve više globalna i internacionalizovana, tako i fiskalna infrastruktura postaje moćan faktor konkurentске prednosti i strukturne konvergentnosti. U upravljanju fiskalnom infrastrukturom insistira se, stoga, na kooperaciji između proizvođača i korisnika javnih usluga sa nepopustljivim težnjama poboljšanju kvaliteta i produktivnosti. Lokacija kapaciteta javnog sektora, u tom smislu, mora biti definisana kao lanac vrednosti za proizvodnju i distribuciju javnih dobara i usluga. Lokacija kapaciteta javnog sektora treba da se bazira na strategiji niskih troškova i strukturne diversifikacije javnih dobara.

U konceptualizaciji fiskalnog menadžmenta važno mesto pripada i politici oporezivanja prihoda preduzeća koja se prodajom privatizuju, s tim da se prihodi od prodaje privatnom investitoru ne reduciraju za iznos poreza. Poreskim putem, dakle, treba voditi računa da cena preduzeća ne bude mnogo niža od sadašnje vrednosti očekivanih budućih profita nakon oporezivanja, pa i o argumentu “da će se porez kapitalizirati”. U tom kontekstu, treba voditi računa da neto imovina “društvenog” sektora uveliko ne nadilazi finansijski kapacitet sektora stanovništva, jer precenjenost stvarne imovine firme predstavlja barijeru privatizaciji. Zbog toga je u politici privatizacije društvene imovine prodajom važno mesto kredita u formi LBO (Leverage Buy – out), kao uobičajeni zapadni način preuzimanja preduzeća uz pomoć kredita, koji za garanciju uzima imovinu preduzeća. Investitor uplaćuje avans u iznosu od 20%–25%, a ostatak finansijske transakcije kreditira država koja prima imovinu kupljene firme u zalog sve dok se kredit ne otplati iz tekućih prihoda prodatog preduzeća[4]. No, situacija može biti i takva da investitor kupi korporaciju za 20%–25% u gotovu od cene i da za “ostatak” korporacija emituje indeksiranu neotkupljivu obveznicu koja se

ustupa državi, koja će primati kamatu na ime datog zajma kupcu korporacije. U oba slučaja država treba da vodi računa da povećanje neto imovine korporacije ne podleže porezu na imovinu, putem koga država snosi deo rizika firme. Imovina korporacije ima šansu da se poveća “samo ako se profiti zadržavaju”, ali ne i ako se raspodeljuju. A ako je preduzeće profitabilno u uslovima zadržavanja profita (a ne trošenja i raspodeljivanja) i podele rizika između države i vlasnika firme potencijalno se povećava budući prinos od poreza na imovinu. No, i u perspektivi, neto imovina u trenutku akvizicije treba da je gornja granica visine poreza. A ako je u pitanju porez na dohodak korporacije, onda i pribavljanje dodatne finansijske imovine, koja zarađuje dodatne profite ne treba da utiče na porast dodatne poreske obaveze (jer je nulti porez na granične investicije).

U operativnom poreskom menadžmentu poreske obaveze treba povezivati sa finansijskim transakcijama fiskalnog subjekta, s tim da se različite finansijske transakcije različito poreski tretiraju. To, pak, znači da se kreditno finansirane investicije oporezuju manje od investicija finansiranih izdavanjem deonica. U krajnjoj instanci ispada da je zajmovno (kreditno) finansiranje poreski favorizovanije od samofinansiranja. Poreske uštede se javljaju i kod institucionalnih investitora, pošto i osiguravajuće kompanije uživaju poreske povlastice. Zbog toga je fiskalna fleksibilnost izuzetno važna kako za tzv. zrela preduzeća tako i za tzv. immature preduzeća, kojima je ograničen pristup kreditnim tržištima i limitirano dobijanje novca od osiguravajućih kompanija.

Neporeski tretman dohotka od kapitala (kamate na štedne račune i vrednosne papire sektora stanovništva, dividende i tzv. zadržani profiti) jeste u skladu sa savremenim pogledima teoretičara poreskog menadžmenta, pošto porez na dohodak od kapitala, koji jednako oporezuje sve vrste dohotka od kapitala, faktički predstavlja porez na štednju (smanjujući sklonost štednji) i zabija klin između neto kamatne stope posle poreza (zarada investitora) i granične stope povraćaja kapitala. U modernim teorijama poreskog menadžmenta dobici od kapitala (Capital gain ili loss), koji pripadaju sektoru stanovništva izuzimaju se, takode, iz oporezivanja (po skoro svim poreskim zakonima zemalja OECD). Konačno, i neoporezivanje tzv. Zadržanih profita u vidu cash-flow poreza ima svoju validnost u poreskim reformama, pošto reprezentuje neto dohodak uvećan za amortizaciju i negotovinske izdatke. Glavni cilj cash-flow poreza jeste trenutno (jednokratno) otpisivanje opreme i zgrada, kao ekvivalent neoporezivanju profita uloženi u opremu i zgrade.

Nova poreska pravila u EZ/EU baziraju se na garanciji da će porez ostati neutralan u pogledu konkurencije. Stoga, počev od 1993. godine u svakoj zemlji EZ/EU pojedinci (građani) će moći da kupuju skoro sve proizvode po poreskim propisima dotične zemlje i da ih potpuno slobodno, bez ikakvih ograničenja, nose kući. To, svakako, implicira da se poreski propisi u EZ/EU moraju usvajati konsenzusom, što u praksi može da reflektuje činjenicu da upravljanje porezima ne mora uvek da bude u skladu sa bazičnim postulatima poreskog menadžmenta.

Savremeni zapadni svet mora konačno shvatiti da se problemi stabilnosti na duži rok ne rešavaju samo po sebi i sami od sebe, već da se u tu svrhu moraju preduzimati sopstvene ekonomske mere. “Zbog toga je i reakcija vlada zemalja – članica na određene inicijative najbolji test njihove spremnosti da odustajanjem od sopstvenog suvereniteta omoguće stabilnost privredne i monetarne unije” (M. Neumann). Manji suverenitet – veća stabilnost, koji kao princip važi u EZ/EU, mogao bi da uplovi i u nemirne jugoslovenske vode (morske,

jezerske, planinske i rečne). Reakcija vlada država članica yu-konfederacije na ovu inicijativu mogao bi biti test za njihovu spremnost da srednjoročnim odustajanjem od sopstvenog suvereniteta omogućuje stabilnost u procesu novog formiranja privredne i monetarne unije. Stabilnost poreza, kamata i vrednosti novca treba, u tom kontekstu, da učvrste konkurenciju radi podsticanja interne stabilnosti. Kejnzijski koncept “povećanje zaposlenosti putem inflacije” je definitivno torpedovan iz strukturnog repertoara makroekonomske politike [5]. Ali i monetaristička stega ne blokira rast cena. Zato u trouglu profitna stopa – kamatna stopa – poreska stopa u uslovima stagnantnog privrednog rasta i relativno rastuće inflacije izuzetno treba voditi računa o potencijalnim i efektivnim budžetskim deficitima i dugovima u “opuštenim nacionalnim” fiskalnim politikama.

2. MENADŽMENT JAVNOG SEKTORA

2. 1. JAVNA EKONOMIJA I JAVNE POTREBE

Nauka o javnoj ekonomici najstariji je deo sveukupne ekonomske nauke. Galbraithova jadikovanja o “javnom siromaštvu”, Schillerova insistiranja na proširenju “javnog koridora”, predikcije Musgravea, Olsona, Samuelsona i Bruchanana na osnivanje “Public Choice Society” (sa brojnim pravicima nove ekonomske teorije države) i Wicksellovo razrešavanje optimalne raspodele društvenog proizvoda na javne i privatne potrebe praktično su doveli do empirijske verifikacije “javnog rasipništva”, otkrivanja većeg otpora prema oporezivanju nego prema potrebama za javnim dobrima i uslugama, sankcionisanja tendencije ka hiperprodukciji javnih dobara i usluga, i popularizacije “Program-med, Planning and Budgeting Systema”, čija se suština ogleda u obuhvatanju izdataka ne samo po vrstama i mestima nego i po jedinici učinka (npr. broj obrazovanih studenata, broj rešenih sudskih predmeta, broj izdatih pasoša, troškovi po sedištu u operi, troškovi poslovanja bolnica po bolesničkom danu). Međutim, problem se sastoji u tome što se javna dobra ne realizuju preko tržišta, što se iz korišćenja javnih dobara i usluga niko ne može isključiti i što prividno besplatna javna dobra (jer se finansiraju preko poreza) naglo podižu nivo javne tražnje. Kod najvećeg dela dobara i usluga koje “proizvode” javne službe ne radi se čisto o “javnim” već i o ličnim (privatnim) dobrima i uslugama, koje javni sektor sada distribuira i teži da proglasi potrebu “meritornim dobrom”, koje država treba da stimuliše. Usled toga, i finansiranje preko poreza vodi hiperprodukciji javnih dobara i usluga, koja bi po pravilu bila eliminisana da se kojim slučajem za “potrošnju” određene količine javnih dobara plaća cena za pokriće (delimično) troškova[6]. Sadašnji modalitet finansiranja javnih i meritornih dobara i usluga– porezi umesto cena i odsustvo pokrića određenih javnih beneficija–participacije upravo su produkovali hiperprodukciju određenih javnih dobara i usluga uz simultanu egzistenciju tzv. nestašica u određenim punktovima javne produkcije. U tom smislu, svi plaćaju više (preko poreza) nego što bi bili spremni i voljni da preko cene pokriju određeni deo troškova javne proizvodnje dobara i usluga. Otuda modus finansiranja proizvodi društveno iracionalno ponašanje “potrošača” javnih dobara i usluga i javno rasipništvo u poslovanju javnog sektora. Korišćenje javnih dobara po tzv. nultoj tarifi, neefikasna i neracionalna produkcija javnih dobara, suficitarna ponuda javnih usluga, deficitarno finansiranje javne potrošnje, predimenzionirana “socijalizacija” javnih potreba, volumeniziran državni segment društvene

reprodukcije i saturirano fiskalno opterećenje nacionalne privrede produkovali su brojne, međusobno različite, modele efikasnosti i racionalnosti u trošenju javnih resursa: 1) švajcarski model je efikasniji i racionalniji od "nemačkog" modela, 2) japanski model je jeftiniji od švedskog i holandskog modela, 3) španski model je jeftiniji od turskog modela, 4) brazilski model je jeftiniji od indijskog i alžirskog modela i 5) jugoslovenski model je efikasniji od "sovjetskog" i kineskog modela, itd. Prema tome, moderna država je postala pravi privredni Moloh u industrijski razvijenim postsocijalističkim i zemljama u razvoju, budući da troše ogromne sume fiskalnih prihoda, pomoću kojih se obezbeđuju javna dobra i usluge: škole, bolnice, pozorišta, opere, obdaništa, administracija, infrastruktura i dr., i eksploatišu astronomske vrednosti (javne) imovine.

U koncepciji walraso-paretijanske opšte ravnoteže, aplicirane u javnim finansijama, država je samo instrument za omogućavanje individuama da slede svoje personalne interese netržišnim sredstvima na principu optimalne alokacije resursa i optimalne raspodele tereta finansiranja javnih dobara[7]. Optimalni uslov u slučaju privatnih dobara (paretijanski optimum) je da su marginalne stope supstitucije agenata međusobno jednake i da su jednake marginalnoj stopi transformacije[8], dok je optimalni uslov u slučaju kolektivnih dobara da se marginalne stope supstitucije dodaju da bi se legalizovala stopa transformacije javnog i privatnog dobra.

Sasvim je legitimno posmatrati da je parcijalna ravnoteža specijalni slučaj opšte ravnoteže pod uslovom da je marginalna korist novca konstanta za svaku individuu. U tom slučaju, cena kolektivnog dobra mora biti jednaka marginalnoj stopi transformacije kolektivnog i privatnog dobra i sumi marginalnih stopa supstitucije dveju individua između javnog i privatnog dobra[9].

U oba slučaja, cena kolektivnog dobra je jednaka marginalnoj stopi transformacije javnog i privatnog dobra, odnosno sumi marginalnih stopa supstitucije dveju individua između javnog i privatnog dobra[10].

Međutim, sa uvođenjem individualnih subvencija, akordiranih od strane države, uslovi optimalnosti se menjaju, jer ravnoteža proizvodnje implicira budžetsku ravnotežu. Urednost proizvodnje javnih dobara je sada jednaka sumi subvencija.

Javne potrebe pripadaju kategoriji kolektivnih potreba svake društvene zajednice, koja ih zadovoljava proizvodnjom kolektivnih koristi. No, to što su javne potrebe kolektivne potrebe ne znači, po Barrfere-u, da su sve kolektivne potrebe javne potrebe, jer pojedine potrebe postaju privatne kolektivne potrebe. Na primer, potrebe obrazovanja mogu se smatrati kolektivnom potrebom, koja se zadovoljava proizvodnjom javnih koristi od strane društva; ali, ukoliko društvo ne procenjuje da potrebe obrazovanja zadovoljava sopstvenim sredstvima, utoliko data potreba postaje privatna kolektivna potreba, koja se zadovoljava privatnom inicijativom. Prema tome, transformacija kolektivne potrebe u javnu potrebu je u diskreciji države, koja integriše zadovoljavanje potreba u sferi sopstvene aktivnosti i socijalizuje ih intervencionizmom [11]. Država, interpretirajući potrebe društva, procenjuje korisnost i troškove zadovoljavanja kolektivnih potreba, organizuje proizvodnju kolektivnih koristi i distribuirala javna dobra, stoje i funkcija javne ekonomike. Javna dobra tako postaju korisna kolektivna dobra, koja je proizvela i distribuirala država za zadovoljenje javnih potreba. Proces zadovoljenja javnih potreba, dakle, implicira determinaciju javnih potreba i determinaciju sredstava za zadovoljenje potreba. Oba čina idu zajedno, čije se ishodište nalazi u obligaciji potrošnje

(javni rashodi) [12]. Sredstva za pokriće javne potrošnje država obezbeđuje u okvirima raspoloživog nacionalnog dohotka. A pošto se pokriće potreba finansiranja javne ekonomike sukobljava sa limitima, država se okreće ekonomskim izborima u pogledu determinacije sredstava za zadovoljavanje potreba (što je i razlog da sve kolektivne potrebe ne mogu da postanu javne potrebe) [13].

Stavljajući svoje usluge (javne) na raspolaganje korisnicima, država simultano preuzima na sebe obavljanje finansijske aktivnosti sa ciljem da obezbedi dovoljan kvantum resursa za pokriće javnih rashoda, koji su rezultat proizvodnje javnih dobara[14]. U osnovi, radi se o naplati poreza, koji su nezavisni od korišćenja javnih usluga. Distribucija poreskih tereta je u skladu sa ekonomskim principom mogućnosti poreskog obveznika, dok je distribucija javnih dobara u skladu sa socijalnim principom solidarnosti.

U sektoru javne privrede participiraju različiti konstitutivni organizmi koji proizvode i distribuiraju javne koristi. U tom smislu, i javne koristi su različite. Barrere ih klasifikuje u tri kategorije: koristi od javnog reda, koristi od opšteg interesa i koristi od partikularnog interesa. Koristi od javnog reda korespondiraju garancijama nacionalne bezbednosti i sigurnosti (vojska, policija, sudstvo) čija proizvodnja implicira relativno visoke troškove često nezavisne od fundamentalnih principa produktivnosti, ekonomičnosti i rentabilnosti u reprodukciji. Radi se, u osnovi, o tzv. društvenoj režiji ili o tzv. čistim javnim rashodima, kojima se uobičajeno priključuju troškovi administrativnog aparata države. Koristi su po pravilu veće od datih troškova, jer je princip ekonomske evaluacije praktično neprimenljiv.

Za razliku od ovih koristi, koristi od opšteg interesa (javna infrastruktura) jesu “predmeti” zajedničke destinacije čiji su troškovi proizvodnje veoma visoki za privatne proizvođače, ali su neophodni za funkcionisanje tzv. mixe ekonomije. Država je primorana da proizvodnju ovih koristi preuzme na sebe i da ih učini podjednako dostupnim svim subjektima i korisnicima u društvu nezavisno od troškova njihove proizvodnje i finansijskih participacija korisnika.

Konačno, koristi od partikularnih interesa za zadovoljenje javnih potreba dekomponuju se na više tipova, i to: socijalne koristi u vidu režima socijalnih prestacija (usluge socijalnog osiguranja, usluge zdravstva i socijalne zaštite), kulturno-obrazovne koristi, zdravstvene koristi, naučne koristi.

Winch sva dobra deli na privatna dobra (private goods), javna dobra sa i bez opterećenja kapaciteta (non congestion public goods), javna dobra sa otvorenim prisustvom (open access public goods), javna dobra sa pravima potrošnje i javna dobra i zla (public goods i public bads). Kod potrošnje privatnih dobara automatski je zastupljen princip isključenja u potrošnji, a uslovi optimalnosti se stvaraju preko tržišta. Mali je broj javnih usluga koje se mogu svrstati u ovu grupu dobara, izuzev javne ishrane za određene socijalne kategorije koju organizuju lokalne javne vlasti. Za razliku od ovih dobara, javna dobra sa i bez opterećenja kapaciteta (kao što su javni putevi, javni transporti, muzeji, pozorišta i sl.) podrazumevaju mogućnost isključivanja u proizvodnji i potrošnji iako se tržište može koristiti (iako se javna dobra ne mogu privatno proizvoditi, iako se oportunitetni troškovi u potrošnji ne pojavljuju). Naime, korišćenje javnog puta ili uživanje u javnom pozorištu ne umanjuje mogućnost korišćenja puta drugog lica ili zadovoljstvo drugih lica u pozorištu ukoliko se sve odvija u granicama postojećih kapaciteta. Tržište ovde funkcioniše samo da bi se sačuvali optimalni uslovi uspostavljanja marginalnih troškova. Tako se po pravilu ne plaća u odsustvu

kongestije, jer je marginalni trošak za svaku dodatnu jedinicu potrošnje ravan nuli ako su marginalni troškovi za proizvodnju dodatne jedinice veći od nule.

Za razliku od ovih dobara, kod javnih dobara sa pravima potrošnje oportunitetni trošak je ravan nuli iako proizvođač ne može isključiti druge korisnike. Znak javnog radija je isti bez obzira na broj korisnika (čija je korist pozitivna). Kod sistema semafora u javnom saobraćaju, isto tako, nije moguće isključenje korisnika iz potrošnje (iako postoji oportunitetni trošak u potrošnji), izuzev samoinicijativnog isključenja pojedinačnih korisnika iz potrošnje po sopstvenoj želji.

Javna dobra sa otvorenim pristupom karakterišu se po tome što je stopa reprodukcije zavisna ili nezavisna od ukupnog stoka, što je laka ili teška identifikacija i držanje stoka resursa (šumske i zelene površine u javnoj upotrebi, javni lov i ribolov, ptice i javni parkovi). Pri tome, stok u jednom području može delovati pozitivno ili negativno na stopu reprodukcije u drugom području ukoliko se radi o biološki reproduktivnim i pokretnim dobrima – što je važno za planiranje gradskog (urbanog) prostora. Prekomerno iskorištavanje i neefikasna upotreba jedino mogu da dovedu do isključenja u potrošnji iako troškovi inputa sadrže nulti trošak upotrebe. U osnovi radi se o invajernmentalnim i prirodnim resursima nad kojima ne postoje vlasnička prava.

Konačno, javna dobra (i javna zla) po pravilu su povezana sa eksternom ekonomijom (i eksternom diseconomijom) [15]. U prvom slučaju radi se o javnim dobrima, a u drugom slučaju o javnom zlu. U potrošnji i javnih dobara i javnih zla niko nije isključen bez obzira da li potrošnja donosi koristi ili štete za korisnike (npr. aerodrom sa bukom, autoput sa izduvnim gasovima, reklame sa svetlećim efektima, toplane sa dimom).

Winch, pak, razlikuje javna dobra na principu oportunog troška, vlasničkog prava potrošača i vlasničkog prava proizvođača. Po prvom kriterijumu čisto javno dobro reprezentuje dobro kod koga potrošnja jednog lica ne reducira potrošnju drugog lica, jer je svakoj individui dostupna ista količina iz razloga što se dato dobro ne može koristiti prema pretencijama i što je oportunitetni trošak u potrošnji ravan nuli (kad oportunitetni troškovi u proizvodnji javnih dobara postoje) [16]. Po drugom kriterijumu svako pojedinačno korišćenje (trošenje) javnih dobara nije optimalno, jer korisnik po želji ne može da koristi ili ne koristi javno dobro, odnosno prisiljen je da ga koristi nezavisno od svoje želje. Po trećem kriterijumu potrošnja javnih dobara ne može se osigurati samo određenom pojedincu niti se mogu isključiti potencijalni korisnici [17].

Javne finansije (javni sektor) osiguravaju javnim dobrima i sektor stanovništva i sektor privrede i neprivrede van posredništva tržišnog mehanizma. U osnovi, radi se o alokativnom mehanizmu države, kao funkcije sistema javnog finansiranja, bez obzira da li se produkcija i distribucija javnih usluga obezbeđuju na decentralizovanoj ili centralizovanoj osnovi. "Doktrina definiše javna dobra kao dobra koja se odlikuju dvema karakteristikama. Prvo, za razliku od privatnih dobara, njih istovremeno može upotrebljavati više lica, čija potrošnja nije konkurentska, jer korist koju uživa jedan potrošač ne umanjuje korist za ostale. Drugo, pored nekonkurentnosti javna dobra se karakterišu i principom neisključivosti, jer je to moguće postići tek uz nesrazmerno visoke troškove (npr. osećanje sigurnosti koje obezbeđuju rashodi za narodnu odbranu). Ovakva javna dobra nazivaju se čistim javnim dobrima." [18] Ali, postoje dobra koja simultano imaju svojstva i privatnih i javnih dobara, kao što su tzv. nečista javna dobra, kod kojih nova lica, kao korisnici, ne sprečavaju ranije korisnike da

upotrebljavaju ista dobra, iako im se stepen koristi smanjuje (npr. zdravstvena zaštita) [19]. I dok se čista javna dobra ni na koji način ne mogu prodavati ili kupovati na tržištu, jer im je ponuda nedeljiva, a pojedinci nemaju ni potrebe ni interesa da iznose svoje preferencije za njima, obezbeđivanje nečistih javnih dobara moglo bi se, u načelu, organizovati i putem tržišnog mehanizma. Međutim, u uslovima delimične konkurentnosti nečistih javnih dobara pojavljuje se društveni interes da se i njihovo obezbeđivanje poveri javnom sektoru, kako odluka korisnika ne bi bila motivisana njihovom ekonomskom snagom i materijalnim mogućnostima”. No, kad je reč o javnom sektoru postavlja se pitanje šta je efikasnije i racionalnije u politici snabdevanja potrošača (korisnika) javnih dobara: centralizovana ili decentralizovana produkcija i distribucija javnih dobara. Budući da alokativna funkcija javne privrede nije neutralna u pogledu prostorne distribucije javnih dobara, problem se svodi na eksplikaciju pitanja da li se javna dobra “rasprostiru” na celokupnoj teritoriji države (federalna ili unitarna) ili na užem području (federalna jedinica, lokalitet). “Teorija u načelu preporučuje da bi javna dobra trebalo obezbeđivati i njihove troškove deliti u skladu sa preferencijama stanovnika teritorije na kojoj se osećaju odgovarajuće koristi, pa bi tako ona javna dobra čije se koristi osećaju na celokupnoj državnoj teritoriji trebalo obezbeđivati centralizovano, ona čiji su efekti regionalni – na regionalnom planu i ona čiji su efekti lokalni – na nivou opštine.”

2.2. JAVNA POTROŠNJA I PROIZVODNJA

U procesu programiranja budžetskih (ili fondovskih) rashoda država se konačno odlučuje “da li dobra i usluge potrebne za zadovoljenje javnih potreba” treba da proizvodi u svom javnom sektoru ili da se okrene nabavkama od privatnih preduzeća. Država, dakle, odlučuje o javnim nabavkama faktora proizvodnje za organizovanje sopstvene proizvodnje u javnim preduzećima i o javnim kupovinama finalnih roba i usluga proizvedenih u privatnim preduzećima. U oba slučaja, sredstva za plaćanje javnih nabavki država osigurava nametanjem fiskalnih obaveza, u prvom redu poreza, koji alociraju troškove javnih dobara i usluga na željeni način. No, funkcija države kao organizatora javne proizvodnje distancira se od funkcije države kao organizatora zadovoljavanja javnih potreba, budući da je oblast javne proizvodnje nezavisna od oblasti zadovoljenja javnih potreba (Musgrave). U praksi faktički se uobičajeno koriste oba modaliteta, s tim što se finalni proizvod stavlja na raspolaganje bez direktnog plaćanja, uz naplatu poreza[20]. Država simultano optira potrebna dobra i usluge koje proizvodi javni sektor nakon pribavljanja proizvodnih činilaca. Država to čini iz razloga što se nepromenljivost principa isključenja odnosi na tražnju, ali ne i na ponudu javnih dobara i javnih usluga za zadovoljenje javnih potreba[21].

U praksi zadovoljavanja javnih potreba moguće su četiri kombinacije: (1) dobra i usluge se obezbeđuju bez direktnog plaćanja, a proizvodi ih država, (2) dobra i usluge se obezbeđuju bez direktnog plaćanja, a proizvode ih privatna preduzeća, (3) dobra i usluge se prodaju na tržištu, a proizvodi ih država i (4) dobra i usluge se prodaju na tržištu, a proizvode ih privatna preduzeća.

U prvom slučaju, država proizvodi dobra i usluge i distribuira ih bez direktnog plaćanja korisnicima za zadovoljenje javnih potreba, pri čemu se kvalitativni sadržaj javnih usluga ogleda u tome da ih obezbeđuju javne službe, kao specijalizovane javne institucije i ustanove

za proizvodnju, distribuciju i alokaciju kolektivnih dobara i javnih usluga na principu indirektnog plaćanja putem poreza[22].

U drugom slučaju privatna preduzeća proizvode dobra i usluge, država ih kupuje na tržištu i distribuira ih korisnicima bez direktnog plaćanja. Država, dakle, ne organizuje javni sektor za proizvodnju javnih dobara već samo javne službe za distribuciju i alokaciju javnih usluga na principu indirektnog plaćanja putem poreza[23].

U slučaju kada država proizvodi dobra i usluge, i tržišno ih distribuira, javna proizvodnja nije u funkciji zadovoljavanja javnih potreba (a u slučaju kada dobra i usluge proizvode privatna preduzeća, a država kupuje ove proizvode i besplatno ih distribuira, javna proizvodnja ne egzistira). U ovom slučaju egzistira visok stepen komercijalizacije javnih dobara i usluga koje se distribuiraju i alociraju tržišnim mehanizmima. Konačno, u slučaju kada privatna preduzeća proizvode kolektivna dobra i usluge i plasiraju ih na tržištu, distribucija i alokacija se obavljaju tržišnim putem direktnim plaćanjem, dakle, bez prisustva javnog sektora[24].

Javne potrebe, koje se zadovoljavaju budžetskim programom, sastavni su deo preferencija individualnih članova društvene zajednice. U principu – veli Musgrave– dijagrami individualne tražnje usluga za zadovoljavanje javnih potreba izvode se iz dijagrama usluga za zadovoljavanje privatnih potreba. Problem je samo u tome što “svi troše jednake količine usluga, a da se (1) prave individualne preferencije takvih potreba ne otkrivaju na tržištu i (2) da ne postoji jedinstveno optimalno rešenje u smislu Parca.” U mehanizmu zadovoljavanja javnih potreba pružene usluge po pravilu nisu bazirane na principu isključenja, jer potrošači javnih dobara i usluga dobijaju koristi bez obzira da li doprinose plaćanju. Princip koristi, u tom kontekstu, spaja poreze i rashode sa individualnim preferencijama potrošača. No, pošto “svi treba da koriste iste količine javnih usluga”, u praksi zadovoljavanja javnih potreba “nema jedinstvenog optimalnog rešenja u pogledu raspoložive količine i raspodele učešća u troškovima”, iako postoji “niz rešenja koja leže na granici korisnosti, koja su sva optimalna u tom smislu što ne može da se poboljša položaj jednog člana grupe a da se ne naškodi položaju nekog drugog” (Musgrave).

Javne službe, odnosno društvene delatnosti po pravilu osiguravaju kolektivne usluge pružanjem usluga kolektivnim korisnicima na tzv. kolektivnom tržištu. Kolektivne usluge su ovde osnovica oblika “razmene”. U zavisnosti od mogućnosti primene principa quid pro quo, kolektivne usluge se dele na finalne i međufazne[25]. Prve su one kojima se direktno zadovoljavaju potrebe čoveka, ali sa posebnim ispoljavanjem ekonomskih efekata (socijalne potrebe); druge su one kojima se neposredno zadovoljavaju potrebe čoveka, ali sa značajnim ispoljavanjem ekonomskih efekata (zajedničke potrebe u oblasti obrazovanja i nauke). Kriterij razlikovanja finalnih i međufaznih kolektivnih usluga je, dakle, stepen ispoljavanja productivtv efekta. Pored toga, za kolektivne usluge karakteristična je nerobna proizvodnja koja na kolektivno tržište ne “izbacuje” jedinicu potražnje i pojedinačnog potrošača. Cene nisu ekonomske kategorije već obračunska veličina za izvršenja programa rada ili obavljanja delatnosti. No, za razliku od finalnih usluga, međufazne usluge na kolektivnom tržištu mogu se tretirati kao društveni troškovi faktora proizvodnje, pošlo nauka i obrazovanje doprinose povećanju društvene produktivnosti rada društvenog dohotka. U tom sklopu, moguće je voditi politiku ekonomskih cena međufaznih usluga kao elemenat cena faktora proizvodnje iako nije ustanovljena jedinica kolektivne potražnje niti je identifikovan individualni potrošač. Problem

se jednako ispoljava u tome što se troškovi moraju računati u dužem vremenskom periodu, jer se efekti usluga dugoročno ispoljavaju [26].

Proizvodnja, distribucija i alokacija javnih dobara i usluga uglavnom su bazirani na principu javnog vlasništva, javnog regulisanja i javnog monopola. Priroda javnih dobara i usluga je, po pravilu, takva da implicira monopolsku organizaciju, koja nudi veću efikasnost u odnosu na organizacije javne delatnosti države na tržišno-konkurentnim principima. Iz tih razloga, društvo optira jednu od mogućih alternativa: organizaciju na principu javne svojine ili organizaciju na principu privatne svojine sa neophodnim javnim regulisanjem. U zapadnim zemljama dominira princip javnog vlasništva, monopola i regulisanja, koje država "osigurava" preko javnog sektora i javnih službi. Usklađivanje interesa proizvođača javnih dobara i potrošača javnih usluga, u nedostatku tržišnih snaga, vrši država putem neposredne kontrole cena i formiranja javne tarife [27].

2.3. JAVNI MARKETING

Javni sektor, odnosno država učestvuje u transakcijama na tržištu, naročito u procesu sprovođenja programa alokacije resursa. Na tržištu se država pojavljuje kao kupac dobara i usluga, i faktora proizvodnje, ali i kao prodavač dobara i usluga proizvedenih u javnom sektoru. Država u funkciji alokacije resursa pribavlja faktore proizvodnje, odnosno proizvode bez obzira da li su dobra proizvedena u javnom ili privatnom sektoru [28]. Jasno je, pri tome, da se politika javne nabavke mora pridržavati određenih principa na kojima se bazira efikasna i racionalna alokacija resursa u procesu zadovoljavanja javnih potreba. A to istovremeno znači da javna politika insistira da se celokupna proizvodnja dobara obavlja tako što će se uvek izjednačavati granični troškovi i prosečni prihodi. Samo u uslovima normalnog funkcionisanja tržišta država svoje nabavke dobara plaća po tržišnim cenama, odnosno stvarnim cenama koje su neutralne u pogledu raspodele, jer ne izazivaju nesrazmerne dobiti ili gubitke prodavača. Međutim, delatnosti, koje posluju sa opadajućim troškovima, impliciraju subvencije u procesu osiguranja efikasne alokacije resursa. Subvencije su potrebne iz razloga što izjednačavanje prosečnih prihoda i graničnih troškova dovodi do viška prosečnih troškova nad prosečnim приходima (Musgrave). Stoga je u procesu upoređivanja relativnih troškova zadovoljavanja javnih potreba imperativno razlikovati plaćanje subvencija od plaćanja tržišne cene. Doduše, država kada kupuje na nesavršenom tržištu izuzetno je zainteresovana za cenu dobara iz nabavki. A da bi postigla odgovarajuću cenu država može da koristi svoj položaj kao veliki kupac ili da primeni direktnu kontrolu (Musgrave). No, i tada problem određivanja relativnih cena na kojima se praktično bazira mehanizam alokacija resursa za zadovoljavanje javnih potreba ostaje otvoren. Stoga, Musgrave postavlja pitanje: treba li cene dobara, koja se obezbeđuju budžetom i nabavljaju na tržištu, da se procenjuju po tržišnim cenama iako ta ista dobra mogu da se procene na tržištu po povlašćenoj ceni, ili da li troškove javno nabavljenih dobara treba procenjivati po ceni koju plaća država, koja može biti viša ili niža od cene koju plaćaju privatni kupci. Problem, dakle, ostaje otvoren, jer se ispreprečuje teškoća primene kriterijuma efikasnosti poput teškoća u pogledu neutralnosti raspodele u javnom formiranju cena. Usled toga, država često pribegava subvencionisanju prodavca sklapanjem ugovora o kupovinama. Ovakva politika nabavki praktično prisiljava državu da u svoj budžet uključi politiku formiranja cena. [29]

3. ZAKLJUČAK

U savremenim društvima, država se na tržištu pojavljuje kao prodavac dobara koja su proizvedena u javnom sektoru ili su nabavljena od privatnih prodavača. U tom kontekstu, javne prodaje obavljaju se po tzv. jedinstvenoj ceni, pri čemu politika formiranja cena figurira na istim principima politike cena nabavki. U uslovima produkcije javnih dobara sa konstantnim ili rastućim troškovima, politika javnih cena na konkurentnom tržištu obezbeđuje izjednačavanje graničnih troškova i prihoda. Samo proizvodnja dobara po opadajućim troškovima implicira javno poslovanje sa gubitkom i subvencionisanje cene graničnih troškova od strane države. No, država može prodavati dobra po monopolističkoj ceni i da na taj način profitira, odnosno izvlači monopolističke profite iz javnih preduzeća[30]. Uz to, država može da nametne i porez na promet na sopstvenu prodaju i da poreskim putem preko monopolističkog nametanja cena dolazi do dobiti. Konačno, država može svesno da prodaje sa gubicima kako bi imala osnovu da subvencionise kupce, naročito kupce proizvoda za posebne namene, dobara od posebnog državnog značaja i usluga od posebnog državnog interesa.

Korisnici javnih dobara i usluga ne mogu biti identifikovani od strane snabdevača radi participiranja u finansiranju dobijanja koristi. Nedeljivost ponude javnih dobara i usluga i nerivalnost korisnika u kolektivnoj potrošnji i neisključivanje potrošača u zadovoljavanju javnih potreba praktično omogućava da se adicionalni potrošači mogu zadovoljiti do limita kapaciteta javnog sektora bez dodatnih troškova i fiskalne cene. No, u kontekstu modifikovanog Engelsovog zakona, javne potrebe sa povećanjem nivoa per capita dohotka mogu da apsorbuju rastući deo izdataka, što je u skladu sa Wagnerovim poznatim zakonom o porastu javnih rashoda[31].

Koherencija javne ekonomije je u osnovi strukturna i funkcionalna. Strukturna koherencija podrazumeva tri sektora aktivnosti, kao što su javne usluge (javna potrošnja u celini), javne eksploatacije (državna preduzeća) i javne intervencije (državni intervencionalizam), dok funkcionalna koherencija implicira adjustiranje integracije javnog sektora u nacionalnoj privredi i makroekonomske i finansijske politike, uz očekivane efekte od javnih nabavki (kupovina) i javnih prodaja (tj. javni marketing).

REFERENCES

1. R. Griffin, Management, Houshton Mittlin, 1990.st. 38.
2. E. P. Brigham, Fundamentab of Financial Management, The Dryden Press, 1992.
3. J. G. Sigel i J. K. Shim, Financial Management, Ph. D. Barrons, New York, 1991. str. 218.
4. Schonfelder, Preispitivanje argumenata protiv oporezivanja dohotka od kapitala, Finansijska praksa 1–2/91, str. 16.
5. B. Schonfelder, Preispitivanje argumenata protiv oporezivanja dohotka od kapitala, Finansijska praksa 1–2/91, str. 11–22.

6. J. Eatwell, M. Milgate i P. Newman (Ed.), Finance, Macmillan, London, 1989. str. 72.
7. D. Collard (Ed.), Fiscal Policy, Avebury, Aldershot, 1989. St.122.
8. X. Greffe, Analyse economique de la Bureaucratie, Economica, Paris, 1981. st.33.
9. Ž. Ristić, Poreski sistemi i fiskalna reforma. Centar za izdavačku delatnost SSO Srbije, Beograd, 1991. st.431.
10. Ž. Ristić, Fiskalna ekonomija, Savremena administracija, Beograd, 1991. st.436.
11. L. Weber, L'analyse économique des dependences publiques, P. U. F., Paris, 1978. St.96.
12. J. Benard, Economie Publique, Economica, Paris, 1985, str. 34–43.
13. K. Pušara i Ž. Ristić, Javne finansijske, Naučna knjiga, Beograd, 1991.st.111.
14. J. F. Resson, Economie publique, l'échange sans marchandise, P. U. F., Paris, 1978.st.142.
15. J. H. Dreze, Public Goods with exclusion, Journal of Public Economics, Vol. 13, 1980, str. 5–24.
16. D. M. Winch, Analytical Welfare Economics, Panguin, London, 1981., st.182.
17. dr Ž. Ristić, Ekonomija društvenih delatnosti, Nova prosveta, Beograd, 1991.st. 218.
18. D. Popović, Teorija i praksa fiskalnog federalizma i javne finansije u novom ustavu Jugoslavije, Finansijska praksa, 1–3/1990, str. 4.
19. R. W. Boadway, Public Sector Economics, Wintrop Publishers, Cambridge, 1979, str. 31–34.
20. R. Musgrave, Teorija javnih finansija. Naučna knjiga, Beograd, 1973, str. 33.
21. Wolfelsperger, Les biens collectifs, P. U. R, Paris, 1969. i R. Duss, La contraversion affectation - non-affectation et le financement des biens et service public, Bamberg, Schadel, 1979. st.88.
22. Ch, K. Rowley i A. T. Peacock, Welfare Economics, London, Martin Roberlsun, 1975; M. S. Feldstein i R. P. Tmman (Ed.), The Economics of Public Services, London, Macmillan, 1977. i R. E. Wagner, The Public Economy, Chicago, Marklan Publishing, 1973. st.71.
23. P. G. Hare (Ed.), Survey in Public Sector Economics, Basil Blackwell, Oxford, 1988.st.67.
24. P. O. Steiner, Public Expenditure Budgeting, The Brookings Institution, Washington, 1969; A. Sen, Collective Choice and Social Welfare, San Francisko, Oliver and Boyd, 1970. i V. Tanzi, A Note and Exclusion, Pure Public Goods, and Pareto Optimality, Financies publiques 1/72, str. 75–78.

25. Lindbeck, *The Political Economy of the New Leiff*, Harper and Unwin, N. York, 1971. st.451
26. Daftlon i L. Weber, *Le financement du secteur public*, P. U. F., Paris, 1984.
27. J. Laffont, *Fondement de l'économie publique*, Economica, Paris, 1982.
28. M. Peston, *Public Goods, and the Public Sector*, Macmillan, London, 1972; C. V. Brown i P. M. Jackson, *Public Sector Economics*, Oxford, Martin Robinson, 1978. i R. Millward, *Public Expenditure Economics, An Introductory Application of Welfare Economics*, London, McGraw-Hill, 1971.
29. R. H. Haveman, *The Economics of Publics of Public Sector*, N. York, John Wiley and Sons, 1970; G. From i P. Taubman, *Public Economic Theory and Policy*, Macmillan, N. York, 1973. i M. G. Webb, *Pricing Policies for Public Enterprises*, Macmillan, London, 1976. str. 378.
30. Downs, *Why the Government Budget is Too Small in a Democracy*, *World Politics*, Vol. 12, 1960. i *Inside Bureaucracy*, Little, Boston, 1967. st.171.
31. M. Olson, *The Logic of Collective Action: Public Goods and the Theory of Group*, Harvard University Press, Cambridge, 1965. str. 49.

AN ANALYSIS OF FACTORS AFFECTING FAILURE OF SMEs

Nenad Nikolić¹, Zhaklina Dhamo², Peter Schulte³, Ivan Mihajlović¹, Vasilika Kume²

¹University of Belgrade, Technical Faculty in Bor, Management Department, Serbia;

²University of Tirana, Albania; ³Institute for European Affairs INEA, Germany

Abstract: This manuscript is presenting the conceptual framework for research of the factors which are influencing the failure of SMEs. The manuscript is just the starting base for the larger research that will address the analysis of the most important factors that lead to closure of SMEs in different regions of the Europe.

Basic factors of interest, which can be segmented as the individual characteristics of the entrepreneur or non-individual characteristics of the SMEs, are based on wide literature review. Based, on the combination of different factors, which were assessed and published in research work of different authors, starting qualitative model for assessment of the most important factors which can lead to failure of SMEs was developed.

Based on the conceptual qualitative model, initial questionnaire form was developed, to assess the opinion of the real entrepreneurs who suffered the failure of their previous businesses. The developed questionnaire will be used as the measurement scale for the future quantitative analysis of the issues defined in the qualitative model.

The idea of the research is to develop adequate measuring scale, which will be used to measure the potential failure of the existing SMEs, based on the rates developed in accordance to the factor which led to the failure of the real SMEs in the past.

Keywords: SMEs, failure of SMEs, factors

1. INTRODUCTION

In recent years, a great number of studies have focused on the success of SMEs, while a small number of studies were related to the reasons for failure of SMEs and finding the factors affecting the failure of SMEs. Pointing out these factors can provide entrepreneurs with critical information for improving their businesses by reducing the risk of failure and increase chances of success.

In this research, scientific papers will be analyzed with aim to discover factors that influences on failures of SMEs. All factors will be grouped into two main groups: (1) individual and (2) non-individual. All non-individual factors will be, also, divided into two groups: (2.1) internal and (2.2) external influences.

Although, the main measurement scale, for assessing the importance of individual and non-individual factors for SMEs failure, will be based on those two main groups, the analysis of the factors will also address their intersections. Meaning, the correlation among individual and non individual factors influencing the success and failure of the SMEs will give additional outlook on the possibility to search the reason for SMEs bad performances, based

on parallel influence of both groups of factors. For example, some of the characteristics of SMEs could depend on their internal non-individual factors, but at the same time on characteristics of their owners/managers. This way the mode of organization and the type of decision making (centralized or decentralized management) or internal business communication; can be correlated to type of leadership (authoritarian, participative), business ethics of the owners/managers and his/her business ethics (social responsibility). This also gives additional novelty to the research presented in this manuscript, because in majority of previous researches authors were dealing with separated influences of those two groups of factors. The correlation of those two, and their joint influence, will be the new issue, addressed here.

2. SMALL AND MEDIUM-SIZED ENTERPRISES

Small and medium sized enterprises play an importance role in different economies. Although these enterprises have small individual contributions to the economy of a country, as there are so many small and medium sized enterprises, their collective contribution can be significant.

An enterprise, according to European Union (EU) regulations, is considered to be any entity engaged in an economic activity, irrespective of its legal form. The EU defines SMEs as having 10 to 250 employees, having from €10 to 50 million in turnover or €10 to 43 million in assets [1]. Therefore, enterprises can be classified according to different criteria. By size, companies are classified into four categories: (1) micro (2) small, (3) medium and (4) large. Small and medium enterprises (SMEs) are of great importance for the economy of a country. In the EU, more than 99 % of the existing firms are SME; they stand for two-thirds of all employment possibilities and account for 60 % of value added. Accordingly, SME are economically and socially significant. They are not only seen as a main driver for generating employment, they also promote innovation, put business ideas into practice, foster regional economic integration, and maintain social stability [2]. The classification of SMEs according to the recommendation of the EU can be shown as in Table 1 [1].

Table 1. Classification of SMEs in EU.

Enterprise category	Number of employees	Annual turnover	or	Annual balance sheet total
Micro	<10	≤ 2.000.000 €		≤ 2.000.000 €
Small	<50	≤ 10.000.000 €		≤ 10.000.000 €
Medium-sized	<250	≤ 50.000.000 €		≤ 43.000.000 €

OECD defines SMEs as having 10 to 250 employees and no more than €10 million sales about or annual balance sheet total, while the World Bank has no single definition [3].

For example in the year 2009, in Germany, which is the most important economy of the EU, 99.7% from the total number of enterprises are SMEs. These enterprises generate 65.9% of the employees and 38.3% of turnover of all enterprises. This way, 83% of the

trainees in Germany are employed in SMEs (within the German dual vocational education system)³⁴. Table 2 is presenting the criteria for SMEs classification in Germany, while Table 3 is presenting additional data about SMEs influence to the total German economy, based on the Eurostat report, for the year 2013.³⁵ These values are indicating the increase of the ration of SMEs in the German economy.

Table 2. Criteria for SMEs in Germany:

Enterprise category	Number of employees	Annual turnover (€)	Annual balance sheet total (€)
Micro	< 10	≤ 2.000.000	≤ 2.000.000
Small	< 50	≤ 10.000.000	≤ 10.000.000
Medium-sized	< 250	≤ 50.000.000	≤ 43.000.000

Table 3. SMEs in Germany – basic figures for the year 2013

	Number of enterprises			Number of employees			Value added		
	Germany		EU-28	Germany		EU-28	Germany		EU-28
	Number	Proportion	Proportion	Number	Proportion	Proportion	Billion €	Proportion	Proportion
Micro	1.809.029	81.8%	92.4%	4.974.919	18.7%	29.1%	219	15.1%	21.6%
Small	336.111	15.2%	6.4%	6.300.111	23.6%	20.6%	275	18.9%	18.2%
Medium-sized	56.004	2.5%	1.0%	5.445.644	20.4%	17.2%	298	20.4%	18.3%
SMEs	2.201.144	99.5%	99.8%	16.720.674	62.7%	66.9%	792	54.4%	58.1%
Large	10.608	0.5%	0.2%	9.941.295	37.3%	33.1%	664	45.6%	41.9%
Total	2.211.752	100.0%	100.0%	26.661.969	100.0%	100.0%	1.456	100.0%	100.0%

Countries outside EU do have similar definitions of the SMEs. For example, according to Law of RS [4], an enterprise is a legal entity that performs activities in order to gain profit. Law on accounting of RS [5] provides following classification of enterprises: (1) micro, (2) small, (3) medium and (4) large, in terms of: (1) the average number of employees, (2) annual income and (3) assets value determined on the day the financial statement is produced for the financial year. According to these criteria, micro legal entities shall be those legal entities that do not exceed two of the following criteria:

³⁴ Institut für Mittelstandsforschung (IfM) Bonn: [Kennzahlen zum Mittelstand 2009/2010 in Deutschland](#), 21. März 2009

³⁵ European Commission, 2014 SBA Fact Sheet

- 1) the average number of employees 10;
- 2) the annual income €700.000 in dinars equivalent;
- 3) the average business assets value €350.000 in dinars equivalent; [5]

Those legal entities that exceed the criteria mentioned in the previous paragraph, but do not exceed two of the following criteria, shall be classified as small legal entities:

- 1) the average number of employees 50;
- 2) the annual income €8.800.000 in dinars equivalent;
- 3) the average business assets value €4.400.00 in dinars equivalent; [5]

Those legal entities that exceed the criteria mentioned in the previous paragraph, but do not exceed two of the following criteria, are medium legal entities:

- 1) the average number of employees 250;
- 2) the annual income €35.000.000 in dinars equivalent;
- 3) the average business assets value €17.500.000 in dinars equivalent; [5]

Those legal entities that exceed the criteria mentioned in the previous paragraph, are classified as the large legal entities.

As for Serbia, according to the report on small and medium-sized enterprises and entrepreneurship for the year of 2012, from the total number of enterprises 317,668, entrepreneurial sector accounts for 99.8% (317,162 enterprises) [6]. Also, SME sector generates 65.1% of employees (782,026), 65.4% of turnover, 55.8% of GVA and accounts for 45.5% of investments in the non-financial sector. In Serbia, SME sector accounts for 45.3% of the total employment, 39.1% of total investments, generates 49.8% of exports, 58.2% of imports, 70.8% of foreign trade deficit of the Serbian economy and accounts for around 33% of the Republic's GDP. By size, the majority of the SME sector structure is held by micro enterprises (305,321), whereas small and medium-sized (11,841) dominated in all analyzed indicators (53.8% of employment, 60.7% of turnover, 61.6% of GVA, 77.0% of export, 74.5% of SMEs' import) [6].

According to Albanian legislation³⁶, an enterprise, which has up to 50 employees (with annual balance sheet not exceeding 50 million ALL) is classified as small enterprise and those with 50-250 employees (with annual balance sheet not exceeding 250 million ALL) are classified as medium enterprises.

Entitled to external audit³⁷ (two out of three criteria's):

³⁶ Albanian Law No 8957 date 17.10.2002 "For small & medium enterprises, SME", amended by the Law No. 10042 date 22.12.2008, article 4"

³⁷ Albanian Law No 10091 date 5.03.2009 "For legal audit, organization of the profession of auditor's registered and chartered accountant, article 41"

1. > 30 employees
2. > 40 million ALL assets
3. > 30 million ALL sales

Based on the experience, in Albania, banks classify SMEs when:

1. Exposure > 100'000 EUR < 2'000'000 EUR
2. Turnover > 500'000 EUR

The presentation of active enterprises, by economic activity and size, in Albania, is given in the Table 4.

Table 4. Active enterprises by economic activity and size, in Albania³⁸ for the end of the year 2013.

Economic Activity	Total	Group by the number of employed			
		1-4	5-9	10-49	50+
Total	111.083	99.782	5.235	4.660	1.406
Producers of goods	16.842	13.071	1.565	1.681	525
Agriculture, forestry and fishing	1.690	1.585	53	41	11
Industry	10.333	8.296	789	863	385
Construction	4.819	3.190	723	777	129
Producers of services	94.21	86.711	3.670	2.979	881
Trade	44.878	42.356	1.501	920	101
Transport and storage	8.024	7.738	127	127	32
Accommodation and food service activities	17.825	16.923	674	204	24
Information and communication	2.495	2.217	150	95	33
Other Services	21.019	17.477	1.218	1.633	691

SMEs development is very much important on all hemispheres. Some examples from continents, outside of Europe, will be presented in following text. Accordingly, available data from some African countries show that in 2003 SMEs in Kenya employed 3.2 million people and accounted for 18 percent of the national GDP. In Nigeria, SMEs account for 95 percent of formal manufacturing activity and 70 percent of industrial jobs. In South Africa micro and small firms provided more than 55 percent of total employment and 22 percent of GDP in 2003. [7, 8]

Similarly, in Thailand, SMEs account for a large proportion of the total establishments in the various sectors. In the manufacturing sector, for instance, SMEs comprise 93.8 percent of all establishments. Moreover, of the total number of SMEs, small enterprises comprise 76.0

³⁸ INSTAT (Albania Institute of Statistic) "Business Register" 2013

percent, while medium companies account for 17.8 percent of all manufacturing establishments. Meanwhile, it was estimated that 90 percent of all manufacturing firms were SMEs, employing some 868,000 workers or 38.9 percent of the total [9].

In USA, SMEs accounted for 99.9 percent of all U.S. firms in 2006. While SMEs account for a high percentage of the number of U.S. firms, their share in employment is much smaller, although significant. In 2006, SMEs employed slightly over half (50.2 percent) of the 119.9 million nonfarm private sector workers in the United States, with the remainder employed by large firms. According to the data on net new jobs, SMEs accounted for 64.1 percent, on average, of net new jobs created per quarter by private sector firms during the approximately 16 years from the third quarter of 1992 to the first quarter of 2009. [10]

Although the failure of an individual SME will never attract the media's attention; the consequences of the failure of smaller companies are certainly a serious matter for directly involved stakeholders [11]. Our understanding of entrepreneurship will never be completed until we have a clear understanding of what causes discontinuation. Developing a deeper understanding of new venture failures should provide critical information for several key stakeholders in a new venture – individual entrepreneurs, venture financiers, and government policymakers [12].

Also, the results of the research presented in this manuscript, can be of use for education, continual education and consultancy. Actually, most of the case studies dealing with the SMEs issues are describing success stories. After the research in this project, we will be able to develop the cases of the SMEs which survived after the failures, which should be equally important. The opinion of the authors of this manuscript is that it is better to learn on somebody else mistakes than from our own.

The conclusions resulting for the research described in thus manuscript will also have the potential to be used in order to improve the politico-economic surrounding conditions of SMEs in the investigated regions.

3. FACTORS AFFECTING THE FAILURE OF SMES

In order to find the factors influencing the failure of small and medium-sized enterprises an analysis of scientific papers in this field has been done. Based on the analysis of scientific papers, all factors can be classified into two groups: (1) individual factors, and (2) non-individual factors. Within non-individual factors we can make the difference between those who come from the environment – external (2.1) and those arising from the characteristics of the organization itself – internal (2.2).

Individual factors refer to the characteristics of the owners/managers of SMEs, while non-individual factors are all those factors that do not dependent on the owners/managers of SMEs. The most common case is that owner is also the manager of SME. As noted, within non-individual factors we can make a distinction between external and internal influences. External influences refer to those impacts coming from the environment on which SMEs have no effect, while internal influences refer to the characteristics of the SMEs.

Such classification of the factors influencing the failure of small and medium-sized enterprises is the most common one. For example, European Federation of Accountants (FEE), also distinguishes between internal and external causes of business failure. Accordingly, internal causes include poor management, deficit in accounting, poor cash flow management, inappropriate sources of finance, dependency on customers or suppliers, impending bad debt, fraud/collusion, while external causes of business failure are economy, catastrophic unpredictable events, governmental measures and international developments, environmental protection and other regulatory requirements, as well as the bankruptcy of main customer or supplier [11].

3.1 INDIVIDUAL FACTORS AFFECTING THE FAILURE OF SMES

A large number of scholars examined the relationship between the characteristics of the owners/managers of SMEs and its failure. Authors Zahra Arasti, Fahimeh Zandi and Kambeiz Talebi have explored the effect of individual factors affecting business failure in new established small businesses in industry sector of Iran. [13] This study consists of qualitative and quantitative research. In qualitative study 10 semi-structured interviews, were carried out, from which four groups of individual factors were identified: (1) motivations, (2) skills, (3) capabilities, and (4) characteristics. This research model is shown in Figure 1. Then, these individual factors have been evaluated in a sample of 158 unsuccessful businesses and data analysis of 52 complete questioners pointed out that “Lack of crisis management skills” and “Lack of marketing, financial and human resource management skills” are the main individual factors affecting business failure in new established small businesses in industry sector. Also, authors pointed out that “change of motivations over time”, “have a traditional look in business”, “insist on mistake” and “lack of capabilities (time, knowledge and experience)” are respectively important individual factors of failure in new established small businesses.

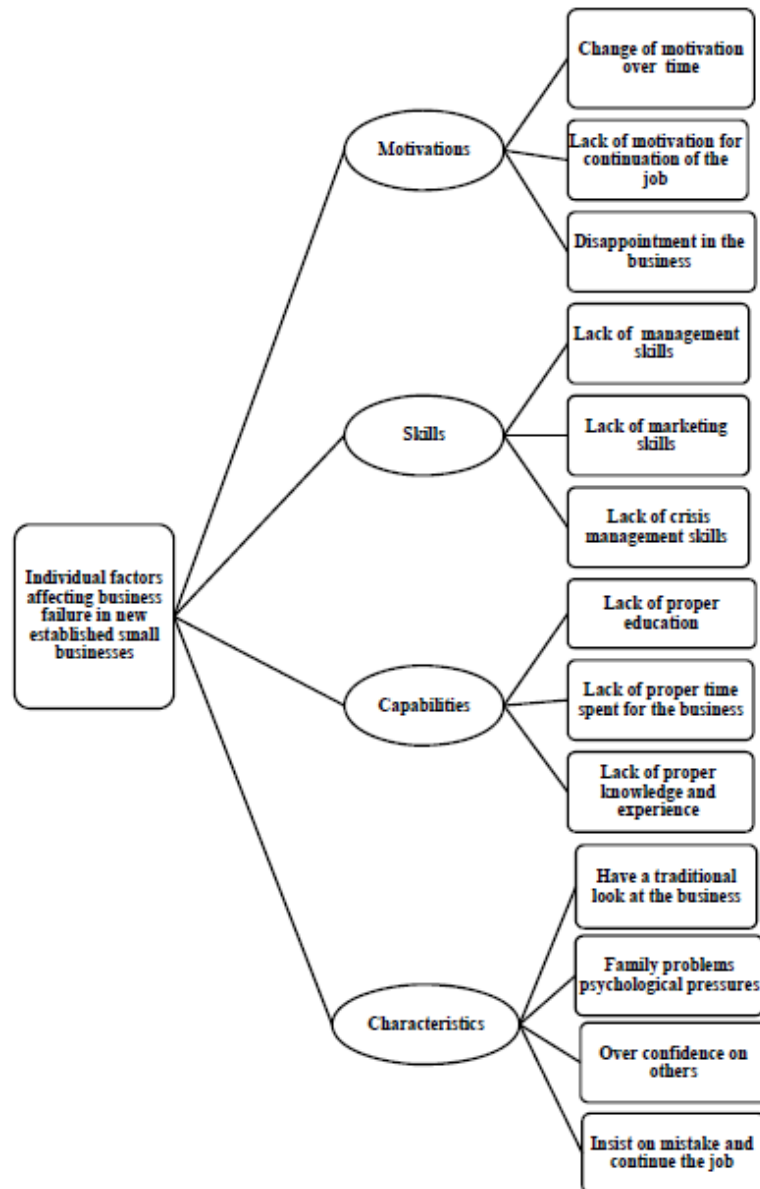


Figure 1. Individual Factors Affecting Business Failure of Iranian New Established Small Businesses [13]

The same author, Zahra Arasti in her paper “An empirical study on the causes of business failure in Iranian context” [14] examines the causes of failure of SMEs in Iran, where she takes into account different individual factors. The results of her research show that personal characteristics of failed business owners/managers show significant difference in the level of some personal characteristics. Namely, failed business owners/managers have low level of tolerance of ambiguity, while they have high level of creativity and internal locus of control and moderate level of need for achievement. Also, author has carried out investigation of impact of owners/managers gender to causes of failure of SMEs. The result shows that gender difference in the causes of business failure is significant for two of the business

failures, which are “lack of financial support from banks and financial institutions” and “problem of partnership and team work”. These results point out that the mean of "lack of financial support from banks and financial institutions" is higher for women and the mean of "problem of partnership and team work" is higher for men. As reason of failure, author also mentions negative influences by the family.

Authors Mário Franco and Heiko Hasse [15] conducted a qualitative research in order to identify factors for poor performance and failure of SMEs. In their study they included eight SMEs in Portugal. Four interviewees mentioned ‘lack of entrepreneurial qualification’ as a difficulty in starting and managing their firms. Only two out of eight owner–managers have university-level degrees, while most of their interviewees (five cases) possess education at the secondary level. Bates [16] has already shown that years of schooling and higher education level are positively associated with a firm’s performance.

Authors Bradley and Moore [17] conducted a survey of individuals from the south and southwestern part of the United States, who had filed bankruptcy during the calendar years 1995 and 1996. Results shows that the majority of small business owners possessed very little or limited marketing, economic, and planning skills, as well as lack of understanding of their business environment and consumer needs. The majority of the small businesses that failed had no written marketing plan. Forty-eight percent of the respondents never used target marketing to identify customers, while 34% had never conducted marketing research after starting a small business. All this indicates incompetence of the owners of small businesses.

Ooghe and Waeyaert [18], also, recognized the management/entrepreneur characteristics as the reason of failure of SME, where emphasize the following characteristics: motivation, qualities, skills, and personal characteristics.

Also in work of Liao [19] we can recognize importance of individual characteristics of the owners/managers of SMEs as a reason for failure of SMEs.

3.2 NON-INDIVIDUAL FACTORS AFFECTING THE FAILURE OF SMES

In contrast to individual factors, non-individual factors do not depend on characteristics of owners/managers of SMEs. These factors can be divided into two groups. In the first group are factors originated from characteristic of SMEs, as well as decisions made within SMEs (internal). The second group includes factors coming from environment of SMEs and negatively affecting the success of SMEs (external).

3.2.1 Internal non-individual factors

Internal non-individual factors refer to factors within SMEs and they are in control of SMEs. Beside characteristics of SMEs, this group includes and decisions made within SMEs and other factors originate from SMEs. Arasti [14] through her research came to the following factors: management deficiency, inconsideration of market issues, lack of interest and dissatisfaction in work at the work place, inaccurate evaluation of project, lack of related experience, expertise and good work relationships, problems of partnership and team work, unclear determination of business sector, inconsideration of legal issues, cheating and fraud. Other authors in addition to these factors identify other factors such as: inadequate accounting records, limited access to necessary information, lack of good managerial advice [14, 20],

insufficient marketing, lack of ability to compete with other similar businesses [14,20], company's management and policy [14,22], company characteristics (size, maturity, industry, and flexibility) [18], resources, structural characteristics and strategies of the firm [19], poor cash flow management, inappropriate sources of finance, dependency on customers or suppliers, impending bad debt [11], inadequate staff, obsolete technology and lack of innovation, poor management strategy and vision [15].

Other authors, such as Valeria Scherger and colleagues [23] used fuzzy methodology to identify the causes of failure of SMEs and to forecast firms' health. The authors identified 74 causes, of which as internal non-individual factors can be singled out: type of organization, centralization of decision making, information management, computerization of the firm, internal communication, adaptability to change, degree of investment, work force's educational level, difficulty of getting qualified labor, degree of unionization, frequency of employee training, planning, external advice, average time of payment to suppliers, stocks policy, cost level compared to sector, contracts, price level, type of clients, advertising and promotions, use of facilities, market reach, budgetary control, financial planning, location form and means of payment, quality level, projects above possibilities, financial history, customer satisfaction, sector experience, financial decisions, absenteeism, problems with deliveries, mistakes in decision making, delays in decision making, technological level, firm's age, frequency of management changes, work accidents etc.

3.2.2 External non-individual factors

External factors are not predictable and SMEs can not affect them. Arasti [14] identified following factors: lack of financial support from banks and financial institutions, inadequate economic sphere, insufficient government policies, problems in product or service supply, substituted product/service, cheating and fraud.

Burns [14, 24] came to a conclusion that the effect of the environment depends upon the time period, geographic area, and market sector in which the firm operates. Government and government-related policies is also an important factor affecting business failures. The scholars found that failure rates increased due to the heavy burden of taxation and regulation, while the growth in money supply (higher growth decreased the failure rate) and the volume of bank lending (higher volume of bank lending reduced the rate of business failures) are also significant factors. [14, 20, 24, 25]. They discussed the negative internal and external environmental factors including pressure from competitors or new entrants, poor improvement in modern technology and poor sales, the outbreak of pests, and farm diseases etc. [14, 25]. According to conceptual failure model presented by Ooghe and Waeyaert in 2004, external factors are: general environment (economics, technology, foreign countries, politics, and social factors) and immediate environment (customers, suppliers, competitors, banks and credit institutions, stockholders, and misadventure). [14, 18, 22]. The European Federation of Accountants has identified the following external factors: economy, catastrophic unpredictable events, governmental measures and international developments, environmental protection and other regulatory requirements, and the bankruptcy of main customer or supplier. [11, 14]

In qualitative research conducted by Mário Franco and Heiko Hasse [15], external factors mentioned by owner–managers of SMEs in Portugal are: limited access to finance, poor market conditions, strong competitiveness and lack of institutional support.

Author Valeria Scherger and colleagues [23] have identified following external factors: political, regulatory, regional economy and macroeconomic changes, technological changes, demand changes and Competition.

4. RESEARCH PART

Based of previous literature review, starting research framework that will be basis for our further research, is given in Figure 2.

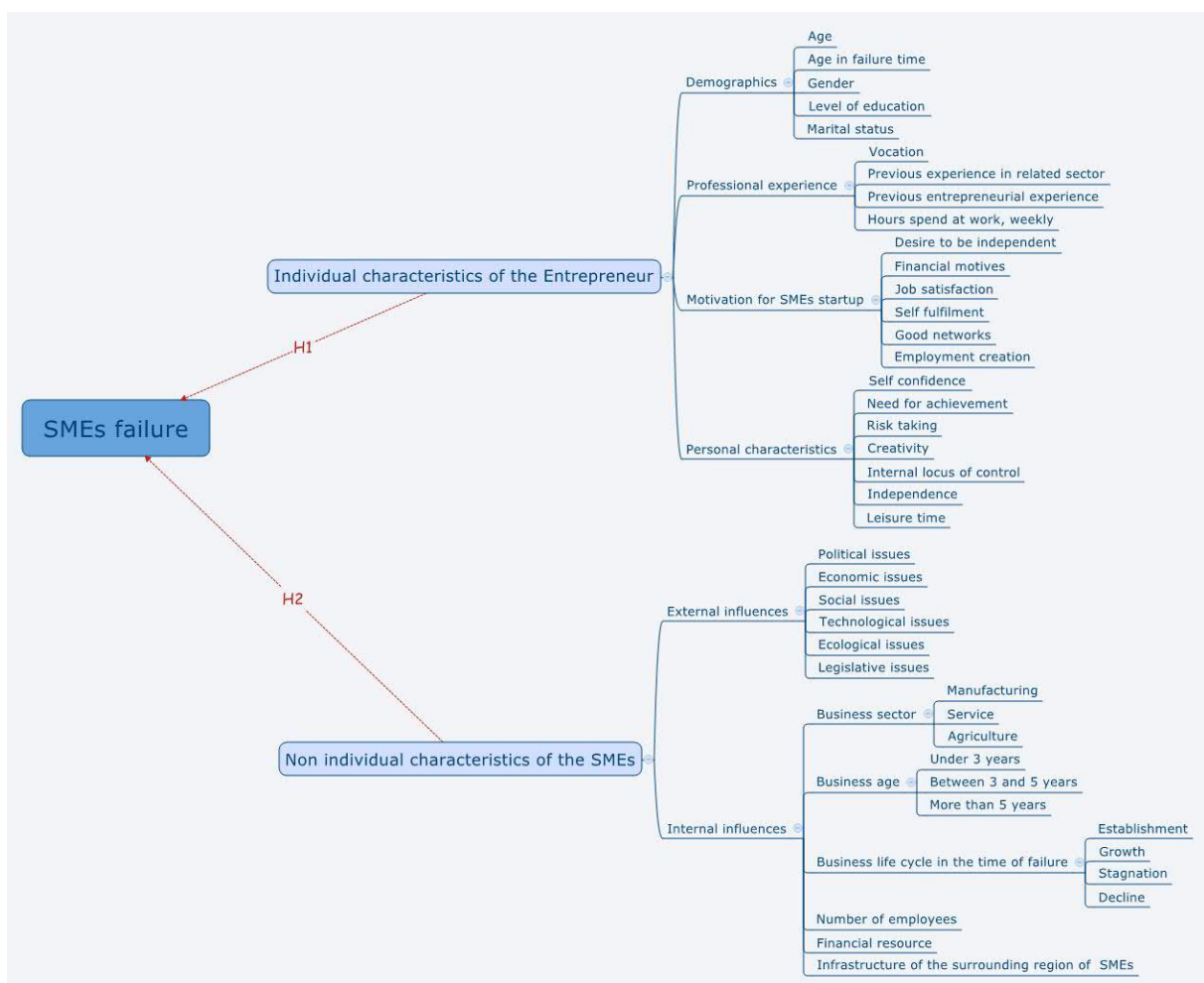


Figure 2. Starting research framework

In the framework of this study two hypotheses will be tested. The first hypothesis relates to whether the individual characteristic of entrepreneur affects the failure of SMEs.

Individual characteristics will be divided into four categories. The first category includes demographic characteristics such as gender, age, marital status, etc (Figure 2). The second category refers to professional experience of owners/managers of SMEs. The motivation for establishing of SME makes up the third group. The fourth group refers to the personal characteristics of owners/managers of SMEs.

The second hypothesis relates to the impact of non-individual characteristics of SMEs on failure of SMEs. Within non-individual characteristics we will make a distinction between external and internal influences. To identify the external factors we will take into account the political, economic, social, technological, ecological and legislative issues with which entrepreneurs are faced. Internal factors will include business sector, business age, number of employees and others factors (Figure 2).

Besides those two hypotheses, the correlation of influences of both individual and non-individual factors will also be addressed. On the basis of defined model, a questionnaire is developed that will be used for analyzing of reasons for failure of SMEs. This questionnaire is attached in the appendix.

Based on developed questionnaire, qualitative and quantitative analysis will be conducted to obtain the responses from the suitable persons from the target group - SMEs owners/managers. Considering that asking a person about the failure is not a pleasant think to do, we will approach to this by asking the entrepreneurs why did they change the scope of their entrepreneurial activities and not why did they fail. For example, most of entrepreneurs did have some sort of failure in the past which resulted, in some cases with complete bankruptcy, and in other (most often) cases, with change of entrepreneurial scope of work. Usually after failure of one idea, entrepreneurs pick up the pieces and start some new, usually completely different venture. Both groups are equally important for this research. This also gives a wider space and increased number of potential subjects for interview. With the interview, it will be possible to obtain both qualitative and quantitative observations regarding the factors influencing the SMEs failure. Namely, qualitative study will answer the questions “what” were the reasons which resulted with the SMEs failure and “how” those factors did influenced the entrepreneurial operations which resulted in failure. On the other hand, the qualitative study will reply to the “why” type of questions, giving the possibilities to entrepreneurs to describe the reasons which lead to failure of their venture. Also, in qualitative analysis some aspects of quantitative study will be further explained by the entrepreneurs.

On the other hand, to assess adequate numbers of respondents for quantitative data analysis, it will be required to develop a web based survey tool, that will be used to assess as much as possible responses from potential subjects of research.

5. CONCLUSION

SMEs play an important role in different economies. This is confirmed by numerous reports on the importance of SMEs for different countries. According to report of European Commission [3] in the European Union (EU), more than 99 % of the existing firms are SME; they stand for two-thirds of all employment possibilities and account for 60 % of value added.

On the other hand, SME are economically and socially significant. They are not only seen as a main driver for generating employment, they also promote innovation, put business ideas into practice, foster Regional economic integration, and maintain social stability.

Numerous studies in recent years have been focused on the success factors of small and medium-sized enterprises, and not on the factors that contribute to the failure of SMEs. Detection of these negative factors will enable entrepreneurs to better analyze their business in order to improve and avoid bad business decisions.

As we can see from the literature review in this paper, there are numerous negative factors that affect the success of SMEs. In most cases, a complex mixture of causes contribute to business failure; it is very rare for one single factor to be involved [11]. Within the paper the review of factors that contribute to failure of SMEs, as well as their classification, is given. All factors are classified in two groups. The first group consists of individual factors that refer to characteristics of entrepreneur or owner/manager of SMEs. A review of scientific literature has led to factors such as motivation, skills, personal characteristic, gender, etc. The second group consists of non-individual factors. These factors are divided into internal and external depending on whether SMEs can affect them or not. As internal factors emerge, for example: poor marketing, lack of ability to compete with other similar businesses, outdated technology, lack of innovation and others. While as external factors emerge: bankruptcy of main customer or supplier, limited access to finance, poor market conditions, strong competition and others.

Based on the literature review, conceptual model was developed which includes both individual and non-individual reasons for the failure of the SMEs. This conceptual model was the framework for development of the questionnaire, which will be used as the measuring scale, to obtain quantitative influence of each of the indicated factors. This will be the base point for our future research, which will result with the structural model, that can be used to assess the potential for future failure of SMEs, based on the historic data and the reasons for failure of the similar SMEs in the past.

REFERENCES

1. EU recommendation 2003/361
2. European network for SME research—ENSR. Observatory of European SMEs 2003, European Commission, Brussels, 2003
3. IEG, Evaluation of the World Bank Group's Targeted Support for Small and Medium Enterprises, 2013. http://ieg.worldbank.org/Data/reports/ap_evaluationof_smes.pdf
4. Law on companies, Official Gazette of the Republic of Serbia, No. 36/2011
5. Law on accounting, Official Gazette of the Republic of Serbia, No. 62/13
6. Ministry of Economy, Ministry of Regional Development and Local Self-Government, National Agency for Regional Development, Report on small and medium-sized enterprises and entrepreneurship 2012, Belgrade, 2012.

<http://narr.gov.rs/index.php/content/download/2318/11716/file/Report%20on%20SME%202012.pdf>

7. A. Woldie, P. Leighton, A. Adesua, Factors influencing small and medium enterprises (SMEs): an exploratory study of owner/manager and firm characteristics, *Banks and Bank Systems*, 3(3):5-13, 2008.
8. C. Kauffmann, Financing SMEs in Africa, Policy Insights No. 7, OECD, 2005
9. C. Chittithaworn, A. Islam, T. Keawchana, D. H. M. Yusuf, Factors Affecting Business Success of Small & Medium Enterprises (SMEs) in Thailand, *Asian Social Science*, 7(5): 180-190, 2011.
10. United States International Trade Commission, Small and Medium-Sized Enterprises: Overview of Participation in U.S.Exports, 2010.
11. European Federation of Accountants (FEE), Avoiding Business Failure: A Guide for SMEs, FEE Guide. 2004. [online], <http://www.fee.be>.
12. Liao J, Welsch H, Moutray CH Start-up Resources and Entrepreneurial Discontinuance: the Case of Nascent Entrepreneurs. *J. Small Bus. Strateg.*, 19(2): 1-15, 2009.
13. Z. Arasti, F. Zandi, K. Talebi, Exploring the Effect of Individual Factors on Business Failure in Iranian New Established Small Businesses, *International Business Research*, 5(4):2-11, 2012.
14. Z. Arasti, An empirical study on the causes of business failure in Iranian context, *African Journal of Business Management* 5(17): 7488-7498, 2011.
15. M. Franco, H. Haase, Failure factors in small and medium-sized enterprises: qualitative study from an attributional perspective, *Int Entrep Manag J.* 6:503–521, 2010.
16. T. Bates, Analysis of young, small firms that have closed: delineating successful from unsuccessful closures. *Journal of Business Venturing*, 20: 343–358, 2005.
17. D. B. Bradley III, H.L.Moore, Small business bankruptcy caused by lack of understanding of business environment and consumer needs, 1998 ICSB Singapore Conference, 2000. <http://www.sbaer.uca.edu/research/icsb/1998/88.pdf>
18. H. Ooghe, N. Waeyaert, Oorzaken van faling en falingspaden: Literatuur overzicht en conceptueel verklaringsmodel. *Economisch en Sociaal Tijdschrift*, 57: 367-393, 2004.
19. J. Liao, Entrepreneurship Failures: Key Challenges and Future Directions, In Welsch (eds) *Entrepreneurship: the Way Ahead*, UK: Routledge. 133-150, 2004.
20. LR. Gaskill, H.E. Van Auken, R.A. Manning, A Factor Analytic Study of the Perceived Causes of Small Business Failure, *J. Small Bus. Manage.* 34(4): 18-31, 1993.
21. W. Wu, Beyond Business Failure Prediction. *Expert Syst. Appl.*, 37: 2371-2376, 2010.

22. H. Ooghe, S. De Prijcker, Failure Process and Causes of Company Bankruptcy: a Typology. *Manage. Decis.*, 46(2): 223-242, 2008.
23. V. Scherger, H. P. Vigierb, M.G. Barberà-Marinéc, Finding business failure reasons through a fuzzy model of diagnosis, *Fuzzy economic review*, 19(1): 45-62, 2014.
24. P. Burns, *Entrepreneurship and Small Business*, Palgrave, London, 2001.
25. A.O. Oparanma, D.I. Hamilton, I. Zep-Opibi, Diagnosis of the Causes of Business Failures: A Nigerian Experience, *International J. Manage. Innov*, 2(1): 31-44, 2010.

APPENDIX 1. QUESTIONNAIRE

Questionnaire

Dear Ms./Mr.

With this questionnaire we want to know your opinion on certain issues related to problematic issues of SMEs. This questionnaire is anonymous and the results will be used for the purpose of scientific paper.

Please circle only one answer.

Thank you for your cooperation!

- I. Age _____ years.
- II. Age in failure time
 - 1) Under 25 years old
 - 2) Between 25 and 45 years old
 - 3) More than 45 years old
- III. Gender
 - 0) male
 - 1) Female
- IV. Level of education
 - 1) High school diploma and under diploma
 - 2) B.Sc.
 - 3) M.Sc.
 - 4) Ph.D.
 - 5) Other (please specify)
- V. Vocation _____
- VI. Marital status
 - 0) Single
 - 1) Married
 - 2) Divorced
- VII. Previous experience in related sector _____ years.

VIII. Previous entrepreneurial experience _____ years.

IX. Please indicate how many hours do you spend at work, weekly: _____

- From those, how many hours do you spend in solving strategic problems/decision making/addressing the operational challenges, weekly: _____
- From those, how many hours do you spend in administrative work, weekly:

X. If you would have more time for private activities, what would you like to do:
Please rate the importance of following private time activities (grade from 1 lowest to 5 highest)

<i>Spending time with my family</i>	1	2	3	4	5
<i>Spending time with my friends</i>	1	2	3	4	5
<i>Spending time on my hobby</i>	1	2	3	4	5
<i>Traveling and going on vacations</i>	1	2	3	4	5
<i>Voluntary work</i>	1	2	3	4	5
<i>Social responsible work</i>	1	2	3	4	5
<i>Something else, please describe:</i> _____	1	2	3	4	5

XI. Please rate the importance of following personal characteristics on SMEs success.
Grade from 1(lowest) to 5 (highest).

<i>Self confidence</i>	1	2	3	4	5
<i>Need for achievement</i>	1	2	3	4	5
<i>Risk taking</i>	1	2	3	4	5
<i>Creativity</i>	1	2	3	4	5
<i>Internal locus of control</i>	1	2	3	4	5
<i>Independence</i>	1	2	3	4	5
<i>Education</i>	1	2	3	4	5

XII. Motivation for SMEs startup

<i>Desire to be independent</i>	1	2	3	4	5
<i>Financial motives</i>	1	2	3	4	5
<i>Job satisfaction</i>	1	2	3	4	5
<i>Self fulfillment</i>	1	2	3	4	5
<i>Good networks</i>	1	2	3	4	5
<i>Employment creation</i>	1	2	3	4	5

<i>Access to additional financial resources</i>	1	2	3	4	5
---	---	---	---	---	---

XIII. Please rate the importance of following external factors for SMEs operational problems. Grade from 1(lowest) to 5 (highest).

<i>Political issues</i>	1	2	3	4	5
<i>Economic issues</i>	1	2	3	4	5
<i>Social issues</i>	1	2	3	4	5
<i>Technological issues</i>	1	2	3	4	5
<i>Ecological issues</i>	1	2	3	4	5
<i>Legislative issues</i>	1	2	3	4	5

XIV. Please rate the importance of following internal factors for SMEs problems. Grade from 1(lowest) to 5 (highest).

<i>Management of receivables/ payables</i>	1	2	3	4	5
<i>Delay in fulfilling bank obligations</i>	1	2	3	4	5
<i>Fall of motivation</i>	1	2	3	4	5
<i>Delegation of responsibilities</i>	1	2	3	4	5
<i>Difficulties in absorption/acquisition of new technologies/innovation</i>	1	2	3	4	5
<i>Inability to find new potential shareholders/ partners</i>	1	2	3	4	5
<i>The level of fixed assets free from any burden/inscription</i>	1	2	3	4	5
<i>The level of clearing/ barter transaction</i>	1	2	3	4	5

XV. The sector of your previous business:

- 1) Manufacturing
- 2) Service
- 3) Agriculture

XVI. Business age in the time of failure:

- 1) Under 3 years
- 2) Between 3 and 5 years
- 3) More than 5 years

XVII. Business life cycle in the time of failure:

- 1) Establishment
- 2) Growth
- 3) Stagnation
- 4) Decline

XVIII. Number of employees in your SMEs that suffered from failure

XIX. Financial resource

If not confidential please indicate the annual income of you company in time before distress
_____ Euros.

XX. Importance of the following infrastructure of the surrounding region of your SMEs
which suffered from failure

Grade from 1(lowest) to 5 (highest).

<i>Transportation system</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Supply of the electricity</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Possibility to increase capacity</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Existing share of market for products/services</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Existing resources for important raw material</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>
<i>Enough qualified work force in the region</i>	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>	<i>5</i>

XXI. Please rate, in your opinion, the level on which you recovered from the failure (starting
from 1 – not at all to 5 –completely):

1 2 3 4 5

XXII. If your answer, on question XXI was above 1, please indicate the time that was
necessary to reach this level of recovery: _____ (years)

XXIII. The sector of your current business:

- 1) Manufacturing
- 2) Service
- 3) Agriculture

XXIV. Number of employees in current SME:

XXV. As an addition, please give us your opinion about successful entrepreneurs form your
region. Please make the list of five most successful entrepreneurs in your region:

1. _____
2. _____
3. _____
4. _____

5. _____

XXVI. In accordance to your opinion which are the most important factors for their success:

1. _____
2. _____
3. _____
4. _____
5. _____

SYSTEMS AND CONTINGENCY MODELS OF MANAGEMENT PHILOSOPHY IN NIGERIA

B.E.A. Oghojafor, Andrew E Otike-Obaro, O.J. George

University of Lagos, Faculty of Business Administration, Nigeria

Abstract: This paper attempts to study systems and contingency models of management philosophy and evaluates its recognition and application in the Nigerian management environment. The study shows that Systems thinking traditionally considers organizations as being intricately interdependent within its sub-units and between the organisation and its environment. It further reveals that changes in the environment directly affect the structure and function of the organisation. Contingency model posits that there is no one best way to structure or manage an organisation. The study is based on secondary sources of data assembled from journal articles published over the last forty to fifty years and specifically on Nigeria management models and philosophy from indigenous management institutions. The study reveals dearth of literature on systems and contingency models of management philosophy in Nigeria. Nevertheless, it was found that some entities in the public and private sectors of the economy have adapted and deployed contingency management models to their environment in the face of challenging situations. The paper recommends pragmatic blending of borrowed patterns of management with traditional social structure and culture.

Keywords: systems thinking, contingency models, management philosophy, structural adaptation, African culture, universalization of management.

1. INTRODUCTION

Contingency theory of management philosophy is described as an assessment of the environmental impact on the structure, strategy and management style of organizations [1]. Although open systems analysts [2] emphasized the input of the external environment into organization structuring, the contingency approach attempts to establish functional relationships between environmental variables and organizational variables.

Contingency approach which was a management orientation adopted by management theorists during the 1960s also emphasized the importance of situational influences on the management of organizations and questions the existence of a single best way to manage or organize [3]. The contingency theory proposed by [4] regards the optimum organization form as contingent on the demands of the organization's environment. It is the first extension of systems philosophy into management practices. The open system perspective considers organization as a set of interdependent parts that interact with internal and external environment to produce two open system characteristics of adaptation and equifinality. While the principle of adaptation states that the elements within the systems adapt to one another for system character preservation, equifinality maintains that a system can reach the same final

state by a multiplicity of paths [3]. The theoretical grounding of this paper is on the perspectives of [5], [4] and [6].

The purpose of this paper is to evaluate, through case study, the extent of recognition and application of contingency management in Nigeria in view of the importance and longevity of the approach in the management field.

2. LITERATURE REVIEW

2.1. THE SYSTEMS MODEL

[7] was concerned with the integration of structure and process and defined a social system as comprised of the interactions of many individuals within a situation, where the system itself includes commonly understood cultural norms. These cultural norms are within a system of generalized symbols and their associated meanings. [8] considers organization and management as “a dynamic social system of cooperative interactions with the purpose of satisfying individual needs, thus recognizing the existence of both the formal and informal group in the organization”. His formal organization is considered as a system by which two or more people are consciously coordinated towards a common purpose. [9] popularized the concept of cybernetics as a self-regulating system on the basis of feedback information to discover deviations from standards and indicate corrective measures. The social systems according to [2] are fixed by men, defective and bounded together by psychological rather than biological distinctiveness. The system is anchored in attitudes, perceptions, beliefs, motives, habits and expectations of human being.

The findings of some scholars from Tavistock Institute of Human Relations also revealed industrial system as an open system interacting with the environment consisting of two main subsystems; operating, the subsystem that deals with the conversion of inputs into outputs, and managing system, the subsystems that is concerned with decision-making, control, and communication aspects of the organization [10].

The Simon-March-Cyert stream of work adds to the open systems perspective the view that organizations are problem-facing and problem-solving entities. The organization develops processes for searching, learning and deciding on processes that attempt to achieve a satisfactory level of performance under norms of bounded rationality. Organizational decision-makers undertake rational decision processes designed to cope with the complexity and uncertainty of their situations, all of which result in deliberate decisions by using a satisficing criterion for performance.

2.2. THE CONTINGENCY MODEL

Although contingency approaches began to emerge almost simultaneously from a variety of sources [11; 5; 12; 6; 13; 14; 4; 1] forged much of the theoretical superstructure of the contingency perspective. Integrating and extending previous work, he conceived of complex organizations as open systems faced with uncertainty and subject to a rationality criterion. He argued that differences in technological and environmental dimensions result in

differences in structures, strategies and decision processes and proposed a set of organization and decision strategies which provide the organization a degree of self-control despite interdependence with the environment.

The contingency approach to management has its roots in general systems theory and the open systems perspective [15; 16; 2] as well as in the Simon-March-Cyert stream of theory and research [17; 18; 19]. [1] recognized the intersection of these traditions and extended them in a landmark work that represents the cornerstone of the contingency approach. The contingency approach has emerged in recent years as the dominant theoretical framework for viewing organizational structure and design [20]. The pioneering contingency theorist, [13] found that the environmental variable of technology seemed to have a relationship with structural variables.

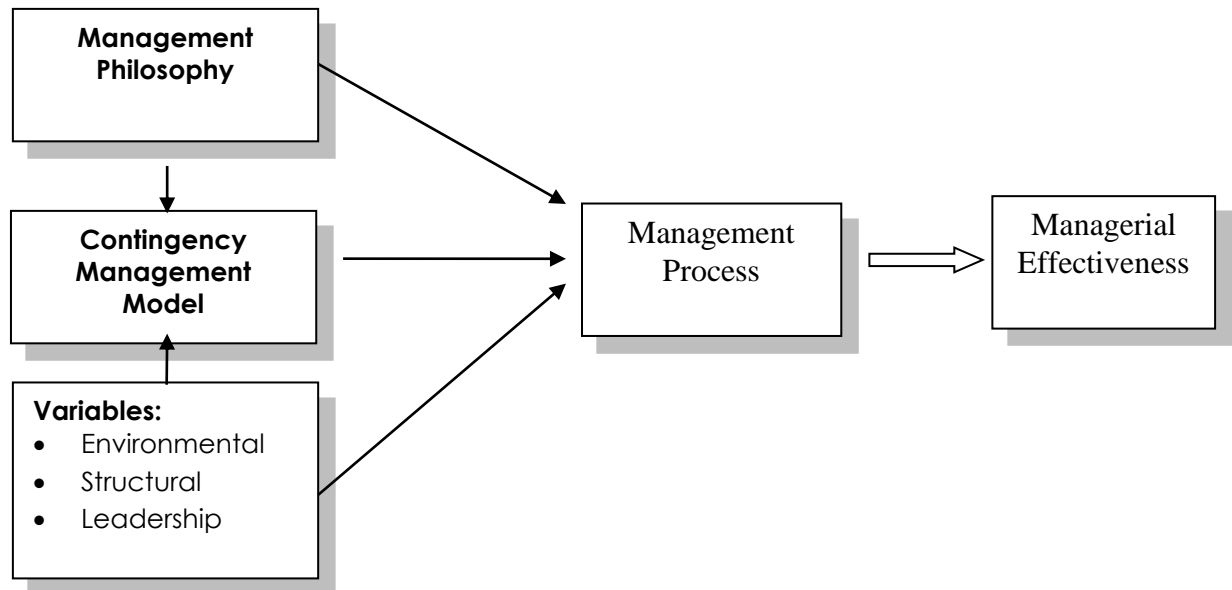
One of the best known contingency approaches comes from the work of [4]. Using 10 firms in 3 industries, they analyzed how differences in the external environment were related to differences in the internal environments of the organizations. They found that the more turbulent, diverse, and complex the external environment, the more differentiated, in terms of goals, time perspective, interpersonal orientation, the more formality of structure were the subunits or departments and the greater the need for elaborate integrating mechanisms.

2.3. CURRENT PERSPECTIVES ON THE CONTINGENCY APPROACH

As derived from these conceptual antecedents, the essential premise of the contingency approach is that effectiveness, broadly defined as organizational adaptation and survival can be achieved in more than one way [21]. For example, management theorists and researchers have recognized more than one way to organize effectively, more than one strategy that maximizes profitability and market position, and more than one leadership style that achieves organizational goals. Each way is not equally effective under all conditions; certain organizational actions or responses are more appropriate than others, depending on the situation [22].

The contingency approach suggests, therefore, that wide variations can be observed in effectiveness, but these variations are not random. Effectiveness depends on the appropriate matching of contingency factors with internal organizational designs that can allow appropriate responses to the environment.

Contingency variables represent situational characteristics usually exogenous to the focal organisation or manager. In most instances, the leeway to control or manipulate these variables is, at best, limited and indirect. In contrast, response variables are the organizational or managerial actions taken in response to correct or anticipate contingency factors. Performance variables are the dependent measures and represent specific aspects of effectiveness that are appropriate to evaluate the fit between contingency variables and response variables for the situation under consideration [3].



Source: [23].

Figure 2 – A Model of Contingency Management Philosophy

Specific contingency frameworks have been conceptually developed [24; 14; 25; 26; 1], and empirically derived [5; 27; and 13]. Considerable efforts in many of these works have been directed towards the identification of important contingency variables within the major sub-disciplines of management. Many contingency frameworks, particularly in the early phases of development, employ a single dimension (e.g. level of environmental uncertainty, type of technology, organizational size, stage of the product life cycle), or construct 2x2 matrices that dichotomize two critical contingencies (e.g. environmental complexity and stability, growth rate and market position). The current trend, however, is to expand these frameworks through the development of contingency theories that employ multiple dimensions or contingency variables [27;28]. A good summary list of environmental variables was provided by [29] to include origin and history, ownership and control, size, charter, technology, location, resources, and dependence

i

The Structural Contingency theory articulated the theoretical model of Structural Adaptation to Regain Fit which sees organization as continuously adapting to their changing environments [30; 7 and 31]. An organization in fit enjoys higher performance that generates surplus resources and leads to expansion such as growth in size, geographical extension, innovation and diversification. This expansion escalates the level of contingent variables of size leading to a misfit with the existing structure. The misfit lowers performance, eventually resulting to a performance crisis and adaptive structural change to fit [31; 32; 12]. These contingency factors also cause functions within companies to be organized differently. Stable, standardized activities such as payroll, treasury, taxation, customer support and purchasing activities tend to operate well when organized along bureaucratic principles. This view aligns

with Burns and Stalker's findings that mechanistic form of organization appeared to be most appropriate under relatively stable environmental conditions while the organic form seemed best suited to conditions of change [5].

Critics of structural contingency theory have argued that it is not sensible for organizations to move into fit with their contingencies because while the organization is changing its structure to fit the contingencies, the contingencies themselves change, hence the organizational structural change does not produce fit. The assumption is not yet clear that organizational effectiveness is a function of the goodness of fit or consistency between environmental and structural variables.

It is also not certain which of the environmental variables have explanatory power for structural differences among organizations [33].

3. METHODOLOGY

This paper is a theoretical study based on literature review. The study is also based on qualitative approach using secondary records for information gathering. According to [34], "secondary sources are sources of data that have been collected by others, not specifically for the research question at hand"

This process is economical because it saves time and cost that would otherwise be spent collecting data [35]. Furthermore, secondary data generally have a pre-established degree of validity and reliability which need not be re-examined by the researcher who is re-using such data [36].

The paper is a product of ordered appraisal of long-dated articles, majority of which were published in the last thirty to forty years in the field of management and social science disciplines. A list of over fifty related articles were sourced from the internet using such key words as contingent approach to management, systems thinking, open and close systems, management philosophy and models of management. Further materials on the Nigerian experience of contingency management were sought also from the internet, the libraries of Centre for Management Development (CMD) and Nigeria Institute of Management (NIM)

4. SYSTEMS AND CONTINGENCY APPROACH: THE NIGERIA EXPERIENCE

Though the systems and contingency models of management philosophy may not be recorded or codified anywhere in Nigeria, yet there is a good number of examples of situation-induced or paradigm shift in management applications. This is not surprising because most of our managers had their education through or from the environment where these theories were proposed and practised. Generally, innovation is borne out of prevailing inadequacies or unacceptable circumstances.

Discussed below are case studies in the Nigerian public and private business environment that have demanded situational analysis and contingent decision applications.

First is the Federal Government annual budgetary system which used to run from April 1, to March 31. Though this practice lasted for a number of years, it was at variance with the natural calendar year that runs from January to December. Moreover, the International Oil Companies (IOCs) from whose operations the annual revenue of the nation

is derived also operate January to December financial year. A contingent analysis of the budgetary process demands a change to January-December, even though the discipline it requires is yet to be absorbed [37].

Second is the electioneering process. Since Nigeria gained independence in 1960, except the military regimes, electioneering through the ballot paper has been the process by which the electorates exercise their universal suffrage to change each civilian administration. The results of each of the elections have always been rejected by the opposing parties on the ground that it has been massively rigged. The processes of counting and collating the ballot papers are so marred with irregularities [38; 39; 40; 41]. Court cases in relation to electoral malpractices normally linger till the next election. It is this unacceptable situation that is fuelling the agitation for the electronic voting system which will not only obviate the need for manual counting and collation of ballot papers but also produce on-line real time election results.

Third is the Joint Admission Matriculation Board (JAMB). Until 1978, each University in Nigeria organized its own matriculation examination. Joint Admission Matriculation Board (JAMB) was established to organize a central matriculation examination for all tertiary institutions in Nigeria whether private or public [42]. However the institutions were allowed to hold pre-admission interview as part of the admission processes for successful candidates at the JAMB examinations. Candidate's performance at these interview sessions generated so much suspicion that questioned the authenticity of the JAMB and WAEC/NECO performance. This situation was responsible for the introduction of the post UME examinations. Though it is an anathema, a double burden, yet under the situation, it is the only way out for now until ethical standards is restored in JAMB examinations.

Fourth is the abysmal performance of the energy company, Power Holding Company of Nigeria (PHCN) which opened the flood gate to the importation of power generating sets of all shapes and sizes from China that increased domestic consumption of hydro-carbon products (petrol and diesel) and enhanced the depletion of the ozone layers. The poor performance of PHCN caused the likes of Dunlop Nigeria Plc and Michelin to shift their production outfit to Ghana, an environment that affords constant energy supply. The energy failure led to the process of comprehensive reform of the Nigeria electricity sector which culminated in the Electric Power Sector Reform Act of 2005. The reformed Electricity Supply Industry (ESI) envisaged unbundling of Nigeria Electric Power Authority (NEPA) into multiple competitive generation and distribution companies and one transmission company. Power Holding Company of Nigeria (PHCN) will wind up with 6 successor generation, 1 transmission and 11 distribution companies which were incorporated in 2005. The reform involves the trading of electricity between successor companies and other market participants under the overall regulation of the Nigerian Electricity Regulation Commission (NERC) [43]. Though NEPA was just an entity within Nigeria economic and social milieu, the systems model has shown how interdependent the organization is to all facets of the economy. The Federal Government's resolve to reform the energy sector is a contingent approach to management.

Fifth is the Nigeria Telecommunication (NITEL), a government monopoly just as PHCN. In the 80s, Lagos residents have to stay awake all night at the NITEL House along Marina in Lagos Island to make international phone calls to relatives, friends and business

partners. It was so bad that even making local call was impossible. “All trunk calls are busy, please try again”, was the usual slogan. The strategic importance of communication in the main organization called Nigeria and its subunits in terms of public and private enterprises and the individuals demands that a situational analysis be made and alternative remedy be sought out. This was the advent of Global System of Mobile Communication (GSM) in 2002 with the advent of corporate organizations such as the MTN, Airtel, Etisalat, Visa Phone, and Starcom [44]. The whole nation has been literally lifted up with the advent of GSM and individuals can now make international calls in the comfort of their bedrooms.

Furthermore, the competitive environment created by the advent of international courier companies like DHL and UPS in the postal service sector was first ignored by the Nigeria Postal Service (NIPOST). The transport companies in the long haul business such as “The Young shall Grow”, “Ekene Dili Chukwu”, “ABC Transport” also created windows for courier services. This was followed by the domestic airlines venturing into courier services. At this stage, it became apparent to the management of NIPOST that Nigeria Postal Service does not exist in a vacuum. The situation being faced, therefore, requires a rethink, a situational analysis which led NIPOST to introduce “Speed Post” – a wake- up call to rise up to the competition [45].

In addition, it can also be observed that the chaotic urban transportation experience In Lagos metropolis, suggested the creation of a dedicated tract for the Lagos State Government urban bus rapid transit system (BRT) which is an application of contingency management model dictated by the absence of metropolitan rail line, insufficient road networks and high volume of traffic [46].

Also, in the hydro-carbon sector, the discovery of fossil fuel in commercial quantity in 1956 in Nigeria brought in the International Oil Companies (IOC) with the skill, technology and financial resources for oil exploration and exploitation [47]. It was imperative that they entered into operating agreement with the Federal Government of Nigeria. The type of agreement most suitable to them because of their experience was the Joint Venture (JV) which requires cash calls from both parties to the agreement to meet operating expenses. The issue of cash calls became problematic to the Federal government, whose cash was not available a number of times that the calls were made [48]. It was a serious concern because the annual budget revenue inflow is tied to the performance of the IOCs. The situation required a search for another type of a more favourable operating agreement. This search, about 1979, brought the Profit Sharing Contract (PSC) which does not require any cash call. This new acquired participation arrangements means increased financial returns to the government [49]. The terms of PSC mandated the IOC to raise the working capital for the operation. The company is entitled to deduct from the volume of oil achieved, the royalty oil, cost oil, the tax oil, and the net oil is shared among the parties in accordance with the operating agreement.

Furthermore, in the private sector of the economy, First Bank Plc has been through many seasons since 1894 when it was the only bank in Nigeria for decades. It weathered the “banking explosion” of the 1930s to 1950s; followed by an era of government ownership and control to a flurry of consolidations and then gradual growth in number of banks up to the early 1980s. There was then yet another industry growth spurt in the early 1990s when the banking sector was deregulated leading to an industry shake-up in the late 1990s which

reduced the number of banks from 126 to 77 and later resuscitation and growth to 89 banks until the recent shake-up to 25 banks. The survival of the bank has been influenced by its ability to adjust its technology, internal structure and management style in these varying seasons, recognizing its interdependent with other players in the banking and financial sector of the economy [50].

The fast food business has also experienced situational challenges and innovations. The fast food business was started in Nigeria by Kingsway Stores in the 70s. The operation of the company was scuttled by the Indigenization Policy of the Federal Government. Nevertheless, the idea of fast food was repackaged by the UAC as Mr. Biggs. Unlike Kingsway Stores, Mr. Biggs introduced jollof and fried rice with roasted chicken. The advent of indigenous fast food outfits such as “Sweet Sensation”, “Tantalizer”, and “Tastee Fried Chicken” introduced other Nigerian dishes such as ‘amala’ stewed beans, yams and plantain pottages. This has revolutionized fast food business in Nigeria, an innovation borne out of situational analysis by which the indigenous fast foods created a niche for themselves [51].

Finally, in the aviation industry, the Arik Airlines initiative was a contingent approach to management. Until the advent of Arik Air, and the resuscitation of democratic governance, there was no connecting flight between the State Capitals and the national capital, Abuja. An intending passenger from the State proceeds to Abuja enroute Lagos. The stiff competition arising from a large number of domestic airlines encouraged Arik Airline to open up direct flight to and from Abuja to the State capitals [52]. This strategy was instantly imitated by other domestic airlines.

The next section provides a platform for the discussions of the findings and observations with a view to a reasoned conclusion.

5. DISCUSSION

Organisation theory attempts to predict the effect of certain structural arrangement on performance and behaviour, while management theory is concerned with facts and sound principles or philosophy which prescribes what to do to achieve desired outcome in the organization [53 and 54]. Management theory, therefore, provides the basis for management practice and the practice reinforces the development of management philosophy [55].

African management philosophy is the practical way of thinking about how to effectively run organizations whether in the public or private sectors on the basis of African ideas and in terms of how social and economic life is actually experienced in the region [56]. Edoho asserted that the philosophy must necessarily be interwoven with the daily existence and experience in Africa and its contextual reality. This statement is equally applicable to Nigeria. The establishment and institutionalization of the indigenous African management systems is the surest way to enhance African development – economically, politically and socially [57; 58 and 59].

The advancement of indigenous African management philosophy is therefore considered as a *sine qua non* for the development of Africa. This philosophy should be rooted in African culture, value system and beliefs, and the derived management knowledge will help the African organizations function more efficiently and effectively [60]. Japan seems, apparently, to have provided the needed pragmatic justification of what benefits could

be derived from rationally blending borrowed patterns of management with traditional social structure [23].

[61] in his forward to Ejiofor's book titled, "*Management in Nigeria: Theories and Issues*", noted that Nigerian management specialists have the great and necessary task of developing management principles and styles which are adapted to meet the needs of our environment. He concluded that our urgent need now is to use experience so far acquired to develop the type of curricular that would take cognizance of the peculiarities of our environment.

Several years after these emotions were expressed; no considerable change has been noticed in the course and practice of management in Nigeria. There is no obvious paradigm change as much of management theories, principles and practices are still western-oriented. There is the need to improve on our management research and develop Nigeria models, which will assist us attend to the problems challenging management practice in Nigeria [62].

The transfer of foreign management knowledge and practices was regarded by [63] as an essential ingredient of modernization process. This view point agrees with [64], proposition that economic underdevelopment leads to a stronger tendency to import ideas from more developed countries as well as to imitate them. There is widespread belief that management inefficiencies which have retarded economic growth in Nigeria and Africa in general essentially resulted from lack of qualified managers [65; 66].

[67] also noted that the use of western yardsticks in the evaluation of African leadership and management led to the conclusion that Africa's diminutive growth or underdevelopment was in the main due to poor leadership and management. As a result, the application of western leadership and management theories was felt to be the needed panacea to the complex social, economic and political problems of the continent.

The Nigerian civil service is arguably the institution that perfectly reflects the legacy of colonialism. It was conceptualized and designed as the British machinery for promoting, implementing and defending the administrative and economic policies of the colonialists. Consequently, It has not provided a fertile ground for the cultivation and development of indigenous management models and philosophies despite several attempts at its transformation.

Consequently, emphasis was shifted to western management education through the creation of educational institutions whose objectives are the training of indigenous individuals to serve both public and private sectors of the economy. Management as a universal concept has not taken cognizance of culture impacts on management practices. Studies have shown that the practice of management is heavily influenced by the traditions, values and habits of a people as well as their political, economic and social contexts [68; 56; 69 and 70].

Inyang (2008) also observed that across the continent, African business schools and management faculties in the universities and other tertiary institutions have not considered it expedient to completely review the colonial business curricular several years after independence. He concludes that the predominance of foreign course contents, literature, models, principles, theories etc. have not in any way helped in the development of indigenous African management models and philosophies.

6. CONCLUSION

The paper evaluated the extent of recognition and application of contingency management approach in Nigeria through case study of some discretionally selected organizations both in the public and private sectors. In spite of the absence of any indigenous codified management philosophy, the managers of these organizations observed the concept of paradigm shift and embraced contingency approach when situations demand it.

The absence of indigenous management philosophy has been associated with transfer of foreign management knowledge and practices, based on the principle of universalization of management, the inability of the educational institutions to design indigenously focused management training curriculum, absence of home-grown literature on management that would propagate Nigerian/African management, the inability of the corporate managers to document their experiences for research and paucity of budgetary provisions for research work in the field of management.

The evolution of Nigerian management philosophy would provide a veritable platform cultural renaissance and a reinvention of the Nigerian management dexterity demonstrated in our early civilizations. The public and private sector should step up efforts to make adequate budgetary provisions for funding research works that bear on management activities to support the development of indigenous Nigerian management philosophy

Universalization of management is fanciful, yet the practice of management cannot be divorced from the tradition, habits and values of a people. Management curricular in the Nigerian business schools, therefore, must be reviewed to take cognizance of the peculiarities of our environment. This will require management research to develop and improve Nigerian models of management and in the process achieve a blending of borrowed patterns of management with traditional social structure.

REFERENCES

1. Thompson, J.D., *Organizations in action*, McGraw-Hill, New York, 1967, p204-212.
2. Katz, D. and Kahn, R.I. 'The social psychology of organization', John Wiley and Sons, New York, 1996, p305.
3. Zeithaml, V. A., Varadarajan, P. R., and Zeithaml, C. P., *The Contingency Approach: its Foundations and Relevance to Theory Building and Research in Marketing*, *European Journal of Marketing*, (1975), (22, 7), pp37-64.
4. Lawrence, P.R., and Lorsch, J.W. *Organization and environment*, Irwin, Homewood, Illinois, 1967, p238.
5. Burns, T. and Stalker, G.M. *The management of innovation*, Tavistok, London, 1961, p132.
6. Fiedler, F.E., *A Contingency Model of Leadership Effectiveness*, in Berkowitz, L. (Ed.), *Advances in Experimental Social Psychology*, (1964), 1, 149-90
7. Parsons, T., *The social system*, Free Press, Glencoe, IL, 1951, p201.
8. Barnard, C.T., *Functions of executive*, Mass Harvard Press, Cambridge, 1938, pp312

9. Weiner, N., Control & communication in the animal & the machine, (Hermann & Cambridge, Mass. (MIT) Press, USA, 1948, pp341-345.
10. Cole, G. Management theory and practice, Kogan Rape Limited, London, 2004, p345.
11. Alderson, W., Marketing behaviour and executive action, Irwin, R.D., Homewood. Illinois, 1957, p123.
12. Chandler, A., Strategy and structure, Anchor books, Garden City, NY, 1962, p291.
13. Woodward, J., Industrial organization: theory and practice', Oxford University Press, London, 1965. P329
14. Emery, F.E. and Trist, E.I., The Casual Texture of Organizational Environment, Human Relations, (1965), 18, 21-31.
15. Von Bertalanffy, L., General Systems Theory: A new approach to Unity of Science, Human Biology, (1951), 23, 303-361.
16. Boulding, K., General Systems Theory – The Skeleton of Science, Management Science, (1956), 2, 197-208.
17. Simon, H., Administrative behaviour, Macmillan, New York, 1957, pp195-197.
18. March, J. and Simon, H., Organizations, John Wiley and Sons, NY, 1958, p302.
19. Cyert, R. and March, J., A behavioural theory of the firm, Prentice-Hall, Englewood Cliffs NJ, 1963, pp163-168.
20. Lee, S. M., Luthans, F, and Olson D.L, A Management Science Approach to Contingency Models of Organizational Structure, Academy of Management Journal, (1982), (25, 3) 553-566.
21. Tosi, H.R. Jr. and Slocum, J.W., Contingency Theory: Some Suggested Directions, Journal of Management, (1984), 10: 9–26.
22. Galbraith, J., Organization design. Reading, Addison-Wesley, Mass, 1977, p400.
23. Iyanda, O., Indigenising Management Concepts for Managerial Effectiveness, Centre for Management Development in Collaboration with Nigerian association of Schools of Management Education and Training, Journal of Management, (1985) 10, 9-26.
24. Anderson, C. and Paine, F., Managerial Perceptions and Strategic Behaviours, Academy of Management Journals, (1975), 15, 811-23.
25. House, R., A Path-Goal Theory of Leadership Effectiveness, in Berkowitz, L. (Ed.), Advances in Experimental Social Psychology, (1996), 1, 149-90.
26. Perrow, C.A., Framework for Comparative Analysis of Organizations, American Sociological Review, (1967), 32, 194-208.
27. Hambrick, D.C., An Empirical Typology of Mature Industrial-Product Environments, Academy of Management Journal. (1983), 26, .213-30.
28. Porter, M. E, . Competitive strategy, Free Press. New York, 1980, p192.
29. Pugh, D.S., Hickson, D., Hinings, C., & Turner, C., The context of Organizational Structures, Administrative Science Quarterly, (1969), 14, 91-114.
30. Merton, R, K., Social theory and social structure, The Free Press, NY, 1968, **p317**.
31. Donaldson, L., Strategy and Structural Adjustment to Regain fit and Performance: In Defence of Contingency Theory, Journal of Management Studies, (1987), 24 (1), 1-24.

32. Hamilton, R.T. and Shergill, G.S., The Relationship between Strategy-Structure Fit and Financial Performance in new Zealand: Evidence of generality and validity with enhanced controls, *Journal of Management Studies*, (1992), 29: 95-113.
33. Pennings, J.M., The Relevance of the Structural-Contingency Model for Organizational Effectiveness, *Administrative Science Quarterly*, (1975), 20, 3, 393-410.
34. Harris, H., Content Analysis of Secondary Data: A Study of Courage in Managerial Decision Making, *Journal of Business Ethics*, (2001), 34(3/4): 191–207
35. Zikmund, W.G., *Business Research Methods*, , Thouson Learning, SA, 2003, p215.
36. Bishop, L., A reflexive account of reusing qualitative data: beyond primary/secondary dualism, *Sociological Research*, (2007), pp112-113.
<http://www.socresonline.org/12/3/2.html>. (Accessed 20/02/13).
37. El-Rufai, N.A., Nigeria's Budget And The Dance Of The Masquerade, (2014), p2 Online:
<http://saharareporters.com/2013/03/21/nigeria%E2%80%99s-budget-and-dance-masquerade-nasir-ahmad-el-rufai>
38. Helen C.M., The 1964-65 Elections, [online], <http://www.cruntry-data.com/tgi-bin/query/r-9356.html>. ITU: Quality of Service and Network Performance: Handbook by ITU, (2004), pp99-109
39. Iyayi F., The Conduct of Elections and electoral practices in Nigeria, (2004), p7-8. [online], <http://nigerianbar.com/papers3.htm>.
40. Okoye F., Voters boycott Nigeria polls, (2004), pp9-10 [online], <http://www.news24.com/news24/ananzi> Article
41. Ayo, C., Adebisi, A.A., Sofoluwe, A.B., E-Voting Implementation in Nigeria: The Success Factors, (2012), p7. Online: <http://eprints.covenantuniversity.edu.ng/873>
42. Ojerinde, 'D., Using Assessment for the Improvement of Tertiary Education in Nigeria: The Joint Admissions And Matriculation Board (Jamb) Role, A Paper Presented at the 35th Idea Conference, Brisbane, Australia, (2009), 13-18 September pp1-22.
43. Adenikinju, A., Energy Sector Reform: Prices and Private Sector Response, *The Nigerian Association of Energy Economics*, (2012), 2, 1-30.
44. Okafor, E.E., Reflections of an industrial Sociologist on the Failed Attempts to Privatize the Nigerian Telecommunications (NITEL), *JORIND*, (2012), 10 (3) pp 264-265.
45. Madike, I., Post office without letters: Dwindling fortunes of the Nigerian Postal Services, *Sunday Mirror*, (June, 2013), p35.
46. Adebambo, S. and Adebayo, I.T., Impact of Bus Rapid Transit System (BRT) on Passengers' Satisfaction in Lagos Metropolis, Nigeria, *International Journal of Creativity and Technical Development*, (2009), (1 1-3), p11.
47. Nlerum, F.L., Reflections on Participation Regimes in Nigeria's Oil Sector, *Nigerian Current Law Review 2007-2010*, nials-nigeria.org/pub/NCLR.5pdf., (2010), pp452-457.
48. Ameh, M.O., The Shift from Joint Operating Agreements to Production

- Sharing Contracts in the Nigerian Oil Industry: Any benefits for the Players?, (2006), pp5-7
Online:
http://www.dundee.ac.uk/cepmlp/gateway/files.php?file=CAR10_ARTICLE32_143756024.pdf
49. Asante, S.K.B., Restructuring Transnational Mineral Agreements, *African Journal of International Law*, (1979), 73, 335-359
 50. Aregbeyen, O., Business Re-engineering and Organizational Performance in Nigeria: A case study of First Bank Nigeria Plc, *International Business Management*, (2011), 5 (3), 151-157.
 51. Nworah, U., The Competitive Strategies of Nigerian Fast Food Brands, (2011), p5
[https://www.scribd.com/doc/58493533/The-Competitive-Strategies-of-](https://www.scribd.com/doc/58493533/The-Competitive-Strategies-of-52)
 52. Arikair, Our History, (2014), p1 Online: <http://www.arikair.com/our-history>
 53. Rao, V. S. P. And Narayana, P. S., *Organisation Theory and Behaviour*, Konark Publishing Company, Delhi., (199), pp329-330.
 54. Daft, R.L., *Organizational theory and design*, (2nd Ed.) Mcgraw-Hill, New York, 1986, p452. .
 55. Nwachukwu, C.C. *Management theory and practice*, Africana FEP Publishers Limited, Onitsha, Nigeria, 1992 , p198. .
 56. Edoho, F.M., *Management in Africa: the Quest for a Philosophical Framework*. In Edoho, F.M. *Management challenges for Africa in the twenty-first century: theoretical and applied perspectives*, CT, Praeger Westport, 2001, pp73-90.
 57. Anyansi-Archibong, C.B., 'Toward an African-oriented management theory': In Edoho, F.M. *Management Challenges for Africa in the twenty-first century: Theoretical and applied perspectives*, CT, Praeger, Westport, 2001, pp63-72..
 58. Ngambi, H., *African Leadership: Lessons from the Chiefs*. In Meyer, T.A. & Boninelli, I.,(Eds.), *Conversations in leadership: South African perspective*: Johannesburg, Knowledge Resources, (2004), pp107-132,
 59. Mbigi, L., *The Spirit of African Leadership*, Johannesburg, Knowledge Resources, (2005), pp112-121.
 60. Inyang, B.J. (2007), 'Management theory, principles and practice', 2nd Edition, Merb Publishers, Calabar, Nigeria, pp156-162.
 61. Udo-Aka, U. *Training Institutions in Nigeria types, structures and programmes Internal memoirs of director general*, Centre for Management Development, Lagos, 1987, p47.
 62. Inyang, B.J. (2008), *The Challenges of Evolving and Developing Indigenous Management Theories and Practices in Africa*, *International Journal of Business and Management*, 3,12, p122
 63. Usdiken, B. *Importing Theories of Management and Organisation: the case of Turkish Academia*, *International Studies of Management and Organisation*, (1996), 26(3), 33-45.
 64. Guilen, M.F. *Models of Management*, University Press, Chicago, 1994, pp201-215

65. Eze, N. Human resources management in Africa: problems and solutions, , Zomex Press, Lagos, Nigeria, 1995, pp80-125.
66. Kiggundu, M.N. The Challenge of Management Development in Sub-Saharan Africa, *Journal of Management Development*, (1991), 10(6), 32-47.
67. Nkomo, S.M. Images of African leadership and Management in *Organisation Studies*, Tensions, Contradictions and Revisions, (2006), Available at isa.unisa.ac.za/news/archive/march/vol.1/docs/inaugural-stella-nkomo.Pdf.
68. Oshagbemi, T.A., 'The management of culture for effective performance' In Eiofor P.N.O. & Aniagoh, V.A., (Eds.) *Managing the Nigerian worker*: Longman Nigeria Limited, Ibadan,1984, 253-256.
69. Fashoyin, T. Management in Africa, *Lagos Organisaion Review*, (2005), (1,1) 43-45.
70. George, O.J., Onokola, A. and Owoyemi, O. Religion; the Forerunner of Organizational Culture: The Case of Quakerism in the Employment/Industrial Relations Practice of John and George Cadbury, *International Journal of Business and Social Science*, (2012), 3 (11), 1-9.

RESPONSE OF FOREIGN PRIVATE INVESTMENT TO PUBLIC DEBT IN NIGERIA

Emenike Kalu O.

Rhema University, Department of Banking and Finance, Nigeria

Abstract: The study investigates the long-term relationship and dynamic short-term impact of public debt on foreign private investment for a developing country – Nigeria during the period 1962 to 2012. The paper deploys cointegration model to examine long-term relationship between the variables. The study also examines dynamic short-term impact and causality between public debt and foreign private investment using the VECM and Granger causality test. The study further examines the response paths of foreign private investment variable due to public debts shocks using variance decomposition. The results confirm absence of long-term relationship between public debt and foreign private investment in Nigeria. The results also show that external debt has negative impact on foreign private investment in the short-term. Finally, the results show that there is no causality between foreign private investment and public debt. The major economic implication of these findings is for debt management authorities to be conscious of growing external debts as it discourages foreign private investments into Nigeria.

Keywords: Public debt, foreign private investment, cointegration, developing economy

1. INTRODUCTION

It is not contentious that majority of the developing countries have, in recent times, intensified efforts in attracting foreign private investments to their economies. Foreign private investment³⁹, generally, plays an important role in driving growth through increase in productivity levels (Borenstein & Lee, 1998). It brings technology, creates employment and enhances productivity by bringing competition in the economy. It also brings improvements in the quality of labour and capital inputs in the host economy. Ayyoub, Chaudhry & Yaqub (2012) explain that most underdeveloped economies depend heavily on external resources to make their nations developed and prosperous. However, excessive public debt retards foreign private investment (Iyoha, 1999).

Existing empirical studies have shown that governments in developing economies, where budget deficit and financial gaps exist between savings and investment, use debt as an

³⁹ FPI is an investment made by a private individual or a private entity in a foreign country. This type of investment differs from other investments made by a foreign public or governmental entity in another country in that it is made by an individual or a private entity.

imperative tool to finance its expenditures. According to Sheikh, Faridi & Tariq (2010) there are three major reasons for public domestic debt. First, it is used to finance budget deficit. Second, it is used to implement monetary policy through open market operations. Third, there is need to develop and deepen the financial markets by the instruments of domestic debt. Alam & Taib (2012) observe that financing through debt is an important tool for the government that plays a vital role towards economic development as it accelerates the pace of development of infrastructure of the country. But if the proceeds of public debt are not prudently invested, it would not only result in debt overhang but would also retard economic growth and development.

Debt overhang refers to a situation where a government or an organization has existing debt so great that it cannot easily borrow more money, even when that new borrowing is actually a good investment that would more than pay for itself. Under this situation, the government contracts new debt in order to service old debt thus accumulate debt in place of accumulating of infrastructural facilities and capital stock that would provide sustainable environment for private investments to thrive. The increase in level of debt increases debt servicing obligation, generates resource allocation problem in the national budget and generates temptation for shifting of resources from development to debt servicing sector. Consequently, the citizens face their welfare loss in terms of decrease in economic activities in the country (Alam & Taib, 2012).

Importantly, excessive public debt may discourage investment. Akujuobi (2012) for instance, observes that it is a problem to borrow heavily from internal and external sources to fund different sectors of Nigerian economy with doubtful corresponding gains. Such unsustainable public debt is a potential threat to investment in physical capital and foreign investment. When external debt reaches a high level, investors lower their expectations on investment returns with the possibility of progressively more distorted taxes by the government for debt repayment. In this way, high debt discourages domestic and foreign investment incentive and also slows down physical capital accumulation. In the same vein, Iyoha (1999) argues that inefficient allocation of resources and political corruption in Sub-Saharan Africa has resulted in large stock of external debt and debt service payment which attributes to negative effect on investment. Any reduction in current public debt stock and resulting reduction in debt service should promote current investment for any given level of future indebtedness. Part of the resources that would have gone into debt service will therefore be channeled towards productive investment thereby reduce crowding-out of domestic investment and enhance confidence of foreign private investors' confidence in the domestic economy.

A good number of research efforts have been concentrated on public debt. But majority of these earlier empirical studies were conducted to investigate the impact of public debt on economic growth and development (see for example, Ihimodu, 1985; Anyanwu, 1994; Udoka & Anyingang, 2010; Emmanuel, 2012; Akujuobi, 2012; Erhieyovwe & Onovwoakpoma, 2013). Empirical study on the relationship between public debt and foreign private investment, in the Nigerian case, is scant, despite the importance of foreign investment in attracting scarce technology, creating employment and enhancing productivity. This paper contributes to fill this research gap by investigating the response of foreign private investment to public debt in Nigeria. Empirical evidence of this relationship has important implications

for foreign investment, formulation of public debt policies and development of the financial market in Nigeria. It will, for instance, reveal the magnitude and nature of impact which public debt exert on foreign investment, thereby guide the government borrowing policies, and foreign investors in making direct investment decisions. It will also provide enrich the existing literature on public debt and foreign investment in developing economies and provide reference on the relationship for future studies. The remainder of the paper is organised as follows. Section 2 presents theoretical framework and brief review of literature. Section 3 provides methodology and data. Section 4 presents empirical results and discussions, and section 5 provides the conclusions.

2. THEORETICAL FRAMEWORK AND BRIEF REVIEW OF RELATED LITERATURE

2.1. THEORETICAL FRAMEWORK: DEBT OVERHANG AND INVESTMENT

The theoretical framework adopted for analysis of the response of foreign private investment to public debt is the debt overhang theory. Debt overhang, according to Krugman (1988), is a situation when the contractual value of debt is less than the expected repayment on external debt. The theory debt overhang focuses on the adverse effects of external debt on investment in physical capital. First, when external debt reaches a high level, investors lower their expectations on investment returns with the possibility of progressively more distorted taxes by the government for debt repayment. In this way, high debt discourages domestic and foreign investment incentive and also slows down physical capital accumulation. With the debt-overhang theory, potential private investors prefer to wait for the change of circumstances. Moreover, the investment is more likely to be directed into channels with quick returns rather than into long-run beneficial ones. Thus debt-overhang hinders productivity growth both with low incentive for improvement and resource misallocation.

2.2. BRIEF REVIEW OF RELATED LITERATURE

Numerous empirical studies have examined the relationship between external public debt and foreign private investment in both developed and developing economies. The results of some of these empirical studies are mixed. Borensztein (1990) found that debt overhang had an adverse effect on private investment in Philippines. The effect was strongest when private debt rather than total debt was used as a measure of debt overhang. In a later study, Borenstein & Lee (1998) show that foreign private investment has significant effect on the host country, for example, a one percent point rise in the ratio of foreign direct investment and gross domestic product increase the rate of per capita income growth of the Less Develop Countries (LDCs) by 0.3 percent to 0.8 percent.

Cohen (1993) expressed the relationship between the face value of debt and investment as a kind of Laffer curve such that foreign borrowing has a positive impact on investment and growth up to a certain level; beyond this level, however, its impact is adverse. Similarly, Aremu (1997) conducts a research on foreign private investment in Nigeria, its

determinants, performance and promotion; he find that foreign private investment has a positive effect on economic development in the LDCs. He further submitted that foreign private investment accelerates the pace of economic growth of the LDCs up to a point where a satisfactory rate of growth can be achieved on a self-sustaining basis.

Ajisafe et al. (2006) investigates the causal relationship between external debt and foreign private investment in Nigeria between 1970 and 2003. Result of the cointegration test shows, among other, that the external debt and foreign private investment are not related in the long run.

Agada & Okpe (2002) examine the determinants of risks on foreign investment in Nigeria from 1980 to 2000. Their results show that inflation rate, exchange rate, and political and administrative risk inhibit foreign investment in Nigeria. Ayashagba & Abachi (2002) investigate the effect of foreign private investment on economic growth in Nigeria from 1980 to 1997. Their results show that foreign private investment had significant impact on economic growth and with the tendency of reducing poverty in Nigeria. They therefore conclude that though foreign private investment has a significant impact on Less Development Countries (LDCs) but its presence does not reflect on the growth of these economies. In the same vein, Okpe & Abu (2005) and Olayem (2014) reveal that foreign private investment has not significantly contributed to poverty alleviation in Nigeria.

In an earlier study, Iyoha (1999) argued that Sub-Saharan Africa is faced with large stock of external debt and debt service payment which attributes to negative effect on investment. This stems from inefficient allocation of resource and political corruption which dwindles most economies of Sub-Saharan Africa. This suggests that insignificant impact of foreign private investment and poverty reduction and growth may be as a result of borrowing in excess of the sustainable level as well as inability to channel borrowings in sustainable projects.

The literature on the relationship between public debt and foreign private investment in both developed and developing economies is growing. Many of the studies agree that public debt has a positive impact on investment and growth up to a certain level, after which its impact become negative. Other studies show that foreign private investment is not bad but inefficient allocation of resource and political corruption tend to misdirect the funds that supposed to be used to enhance the adoption of non-existing technology and bring improvements in the quality of labour and capital inputs in the host economy.

3. DATA AND METHODOLOGY

3.1. DATA

The data used in this study are annual series of the foreign private investment (FPI) and public debt, which is decomposed into domestic debt (DD) and external debt (ED). The sample spans from 1962 to 2012, which yields a total of 51 observations for each of the variables. The series were converted to growth rates at time t , proxied by the difference change in the individual series as follows:

$$C_t = (S_t / S_{t-1}) - 1 \quad (1)$$

Where, C_t represents the growth rates for individual series under study in year t and S_t is a vector of the annual series of the variables (i.e., FPI, DD, and Ed).

3.2. METHODOLOGY

The concept of cointegration, developed by Granger (1981) and Engle & Granger (1987), is based on the principle that even though two nonstationary time series may, individually, not be stationary but there exists a linear combination of them that is a stationary stochastic process. For cointegration to exist, the nonstationary time series, under study, have to be stationary after the same number of differencing. This implies that they should be integrated of the same order. The augmented Dickey-Fuller (ADF) unit root test following Dickey & Fuller (1979) and Kwiatkowski, Phillips, Schmidt & Shin (1992) stationarity test are adopted to investigate the order of integration and stationarity of the foreign private investment and public debt series. The cointegrating regression model, adopted to examine the nature of long-run relationship between foreign private investment and public debt in Nigeria, is specified thus:

$$FPI_t = \delta_0 + \delta_1 ED + \delta_2 DD + \mu_t \quad (2)$$

Where FPI is the dependent variable and is the observations of yearly foreign private investment in Nigeria at time t , ED_t is the annual observations of the external debt at time t , DD_t is the yearly observations of domestic debt at time t , δ_1 and δ_2 are the coefficients of external and domestic debts respectively and show their impact on foreign private investment. μ_t is the stochastic error term at time t . The residuals from the cointegrating regression are stored and used as the variable for conducting the Engle-Granger test of cointegration. The *a priori* expectation, based on the debt overhang theory, is that public debt will have a significantly negative impact on foreign private investment.

The test for long-run relationship and hence cointegration between foreign private investment and public debt is accomplished using the Engle-Granger (EG) residual-based test (Nnachi, 2008). The EG residual-based test involves applying the saved residuals in an auxiliary regression of the form:

$$\Delta\mu_t = \phi\mu_{t-1} + \varepsilon_t \quad (3)$$

Where, $\Delta\mu_t$ are the estimated first differenced residual, μ_{t-1} are the estimated lagged residuals, ϕ is the parameter of interest representing slope of the line, ε_t are errors obtained in fitting both differenced residuals. EG residual-based test involves testing the null hypothesis of no cointegration between a set of variables. Rejecting the null hypothesis of a unit root is evidence in favour of cointegration (Engle & Granger, 1987; Lee, 1993).

3.3. VECTOR ERROR CORRECTION MODEL SPECIFICATION

If evidence of cointegration is observed between foreign private investment and public debts, it would imply that there exists a long-term equilibrium relationship between them, so

vector error correction model would be estimated to evaluate the short run properties of the cointegrated series. VECM leads to better understanding of the short-term interaction between different stationary series. It describes a system in which each variable is a function of its own lag, and the lag of the other variable in the system. In case of no cointegration, VECM would no longer be required and we directly proceed to estimate variance decomposition and Granger causality tests to establish the dynamic interaction and causal links between variables. The VECM for foreign private investment and public debts, decomposed into external and domestic debts, may be specified in this way:

$$CFPI_t = \alpha_1 + \alpha_f \hat{\varepsilon}_{t-1} + \sum_{j=1} \beta FPI_{t-j} + \sum_{j=1} \gamma ED_{t-j} + \sum_{j=1} \xi DD_{t-j} + \mu_{1t} \quad (4)$$

$$CED_t = \alpha_2 + \alpha_e \hat{\varepsilon}_{t-1} + \sum_{j=1} \theta FPI_{t-j} + \sum_{j=1} \lambda ED_{t-j} + \sum_{j=1} \varsigma DD_{t-j} + \mu_{2t} \quad (5)$$

$$CDD_t = \alpha_3 + \alpha_d \hat{\varepsilon}_{t-1} + \sum_{j=1} \phi FPI_{t-j} + \sum_{j=1} \eta ED_{t-j} + \sum_{j=1} \psi DD_{t-j} + \mu_{3t} \quad (6)$$

Where, C denotes the first difference operator, γ and ξ measure the short-term effects of public debt on foreign private investment, θ measures the short-term effect of foreign private investment on external debt, μ_{1t} , μ_{2t} and μ_{3t} are white-noise residuals and, α_f , α_e and α_d are the error correction parameters. The error correction coefficients are expected to be significantly negative for the series to converge to long-run equilibrium. Negative and statistically significant ECM coefficient is regarded as a convincing evidence and confirmation for the existence of cointegration (Engle & Granger, 1987). Large values of the error correction parameter will indicate faster adjustment to long-run equilibrium given shocks to the system.

3.4. VARIANCE DECOMPOSITION

Variance decomposition would be applied to examine the dynamic interaction between foreign private investment, external debt and domestic debt in the short-term. Variance decomposition is an innovation accounting technique that can be used to obtain information concerning the interaction among variables (Lutkepohl & Reimers (1992) in Enders, 2004: 338). It allows for tracing the time path of the impact of a shock in one variable on all the variables included in the VAR model.

3.5. GRANGER CAUSALITY TEST RESULTS

Granger causality tests are applied to examine causal links between variables. Here the tests are applied to investigate the direction of causal relationship (if any) between foreign private investment and public debts in Nigeria. A general specification of the Granger causality test in a bivariate (X, Y) context can be specified as follows:

$$Y_t = 0 + 1Y_{t-1} + \dots + iY_{t-i} + 1X_{t-1} + \dots + iX_{t-i} + \mu \quad (7)$$

$$X_t = 0 + 1X_{t-1} + \dots + iX_{t-i} + 1Y_{t-1} + \dots + iY_{t-i} + \mu \quad (8)$$

Where, the subscripts t and $t-1$ denote time periods and μ is a white noise error. The constant parameter 0 represents the constant growth rate of Y in the equation (7) and X in the equation (8). Granger (1969) shows that X Granger-causes Y if Y can be forecast better using past Y and past X than just past Y . Sample f -test is applied to examine causality in the variables. A significant f -statistic implies that lagged changes in a variable Y Granger cause changes in variable X . Unidirectional causality will occur between two variables if either null hypothesis of equation (7) or (8) is rejected. Bidirectional causality exists if both null hypotheses are rejected and no causality exists if neither null hypothesis of equation (7) nor (8) is rejected (Duasa, 2007).

4. EMPIRICAL RESULTS AND DISCUSSIONS

4.1. DESCRIPTIVE STATISTICS

Figure 1, shows time series plots of annual level and growth series of the FPI and ED from 1962 to 2012. The level of FPI shows upward trend from ₦441.2 million in 1962 to ₦397395.20 in 2007. While FPI started moving northward from 1991, ED ‘skyrocketed’ in the second quarter of 1999 before falling in 2006 following Paris Club debt relief. Another key feature of Figure 1 is that ED is, again, moving northward. Notice also that the level series appear non-stationary as they show trend movement, whereas the growth series appear stationary.

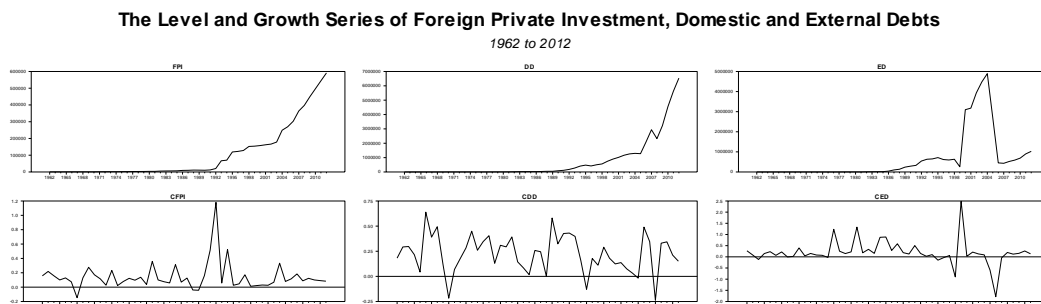


Figure 1

Table 1 shows descriptive statistics for the level series and growth series of the FPI and ED. The average FPI and ED are ₦103665 and ₦641639, respectively for the 1962-2012 periods. The annual average change series for FPI, DD and ED are 14%, 22% and 19% respectively, for the period under study. This suggests that, on average, domestic debt is growing at higher rates than foreign private investment. But external debt has higher standard deviation (55%) than the other variables. Again, the skewness coefficients of the growth in FPI and Ed are significantly positively skewed but DD is not skewed. The excess kurtosis

coefficients, which measure the fatness of the tails of the distribution, are high for both FPI (16) and ED (8). The excess kurtosis of a normal distribution is 0, indicating that the normality assumptions for FPI and ED are doubtful but not for DD. Finally, the Jarque-Bera test for normality of growth distribution yields high statistics for FPI and ED, thus rejecting the null hypotheses of normally distributed growth rates at conventional confidence levels FPI and ED but DD appears to be normally distributed.

Table 1. Descriptive Statistics

	Mean	S.D	Skew	Kurt	JB Stat	Mean	S.D	Skew	Kurt	JB Stat
	Level Series					Growth Series				
FPI	103665	1598	1.695	1.998	32.93	0.143	0.19	3.461	16.5	668.1
		13	(0.00)	(0.00)	(0.00)			(0.00)	(0.00)	(0.00)
ED	641639	1198	2.436	5.107	105.9	0.191	0.55	0.705	8.225	145.1
		743	(0.00)	(0.00)	(0.00)			(0.00)	(0.00)	(0.00)
DD	750241	1449	2.627	6.886	159.4	0.225	0.18	-0.273	0.272	0.778
		744	(0.00)	(0.00)	(0.00)			(0.44)	(0.71)	(0.67)

Note: P-values are displayed as (.). SD is the standard deviation, Skew is the skewness, Kurt is the excess kurtosis and JB stat is the Jarque-Bera test for normality. The Skew, Kurt and JB tests are conducted under null hypothesis of no skewness, no excess kurtosis and normal distribution at 95% confidence levels.

4.2. RESULTS OF TESTS FOR STATIONARITY

Table 2 presents the results of the Augmented Dickey-Fuller (ADF) unit root test and Kwiatowski, Phillips, Schmidt, and Shin (KPSS) stationarity test for the level series and growth series of FPI, DD and Ed. Unit root test is particularly important to ensure that the series are stationary, as estimate obtained from nonstationary series are not reliable. It is visible from *Table 2* that the level of all the series contain unit root at conventional confidence level. However, in the case of the growth series, the statistics reject the null hypothesis of a unit root at the 1% significance level, implying that the growth series are stationary for all the series. The results of the KPSS tests, on the other hand, show that the level series are non-stationary, whereas, their growth rates are stationary.

Table 2. Unit Root and Stationarity Tests Results

	Level		Growth	
	critical value 5%	computed value	critical value 5%	computed value
ADF				
FPI	-2.919	-0.1305	-2.920	-5.913**
ED	-2.919	-1.1356	-2.920	-6.885**
DD	-2.919	-1.3152	-2.920	-5.928**
KPSS	critical value 5%	computed value	critical value 5%	computed value
FPI	0.463	1.108**	0.463	0.077
ED	0.463	1.043**	0.463	0.191
DD	0.463	1.122**	0.463	0.181

Note: FPI is foreign private investment and Ed is external debt. ADF lag length is selected using Bayesian information criterion (BIC). **, * indicates significant at 99% and 95% confidence level respectively.

4.3. Cointegration Test Results

4.3.1. Result of tests for long-run relationship

This section presents the results of the cointegrating regression and E-G residual-based tests specified in equation 2 and 3. As shown in *Table 3*, the coefficient of the external debt is negative but not significant. The results of the residual-based test, as shown in *Panel B of Table 3*, reveal that there is no cointegration (i.e. long-run relationship) between foreign private investment and public debt in Nigeria. The computed τ (t) statistic (-2.17) is higher than the 5% critical τ (t) value (-2.91) and so this falls within the acceptance region of the test. Since the computed t value is higher than the conventional critical τ values, we accept the null hypothesis of no cointegration at the 5% level of significance. This result agrees with the finding of Ajisafe et al. (2006), who document evidence of no long-term relationship between foreign private investment and external debt in Nigeria.

Table 3. Engle-Granger Cointegration Test

Variable	Coefficient	T-Stat	Significance Level
Constant	2.490	11.523	0.000
ED	-0.053	-0.964	0.339
DD	0.730	11.626	0.000
Panel B: E-G Residual-based Test			
Variables	Critical Value 5%	Computed Statistic	
μ_t	-2.919	-2.171	

Note: μ_t is the residual from the cointegrating regression expressed in equation (1). d is the cointegrating regression Durbin-Watson and its 5% critical value. ** and * indicate significance at 1% and 5% levels.

4.3.2. Results of Error Correction Model

Table 4 presents the results of the error correction models (ECM) specified in equations 4, 5 and 6 estimated to examine the response of foreign private investment to public debt in Nigeria. Observe from *Table 4* that growth in external debt has negative and significant short-term effects on growth in foreign private investment at the 1% significant level; whereas growth in domestic debt is negative at all lags but not significant. Equations 4 and 5 show, on the other hand that, that external debt and domestic debt respond only to their previous values. This evidence of significant negative impact of external debt on foreign private investment suggests that growth in external debt discourages foreign private investment in Nigeria. The results also provide support for debt overhang theory and the findings of Borensztein (1990) and Iyoha (1999). According the debt overhang theory, when external debt reaches a high level, investors lower their expected return on investment because of the increased possibility of government demanding more taxes in order to service the higher debt. In this way, high debt discourages foreign investment incentive thereby slows down physical capital accumulation. The Nigerian public debt, for example, was sustainable up to mid 1970's. From the late 1970's, because of poor macroeconomic management and

declining prices of crude oil, the country's public debt, especially the external debt, began its upward movement. Thus, from external debt of US\$ 557.74 million in 1975, Nigeria debt peaked at US \$33.1 billion in 1990. In 2004, prior to the Paris Club debt relief, Nigeria's external debt stood at US\$35.9 billion while the stock of the domestic debt amounted to US\$10.3 billion resulting in a total public debt of about US\$46.2 billion or 64.3% of GDP. Such a large amount of external debt, with its attendant negative press reportage, may explain the negative impact of external debt on foreign private investment in Nigeria.

The results of VECM presented in Table 4 also provide support for the evidence of no cointegration provided by the cointegrating regression above. The *VECM* coefficients of equation 4, 5, and 6 (α_f , α_e and α_d) do not display the expected signs – that is negative and statistically significant coefficients. This suggests that foreign private investment and public debt does not follow the same growth path in long-term.

Table 4. Vector Error Correction Model Estimates

	Equation 4	Equation 5	Equation 6
Variables	Coefficients	Coefficients	Coefficients
D_CFPI{1}	0.1423 [0.532]	0.1005 [0.901]	0.1533 [0.584]
D_CFPI{2}	0.3344 [0.098]	0.0079 [0.991]	0.1471 [0.548]
D_CFPI{3}	0.1723 [0.262]	0.0505 [0.926]	-0.067 [0.718]
D_CED{1}	-0.039 [0.396]	-0.783 [0.000]*	0.0064 [0.910]
D_CED{2}	-0.102 [0.063]***	-0.522 [0.010]*	0.0317 [0.635]
D_CED{3}	-0.096 [0.039]**	-0.260 [0.117]	0.0151 [0.788]
D_CDD{1}	-0.009 [0.947]	0.3066 [0.553]	-0.561 [0.003]*
D_CDD{2}	-0.060 [0.683]	0.1526 [0.774]	-0.426 [0.024]**
D_CDD{3}	0.160 [0.251]	0.4770 [0.340]	-0.204 [0.237]
EC1{1}	1.0210 [0.000]	0.3075 [0.748]	0.2674 [0.420]
Durbin-Watson	1.884	2.084	2.086

Note: *, **, *** indicate significance at the 1%, 5% and 10% levels respectively. [.] is the *p*-value.

4.4. VARIANCE DECOMPOSITION

Notice from step 1 in table 6 that 100% of the variance of the one-step forecast error is due to innovation in change in foreign private investment itself, whereas 1.39% change in external debt is due to change in foreign private investment. But at longer lags, innovations in changes in external debt have significant effects on foreign private investment. In the same vein, domestic debts significantly impact foreign private investment from lag four. Again, while domestic debt has increasing effect on external debt, the former has decreasing effect on the latter.

Table 5. Variance Decomposition

Panel A: Decomposition of Variance for Series CFPI				
Step	Std Error	CFPI	CED	CDD
1	0.1699	100.000	0.000	0.000
2	0.1726	98.246	0.615	1.139
3	0.1810	93.201	5.761	1.039
4	0.1889	86.512	6.642	6.846
5	0.1959	83.587	9.935	6.478
6	0.1971	83.393	9.890	6.717
7	0.1990	83.115	10.152	6.733
8	0.1996	82.659	10.209	7.132
9	0.1999	82.365	10.393	7.242
10	0.2001	82.252	10.382	7.366
11	0.2006	81.874	10.335	7.790
12	0.2010	81.611	10.371	8.017
Panel B: Decomposition of Variance for Series CED				
Step	Std Error	CFPI	CED	CDD
1	0.6089	0.129	99.871	0.000
2	0.6265	0.577	98.198	1.225
3	0.6565	0.930	97.921	1.150
4	0.7051	1.013	96.165	2.822
5	0.7740	1.483	96.148	2.368
6	0.8041	1.507	96.069	2.425
7	0.8405	1.785	95.675	2.540
8	0.8787	1.712	95.757	2.531
9	0.9152	1.795	95.782	2.423
10	0.9466	1.828	95.784	2.388
11	0.9776	1.871	95.679	2.451
12	1.0103	1.903	95.691	2.406
Panel C: Decomposition of Variance for Series CDD				
Step	Std Error	CFPI	CED	CDD
1	0.2095	0.097	3.171	96.733
2	0.2317	1.037	2.773	96.190
3	0.2430	1.369	2.655	95.976
4	0.2659	5.239	2.256	92.505
5	0.2881	5.215	2.018	92.767
6	0.3067	5.521	1.796	92.683
7	0.3189	5.697	1.695	92.608
8	0.3351	5.622	1.654	92.724
9	0.3503	5.644	1.528	92.828
10	0.3641	5.593	1.420	92.987
11	0.3770	5.729	1.329	92.942

12	0.3902	5.779	1.260	92.961
----	--------	-------	-------	--------

Note: CFPI, CED, and CDD are the growth rates of foreign private investment, external debt and domestic debt respectively.

4.5. GRANGER CAUSALITY TEST RESULTS

Table 7 displays the results Granger causality test at lags 1 to 3 with Durbin-Watson statistic to account for first order autocorrelation in the residuals. It is glaring that there is no causality between foreign private investment and external debt or otherwise. There is also no causality between foreign private investment and domestic debt at the conventional significance level.

Table 6. Granger Causality Tests

Direction	df.	Coefficient	f-statistic	D-W
CFPI → CED	F(3,40)	0.9843	0.4098	2.0746
CFPI → CDD	F(3,40)	0.6213	0.6053	1.9766
CED → CFPI	F(3,40)	0.0822	0.9693	2.0151

Note: D-W is the Durbin-Watson test statistic. → indicate the direction of causality. Lag length is 1 to 3.

5. CONCLUSIONS

The study investigates the long-term relationship and dynamic short-term impact of public debt on foreign private investment for a developing country – Nigeria for the data span 1962 to 2012. The paper employs cointegration model to examine long-term relationship between the variables, which has its advantage of application to level series. The results of the cointegration model confirm absence of long-term relationship between public debt and foreign private investment in Nigeria. The study also examines dynamic short-term impact and causality between the variables using the VECM and Granger causality between public debt and foreign private investment variables. The results of the VECM show that external debt has negative and significant impact on foreign private investment in the short-term. The results also show that there is no causality between foreign private investment and public debt. The study further examines the response paths of foreign private investment variable due to public debts shocks using variance decomposition. The estimates of variance decomposition shows that, from longer lag 4, innovations in changes in public debts have significant effects on foreign private investment. Also, while domestic debt has increasing effect on external debt, the former has decreasing effect on the latter. The conclusion therefore is that growth in external debt has negative impact on foreign private investment. Hence, debt management authorities need to formulate proactive policies to control unsustainable growth in external debt as it discourages foreign private investments from flowing into Nigeria.

REFERENCES

- Agada G.O, & Okpe I.J (2002). Determinants of risk on foreign investment in Nigeria (1980-2001). *Journal of Economics and Social Research*, 1, 123-134.
- Ajisafe, R. A., Nassar, M. L., Fatokun, O., Soile, O. I., & Gidado, O. K. (2006). External debt and foreign private investment in Nigeria: A test for causality. *African Economic and Business Review*, 4 (1), 48-63.
- Akujuobi, L. E (2012). External debts and Nigeria's economic development. *International Journal of Arts and Humanities*, 1 (1), 55-67.
- Alam, N. & Taib, F. M. (2012). Debt burden shifting and welfare loss in countries under debt trap. *European Scientific Journal*, 8 (22), 160-172.
- Anyanwu, J.C. (1994). An analysis of external debt burden of sub-saharan Africa. *African Debt Burden and Economic Development Selected papers for the 1994 Annual Conference of the Nigeria Economic Society*.
- Aremu J. A. (1997). Foreign private investment determinants, performance and promotion. *CBN Bullion*, 21, 108-112.
- Ayashagba G.I, & Abachi P.I. (2002). The impact of foreign direct investment (FDI) on economic growth of the less developed countries (LDCs): A case of Nigeria (1980-1997). *Journal of Economics and Social Research*, 1, 108-125.
- Ayyoub, M.; Chaudhry, I.S. & Yaqub, S. (2012). Debt burden of Pakistan: Impact and remedies for future. *Universal Journal of Management and Social Sciences*, 2 (7), 29-40.
- Borensztein, E. (1990). Debt overhang, debt reduction and investment the case of the Philippines *international monetary fund working paper*, 90 (77), 325-335.
- Borenstein J & Lee J. (1998). How does foreign investment affect economic growth? *Journal of International Economics*, 45, 115-135.
- Cohen, D. (1993). Low investment and large LDC debt in the 1980s, *The American Economic Review*, 83 (3), 1-21
- Dickey, D. A. & Fuller, W. A. (1979). Distribution of the estimators for autoregressive time series with a unit root. *Journal of American Statistical Association*, 74, 427-431
- Emmanuel, O.O. (2012). An empirical analysis of the impact of public debt on economic growth: Evidence from Nigeria 1975-2005", *Canadian Social Science*, 8 (4), 154-161.
- Enders, W. (2004). *Applied econometric time series (2nd Ed.)*. Singapore: John Wiley & Sons (ASIA) Pte Ltd.
- Engle, R.F. & Granger, C.W.J. (1987). Cointegration and error correction: Representation, estimation and testing. *Econometrica*, 55, 251-277.

- Erhieyovwe, E.K. & Onovwoakpoma, O.D. (2013). External debt burden and its impact on growth: An assessment of major Macroeconomic variables in Nigeria, *Academic Journal of Interdisciplinary Studies*, 2 (2), 143-154.
- Duasa, J. (2007). Malaysian foreign direct investment and growth: Does stability matter. *Journal of Economic Cooperation*, 28(2), 83-98.
- Granger, C.W.J. (1969). Investigating causal relations by econometric models and cross-spectral models. *Econometrica*, 37, 424-438.
- Granger, C.W.J. (1981). Some properties of time series data and their use in econometric model specification. *Journal of Econometrics*, 16, 121-130.
- Ihimodu, I. I. (1985). External loans and debt servicing problems in the Nigerian economy. *Nigerian Journal of Economic and Social Studies*. 97–111.
- Iyoha, M. A. (1999). External debt and economic growth in sub-saharan African countries: An econometric study, *African Economic Research Consortium Research Paper No. 90*, March.
- Krugman, P. R. (1988). Financing vs. forgiving a debt overhang. *Journal of Development Economics*, 29: 253-268.
- Kwiatkowski, D. P., Phillips, C. B., Schmidt, P, & Shin, Y. (1992). Testing the null hypothesis of stationarity against the alternative of a unit root: How sure are we that economic time series have a unit root? *Journal of Econometrics*, 54: 159-178.
- Lee, H. (1993). Seasonal cointegration: Japanese consumption function”, *Econometrics*, 55, 275-298
- Nnachi, A. (2008). Financial linkages of the Nigerian stock market, *PhD Thesis Submitted to the Department of Banking and Finance, University of Nigeria*
- Okpe, I. J. & Abu, G.A. (2009). Foreign private investment and poverty reduction in Nigeria (1975 to 2003). *Journal of Social Science*, 19(3): 205-211.
- Olayem, S. O. (2014). Foreign private investment, capital formation and poverty reduction in Nigeria. *European Journal of Business and Social Sciences*, 2 (10), 157-168.
- Sheikh, M.R., Faridi, M. Z. & Tariq, K. (2010). Domestic debt and economic growth in Pakistan: An empirical analysis. *Pakistan Journal of Social Sciences*, 30 (2), 373-387.
- Udoka, C. O. & Anyingang, R. A. (2010). Relationship between external debt management policies and economic growth in Nigeria (1970-2006). *International Journal of Financial Research*, 1(1), 2-13.

EMPLOYMENT AS A FACTOR OF WORK PRODUCTIVITY, COST AND PROFIT IN TRADE

Vojteski-Klijenak Dragana, Sljivic Slavoljub, Pavlovic Milenko

Faculty of Business Economics and Entrepreneurship, Serbia

Abstract: Considering the nature of business, labor costs belong to the group of critical factors of trade company business success or, on the other hand, they significantly influence their business and financial performances. In order to optimize the effects of labor costs, more attention needs to be dedicated to the improvement of human resources management effectiveness, especially in the retail chains of countries with a developed trade economy, by applying training programs for employees and modern technology. An increased appliance of modern technology significantly influences the improvement of the efficiency of human resources management in trade companies, as the managing instrument of their performances. The comparative research used in this paper determines that, due to the influence of various factors, the participation of labor costs in the total revenues from trade company sales, or retail chains, is different in different countries. For example, labor costs are lower in Serbia related to the EU member countries and Croatia, as a comparable country within the region. Similar differences exist in the area of the total labor costs observed in certain countries. Knowing of these reasons is an important assumption for an efficient management of labor costs in trade companies, especially in the case of Serbia as the subject of a special analysis in this paper. (JEL Classification: F65 L81 M40).

Keywords: labor costs per hour, unit labor costs, work productivity adjusted for earnings, human resources management.

1.INTRODUCTION

It is well known that labor costs per work hour, unit labor costs, the number of employees and labor costs per employee are significant factors of productivity and the effectiveness of business activities in trade or the retail area (Sarantopoulos, 2013; Gornostaeva, 2014). Within the structure of total costs (costs of sold goods and operational costs), that is, the operational costs of trade, the participation of labor costs (employee wages) is very important, considering the nature of the business (work-intensive). Nevertheless, it is different due to the influence of various factors in certain countries, trade types – wholesale, retail, motor vehicles and car parts trade, trade companies, retail chains and retail stores. The goal of the research in this paper is a complex exploring of the influences of labor costs on the performances of retail chains in certain countries, primarily developed trade economies, treated as a critical factor of business success. In the aim of a more complex exploring of the topic, an empirical analysis of labor costs of certain relevant segments, with a special reference to Serbia, was carried out.

The subject of research in this paper is a complex analysis of factors which influence labor costs management efficiency in trade companies, with a special reference to effective human resources (hereinafter: HR) management and the appliance of modern technology. The efficiency of labor cost management in trade companies in Serbia is emphasized.

The significance of the research in this paper is reflected in the systematically analyzed empirical results of the research giving a dependable base for improving labor cost management efficiency in trade companies, especially in Serbia – or in other words, this should be its scientific and professional significance.

The literature (especially the articles) about labor costs management in trade companies is very plentiful (Bryan, 2007; Ton, 2008 and 2009; Walker, 2008; Higón, 2010; Lichtenstein, 2010; Lukic, 2011b; Lukic, 2012; Ilić, 2012; Lovreta, 2013; Gauri, 2013; Lukic, 2013a, b and e; Lukic, 2014 a, b; Teng, 2014; Gornostaeva et al. 2014). There are also a significant number of publications in the form of studies (Deloitte, 2009; Measuring up Retail Benchmarking Survey, 2013; Productivity Commission 2011; Retail Market in China, 2013; and Analysis of cost base of Australian retail compared to the UK and US; <http://richardblundell.net/2012/01/high-cost-base-australian-retail>(accessed /9/1/2014 1:09 PM)). These topics are researched in literature from various angles in certain relevant segments of trade company business activities, including work productivity. Understanding this is significant for improving the efficiency of labor cost management in a specific trade company, especially Serbian.

2. EMPLOYMENT IN THE EU TRADE SECTORS

Trade participates significantly in the total number of employees in the national economy, a fact which is supported by empirical data about sectoral employment, including trade (total and per type). For example, the total number of staff participating in the wholesale and retail trade in the United Kingdom is 16.0% - 4.1% in wholesale and 10.2% in retail (Rhodes, 2014). Observed per country, the participation of trade in the total number of staff in a national economy differs. For example, the participation of retail trade in the total number of staff within the national economy in 2012 was the following: Australia with 9.63%, Austria with 6.60%, Belgium with 5.77%, Brazil with 7.17%, Bulgaria 10.48%, Canada 12.60%, China 3.77%, the Czech Republic 7.24%, France 7.21%, Germany 5.71%, Hungary 6.86%, Italy 8.83%, Japan 11.90%, Morocco 20.67%, Russia 3.47%, the UK 9.93%, and the USA with 10.30% (World Retail Data and Statistics 2014, 8th edition, Euromonitor International Ltd.; http://www.euromonitor.com/medialibrary/PDF/Book_WRDS_2014_toc.pdf). Thereby, it ranges from 3.47% in Russia to 20.67% in Morocco.

The role and importance of trade in the European Union is quite large, considering the number of companies, employees and creating additional value (Retail & Wholesale: Key sectors for the European Economy, Understanding the role of retailing and wholesaling within the European Union, April 2014, Institute of Retail Management, Said Business School, University of Oxford). For example, in 2012 the trade (wholesale and retail; repair of motor vehicles and motorcycles) participated in the total number of staff in the EU with 24.28% (the

author's calculation in accordance to A Recovery on The Horizon? Annual Report on European SMEs 2012/2013, October, 2013, Final Report, European Commission).

The employment per the size of trade company is different. Table 1 shows employment in EU trade sectors (EU-27) per company size for 2012.

Table 1. Employment in the EU trade sectors per company size, 2012

	0-9	10-49	50-249	SMEs	250+	Total
N.	5,387,99	349,142	45,796	5,782,93	7,227	5,790,16
Employment	11,253,6	6,771,05	4,434,06	22,458,7	9,261,98	31,720,7
Average size	2.09	19.39	96.82	3.88	1281.54	5.48
Additional value (million €)	279,969	268,594	210,493	759,056	354,144	1,113,200
Labor productivity (annual in €)	24.88	39.67	47.47	33.80	38.24	35.09

Source: A Recovery On The Horizon? Annual Report on European SMEs 2012/2013, October, 2013, Final Report, European Commission.

The data in the given table leads to the conclusion that work productivity is at its highest in medium size trade companies (50-249 employees).

3. ROLE AND IMPORTANCE OF TRADE IN SUSTAINABLE DEVELOPMENT AND CREATING ADDITIONAL VALUE IN THE SERBIAN ECONOMY

Trade is, like in other countries, a very significant generator of the total Serbian economic performances. In other words, the role and importance of trade in terms of participation in the total number of companies, employees, or in the total traffic and additional value per factor costs in the Serbian economy is quite large. The data given in the Table 2 supports this conclusion.

Table 2. Role and importance of trade in sustainable development and creating additional value in the Serbian economy, 2011 and 2012

	Number of business subjects, %		Number of employed persons, %		Turnover, %		Additional value per factor costs,%	
	2011	2012	2011	2012	2011	2012	2011	2012
Economy of Serbia - total	100	101	100	100	100	100	100	100
Wholesale, retail and motor vehicles repair	39.4	38.4	22.8	22.3	39.8	40.7	19.5	20.6

Source: Republic of Serbia Statistic Annual 2013 and Annual data of structural statistics 2012, Republic of Serbia – Republic Institute for Statistics.

In 2012, trade participated in the total number of companies with 38.4%, employees with 22.3%, traffic with 40.7% and the additional value per factor costs with 20.6%. The influence of trade on creating economic, social and sustainable values of the Serbian economy is significant (considering the high participation). This is, generally speaking, the case in other countries as well, considering the general characteristics of trade.

The structure of employment in trade in Serbia is, same as in the EU and other countries, different by individual company sizes.

In Serbia, there is significantly larger employment in the wholesale than in the retail sector. The reasons for this are, generally speaking, better business conditions in wholesale than in retail.

In Serbian trade, according to the size of the companies, there is bigger employment in micro companies (entrepreneurship – individual independent businesses), than in large companies and retail chains (similar as in EU trade). In regards to individual sectors, employment in motor vehicle sale and repair is the largest in micro companies (and smallest in large companies; the bigger the company the smaller the employment). In wholesale, employment is the largest in micro companies, and in retail in large companies. The general conclusion is that, according to these criteria, the trade network in Serbia is still ‘shredded’, with an expectation of enlargement in the future. It is, in a certain way, reflected on the total costs, including the labor costs of trade companies in Serbia.

4. LABOR COSTS AS A COST COMPONENT IN TRADE

The structure of costs in trade is, in accordance with its character, specific in relation to the other economic sectors. The two significant categories of costs in trade are the following: the cost of sold goods and the operational costs. In the structure of operational costs, the participation of labor costs is significant. Labor costs significantly participate in the

income of sold goods and trading costs, or in retail (especially operational). Their participation in the total income of the sales of goods and costs is without doubt, different in certain countries, trade companies, retail chains, retail shops and product category. This will be shown in this paper by researching the given topic, based on specific original empirical statistical data of trade in selected countries (primarily developed trade markets), retail chains and product categories.

Table 3 shows the costs of employees in trade in the European Union per selected countries with the largest participation in additional value.

Table 3- Costs of employees in trade of select EU member countries

	Employee costs - total (in million Euros)	Costs of employees per employee- average (in thousands Euros per person)	
	2010	2010	2011
EU-27	704894	25.9	26.5 (EU-28)
Germany	151409.9	28.1	28.6
Spain	64197.3	26.6	27.1
France	122311.8	39.5	41.3
Italy	63770.4	32.1	32.6
United Kingdom	97333.1	22.1	22.3
Croatia	2512.6	11.2	11.0

Source: Eurostat, May 2013.

The total costs of employees in trade in the EU are, according to the data in the table, the highest in Germany, and the lowest in Croatia. Staff costs per employee (average), in the EU trade in 2011 were the highest in France, and the lowest in Croatia (with which Serbia is compared to in the region).

Table 4 shows employee costs in trade per sector in the EU.

Table 4- Employee costs in trade per sector in the EU, 2010

	Employee costs – total (in million Euros)	Employee costs per employee – average (in thousand Euros)
Wholesale, retail and motor vehicles repair - total	704,894	25,9
Wholesale, retail and motor vehicles repair	88,385	28,4
Wholesale except motor vehicles trade	324,556	36,0
Retail except motor vehicles trade	291,953	19,4

Source: Eurostat, May 2013.

Observed per sectors, the total costs of employee in the EU in trade, according to the given data in the table, are the highest in wholesale. It is also the case with the average employee costs. The situation is in accordance with the character of business activities of the sectoral trade.

Labor costs are different but significant according to certain product categories – food, non-food products. Thus, for example, in Western Europe, the personal costs of large grocery retail chains are very significant, which shows the structure of the total operational costs of the store (shown in percentage of sales): personal costs of the store 10%, other costs 3%, logistical costs 4%, general and other administrative costs 4%, and total operational costs 20% (Retail: Workforce efficiency – Improve your service level and productivity while reducing costs, 2011, White paper, Bearing Point, Management & Technology Consultants). In retail, independently from product category, efficient HR management is necessary. The key elements of an efficient labor force in stores are the following: 1) the flow of goods, 2) measures of sales areas and routines, 3) schedule, and 4) managing system (Retail: Workforce efficiency – Improve your service level and productivity while reducing costs, 2011, White paper, Bearing Point, Management & Technology Consultants).

Generally speaking, labor costs in Europe during the previous period have shown a tendency of growth (in almost all countries) observed on a global level and in certain economic sectors. The increase undoubtedly differs in certain countries. Thus, for example, the increase of labor costs per hour in the service business economy (where trade belongs) during the period 2008 – 2013 was the following: the EU 10%, the Czech Republic 11%, Germany 12%, Spain 8.6%, France 10%, Croatia -11%, Italy 12%, Hungary -5%, the UK -1% (author's calculation based on: Labor costs per hour, 2008-2013, Eurostat, 2014). Croatia and Hungary, based on the given data, recorded a decrease of labor costs per hour in the service business economy compared to the other countries.

Unit labor costs for trade in Serbia are calculated by dividing the labor costs with trade as a measure of performance (service size) in trade. In the observed period, they were reduced, which means that the cost efficiency in Serbian trade had increased, and the increase is lower than American trade. In other words, unit labor costs in Serbian trade were higher than American trade.

5. EMPLOYEE COSTS AS DETERMINANTS OF PERFORMANCES IN SERBIAN TRADE

Employee costs in trade in Serbia are very significant. In 2012 they participated in the additional value of the Serbian economy with 56.1%, and in total trade (wholesale, retail, repair) with 48.5%. The participation of labor costs in Serbian trade in 2012 was 4.67% (author's calculation based on: Annual structural statistical data 2012, Republic Institute for Statistics, Republic of Serbia). Thereby, it was lower than in other countries mentioned. Lower labor costs are a significant factor of attracting foreign retail chains in Serbia. In the aim of achieving the targeted cost and profit performances, it is necessary to manage more efficient total costs (including labor costs) as well as the profit by applying new business models, the cost managing concept and modern technologies in Serbian trade.

Table 5 shows the average costs of employees in Serbian trade for the period 2009 – 2012.

Table 5- Average costs of employees in trade in Serbia, 2009-2012

(in thousands RSD)

	2009	2010	2011	2012
Serbian economy - total	679	729	794	862
Wholesale, retail and motor vehicles repair	597	637	671	729

Source: Statistical Yearbook of the Republic of Serbia 2011, 2012 and 2013. Annual data of structural statistics for 2012, Republic of Serbia – Republic Statistics Institute.

The average employee costs in trade are lower compared with the Serbian economy and they are lower related to trade in EU countries and other countries. For example, costs of employees in Serbian trade in 2010 (in millions) were 1230.8 EUR. The average costs of employee (given in thousands per capita) in Serbian trade in 2011 were 6,390 EUR. They are significantly lower, nearly twice in comparison with the costs of the employees in Croatian trade. This is undoubtedly a positive reflection on attracting foreign retail chains to Serbia. Dynamically speaking, the average employee costs in Serbian trade have shown a tendency of growth from year to year. In 2012, they were higher by 22.11% in comparison with 2009. This was reflected on the performances of trade companies in Serbia.

Table 6, in the aim of a more complex processing of the issue, gives the labor costs of select retail chains in Serbia in 2013.

Table 6- Labor costs of selected retail chains in Serbia, 2013

	Number of employees	Operating income (in 000 RSD)	Labor costs - total (in 000 RSD)	Participation of labor costs in operating income, %*	Net profit (in 000 RSD)	Operating income per employee (in 000 RSD)*	Labor costs per employee –average (in 000 RSD)*	Net profit per employee (in 000 RSD)*
Delhaize Serbia	7413	76836096	5043557	6.56	4094120	10365	680.36	552
Mercator-S	4701	63393962	3406468	5.37	518542	13485	724.62	110
IDEA	3949	55300760	2879145	5.20	(2237097)	14003	729.08	(566)
Knez Petrol	520	37602982	327682	0.87	222120	72313	630.15	427
OMV Srbija	42	31075305	195572	0.63	(545967)	739888	4656.47	(12999)
Lukoil Srbija	176	30347465	399810	1.31	(3195070)	172428	2271.64	(18153)

Note: Author's calculation.

Source: Commercial Register Agency

Based on the given data in the table, it is easy to conclude that labor costs (given in percentage of operating income) are significantly higher at grocery retail chains than at fuel retail chains. It is, for sure, a consequence of the nature of their operating. Furthermore, there are significant differences between them. Thus, for example, total labor costs for the first product category – food, are the highest in the Delhaize Serbia company, as well as the average employee costs in IDEA. Similar differences exist regarding the total and average employee costs between companies in the fuel market. Employee costs have significantly influenced the performances of the given retail chains.

6. CONCLUSION

Based on the conducted research, this paper can conclude that there is a significant participation of labor costs in sale revenues in trade companies. Considering this, they significantly influence performance and are treated as a crucial factor of business success. Participation of labor costs in income from the sale of retail chains is different in various countries. Thus, the labor costs in Australian trade are bigger than those in the UK and the USA. Also, labor costs in the trade of the EU and Russia are also higher than in the USA.

In addition, unit labor costs in USA trade are lower than in the EU although within the EU itself, there are numerous differences in different countries. It is typical that unit labor costs in the service sector of business economy (including trade) are lower in Germany in comparison with all other European countries, which is, inter alia, a result of a more efficient training of employees. In Serbia, unit labor costs of trade are higher compared with the USA, and labor costs per employee in Serbian trade are lower than in the EU, which are significant factors for attracting foreign retail chains to Serbia.

The number of employees and labor costs are significant indicators of trade company performance in all countries. For example, according to research, there is in Serbia a high correlation between the number of the employees and sale revenues, and between labor costs and labor costs per employee and work productivity. The medium correlation is the negative one between labor costs and profitability.

Numerous factors influence the effectiveness of labor costs management in retail chains. Key are company size, HR management, work productivity, part-time employment, improvement of relations with suppliers and buyers, new business models, and the appliance of new concepts of costs management and modern technologies. With adequate control, labor costs could be optimized as a critical factor of the business success of retail chains. This is especially related with the retail chains, primarily Serbian ones.

REFERENCES:

- A Recovery on the Horizon? Annual Report on European SMEs 2012/2013, October, 2013, Final Report, European Commission, 1-99.
Analysis of cost base of Australian retail compared to the UK and US;
<http://richardblundell.net/2012/01/high-cost-base-australian-retail>(accessed

/9/1/2014 1:09 PM)

- Bhatla, N. and Kant Pandey, K. (2014). The impact of HR issues in the retail sector in emerging markets with special reference to luck. *IOSR Journal of Business and Management (IOSR-JMB)*, 16, (1. Ver. VII), 1-7.
- Bryan, L. L. (2007). The new metrics of corporate performance: Profit per employee. *The McKinsey Quarterly*, 1, 57-65.
- Deloitte: The retail Review – Cost saving initiatives for retailers, (2009), http://www.deloitte.com/view/en_gb/uk/6b5e10a8b410e110VgnVCM100000ba42f00aRCRD.htm
- Gauri, D. K. (2013). Benchmarking Retail Productivity Considering Retail Pricing and Format Strategy. *Journal of retailing*, 89(1), 1-14.
- Gornostaeva, J. et al. (2014). Comparative analysis of efficiency of activity of service enterprises in Russia and the countries of Eastern Europe. *Review of Applied Socio-Economic Research*, 7, (1), 61.
- Higón, D. A. et al. (2010). The Determinants of Retail Productivity: A Critical Review of the Evidence. *International Journal of Management Reviews*, 12 (2), 201-217.
- Ilić, G. et al. (2012). Analiza odnosa između kompenzacionih praksi i poslovnih rezultata. *Acta Economica*, Godina X, Broj 17, 31-50.
- Levy, M. and Weitz, B. A. (2007). *Retailing Management*. McGraw-Hill, Irwin, Boston.
- Lichtenstein, D. R. et al. (2010). The Relationships among Manager-, Employee-, and Customer-Company Identification: Implications for Retail Store Financial Performance. *Journal of Retailing*, 86(1), 85-93.
- Lovreta, S. (2011). *Trgovinski menadžment*, Ekonomski fakultet, Beograd.
- Lovreta, S. et al. (2013). Competition Policy and Optimal Retail Network Development in Transitional Economies. *Economic Annals*, LVIII (199), 57-84.
- Lukic, R. (2011a). *Evaluacija poslovnih performansi u maloprodaji*. Ekonomski fakultet, Beograd.
- Lukic, R. (2011b). Estimates of economic performance of organic food retail trade. *Economic research*, 24 ,(3), 157-169.
- Lukic, R. (2012). Sustainable Development of Retail in Serbia. *Review of International Comparative Management*, 13 ,(4), 574-586.
- Lukic, R. (2013a). *Računovodstvo trgovinskih preduzeća*. Ekonomski fakultet, Beograd.
- Lukic, R. (2013b). Sustainable Cost Management in Retail. *Review of International Comparative Management*, 14, (2), 268-280.
- Lukic, R. (2013e). The Influence of Working Assets Efficiency Management on the Profitability of Trade in Serbia. *Review of International Comparative Management*, 14, (5), 731-745.
- Lukic, R. (2014). The economic and financial status of trade entrepreneurs in Serbia. *Economic and Environmental Studies*, 14, (3), 239 -264.
- Lukic, R. (2014). The profitability of trade in Serbia. *Asian journal of Management Research*, 4 ,(3), 485-500.

- Measuring up Retail benchmarking Survey, (2013). PWC, Retail Council of Canada, retrieved from <http://www.pwc.com/ca/en/retail-consumer/benchmarking-study.jhtml>
- Productivity Commission 2011. *Economic Structure and Performance of the Australian Retail Industry*, Report no. 56, Canberra, retrieved from http://www.pc.gov.au/__data/assets/pdf_file/0019/113761/retail-industry.pdf
- Retail & Wholesale: Key sectors for the European Economy, Understanding the role of retailing and wholesaling within the European Union, April 2014. Institute of Retail Management, Saïd Business School, University of Oxford, 1-37.
- Retail Market in China, 2013. Fung Business Intelligence Centre, retrieved from http://www.funggroup.com/eng/knowledge/research/china_dis_issue114.pdf
- Retail: Workforce efficiency – Improve your service level and productivity while reducing costs, 2011. *White paper*, Bearing Point, Management & Technology Consultants, 1-12.
- Rhodes, C. (2014). The retail industry: statistics and policy. House of Commons, Library, pp. 1-12, retrieved from www.parliament.uk/briefing-papers/sn06186.pdf
- Sarantopoulos, P. et al. 2013. Productivity and Efficiency in Grocery Retail. *Ielka White Paper Series*, The Institute of Retail Consumer Goods (GR), 1-24.
- Teng, H.S.S. (2014). Qualitative productivity analysis: does a non-financial measurement model exist?. *International Journal of Productivity and Performance Management*, 63,(2), 250-256.
- Ton, Z. (2009). The Effect of Labor on Profitability: The Role of Quality. *Harvard Business School, Working Paper* 09-040, 1-33.
- Ton, Z. and Huckman, R. S. (2008). Managing the Impact of Employee Turnover on Performance: The Role of Process Conformance. *Organization Science*, 19,(1), 56-68.
- U.S. retailer costs: retail industry vs. big-box and department stores ... <http://www.statista.com/statistics/303888/us-retailer-costs-retail-industry-vs-big-box-and-department-stores/> (accessed 9/17/2014 11:50 Am).
- Walker, D. (February, 2008). Improving Profitability and Reducing Cost in Retailers, Using Activity-Based Costing. *White Paper*, WP3111-A, Business Objects an SAP Company, 1-32.
- World Retail Data and Statistics 2014, 8th edition, Euromonitor International Ltd, 1-24; http://www.euromonitor.com/medialibrary/PDF/Book_WRDS_2014_toc.pdf

INFLUENCE OF MUSEUM OFFERS TO VISITORS SATISFACTION - A CASE STUDY NATIONAL MUSEUM IN LESKOVAC

Suzana Randelović¹, Živan Živković²

¹Narodni muzej Leskovac; ²Univerzitet u Beogradu, Tehnički fakultet u Boru, Serbia

Abstract: The study examines the impact of the museum offers to the visitors satisfaction. Visitors were surveyed on permanent display in the National Museum and the City Hall in Leskovac. Model in the study of satisfaction of visitors used the following indicators: the impact based on the museum setting and ambience, the impact of which is based on emotional impact, and the impact of quality of service and quality of experience. Empirical analysis was conducted on a sample of 304 respondents allows us to confirm that a complete museum offers a great influence on the satisfaction of visitors to the museum. The survey results show what visitors encountered and to what extent they are satisfied, and how their expectations are met. Studies have shown that the criteria of the model can be used for the development and improvement of the quality of the museum offer and thereby raising the level of satisfaction of visitors to the museum.

Keywords: the satisfaction of visitors, the museum offers quality experience.

1. UVOD

Način na koji ljudi vide muzeje je, kao i svaki drugi proces pristrasnosti, različit je od jedne do druge osobe. Neko može da vidi muzej kao mračno, hladno mesto gde su smešteni stari predmeti samo za pokazivanje malom broju ljudi, drugi mogu da te predmete povezuju sa učenjem ili zabavom [1]. Kada turisti posetite arheološko nalazište, muzej ili katedralu, oni ne traže samo "proizvod" sam po sebi, nego i emocionalni (estetski), obrazovni i društveni identitet vrednosti u vezi sa tim [2]. Da bi muzejski posetilac bio zadovoljan potrebno je da muzej ima dobru ponudu, nove i zanimljive događaje. Muzeji jesu mesta zaštite, istraživanja i interpretacije, ali i mesta kreativnosti i razvoja čitave zajednice, mesta zadovoljstva i uživanja, edukativna mesta u kojima se posetiocu moraju obezbediti uslovi da se oseća izvrsno i da zadovolji svoje potrebe i namere zbog kojih je i došao u muzej [3,4,5].

Ova studija uključuje sve relevantne faktore koji se odnose na uticaj ponude muzeja na zadovoljstvo posetilaca i može doprineti uspostavljanju razvoja muzejske ponude i analizirati faktore relevantne za zadovoljstvo posetilaca muzeja koristeći teorijska istraživanja koja se odnose na faktore koji su deo muzejske ponude a koji imaju uticaj na zadovoljstvo posetilaca u muzeju.

2. TEORIJSKA OSNOVA, HIPOTEZE I DEFINISANJE MODELA

2.1. PROCEDURA

Za ovo istraživanje izabrane su dve postavke Narodnog muzeja u Leskovcu: Stalna postavka i Gradska kuća u Leskovcu. Subjekti za upitnik su posetioci muzeja koji su slučajno izabrani od onih koji su želeli da dobrovoljno učestvuju i popune upitnik. Anketno istraživanje sprovedeno je od aprila do juna 2014. godine. Meren je uticaj sledećih grupa varijabli na zadovoljstvo posetilaca: (1) postavka muzeja, (2) ambijent, (3) emocionalni efekti (4) kvalitet usluga, i (5) kvalitet iskustva posetilaca muzeja.

2.2. AMBIJENT

Minimalna fluktacija sobne temperature u muzeju je ($21^{\circ}\text{C} \pm 3\text{C}$), a relativna vlažnost vazduha ($55\% \pm 5\%$). Sa druge strane posetioci i zaposleni zahtevaju odličnu toplotnu udobnost, kvalitet vazduha, dobro osvetljenje i vizuelnu percepciju predmeta. Ambijent se smatra kao drugi najvažniji atribut u određivanju kvaliteta percepcije [6]. Studija [7] pruža dokaze da poboljšanje ambijentalnih uslova, funkcionalnost, znaci, simboli i higijena mogu da poboljšaju vrednosti kvaliteta usluga posetilaca. Ova studija ispituje važnu ulogu usluga u odnosu na uverenje posetilaca o kvalitetu usluga, uticaj na zadovoljstvo i dalje ponašanje posetilaca (želju da ostane). Muzejske prostorije treba da su osvetljene na optimalan način za posetioce, njihovu vizuelnu percepciju izloženih predmeta i njihovu vizuelnu udobnost i prostornu orijentaciju [8]. Od posebnog interesa za muzeje su reprodukcija boja, trodimenzionalna percepcija predmeta i izbegavanje odsjaja. Svetlo usmereno ka ekranu poznato je kao akcenat svetlo dok je svetlo u pozadini deo ambijentalnog osvetljenja [2]. Ove činjenice dovele su do definisanja sledećih hipoteza:

H1a - Ambijent ima pozitivan uticaj na kvalitet usluga u muzeju.

H1b - Ambijent ima pozitivan uticaj na emocionalne efekte posetilaca muzeja.

2.3. POSTAVKA MUZEJA

Muzeji obično imaju ograničen budžet za uspostavljanje izložbe i kao rezultat toga izložbe se ne menjaju često [9]. Stalna postavka treba biti "lična karta" muzeja koja će publici prezentovati sve njegove specifičnosti, njegove najznačajnije i najvrednije eksponate, remek-dela po kojima je poznat i različit od drugih institucija. Glavni cilj poboljšanja vizuelnog kvaliteta izložbe je da omogući posetiocima da obavljaju svoju delatnost udobno, opušteno. Da bi se postigao ovaj cilj, neophodno je obezbediti osvetljenje koje ljudima omogućava dobre vizuelne performanse i vizuelni komfor [10]. Svaki posetilac će imati jedinstveno i drugačije tumačenje i izložba muzeja treba da bude predstavljena tako da posetioci posmatranjem nekog eksponata mogu da shvate njegovu značajnost [4]. Stoga, došlo je do definisanja sledećih hipoteza:

H2a - Postavka muzeja ima pozitivan uticaj na emocionalne efekte posetilaca muzeja.

H2b - Postavka muzeja ima pozitivan uticaj na kvalitet iskustva posetilaca muzeja.

2.4. KVALITET USLUGA

Studija autora Pachucki [11] predstavlja klasifikaciju kvaliteta u muzeju. Rad [1] opisuje potrebe i funkcije muzeja koje takva institucija ima u društvu i potvrđuje ih, nudeći scenario u kojem elitistički pristup umetnosti muzeja i slobodno orijentisan pristup mogu da koegzistiraju. Brojne istraživačke studije o kvalitetu usluga [12,13] su otkrile da usluga ima važnu ulogu na emocije, zadovoljstvo, i ponašanje pojedinca. Rezultati studije [2] su pokazali da kvalitet usluga organizatora izložbe ima pozitivan uticaj na opšte zadovoljstvo prisutnih. Pošto posetioци formiraju ukupnu percepciju prema kvalitetu usluga i prema opštem zadovoljstvu, to će veoma verovatno da utiče na buduće namere i ponašanje. Za muzej, efikasnost komuniciranja je suštinski važno prenošenje informacija i angažovanje posetilaca više je nego tradicionalna, tekstualna i vizuelna metoda. Muzeji su institucije od velikog značaja za razvoju inovacije zbog informacija koje mogu da obezbede javnosti, pa je edukacija njihov glavni cilj [1]. Na osnovu navedenih razmatranja, mogu se definisati sledeće hipoteze:

H3a - Kvalitet usluga muzeja ima pozitivan uticaj na emocionalne efekte posetilaca muzeja.

H3b - Kvalitet usluga muzeja ima pozitivan uticaj na kvalitet iskustva posetilaca muzeja.

2.5. EMOCIONALNI EFEKTI

Autori Hosany i Prayag [14] objašnjavaju turističke i emocionalne reakcije i istražuju odnose između turista i njihove procene zadovoljstva i namere da preporuče drugima da posete određenu destinaciju. Emocije se sastoje od dve nezavisne dimenzije: zadovoljstva i uzbuđenja. Zadovoljstvo se odnosi na nivo na kome se osoba oseća dobro, srećna je, dok se uzbuđenje odnosi na mere zašto se čovek oseća stimulisan i aktivno [15]. Studija Prayaga i njegovih kolega [16] empirijski testira model, povezuje emotivna iskustva turista, zadovoljstvo i ponašanje. Model predlaže da zadovoljstvo posreduje u odnosu između emocionalnog iskustva turista i ponašanja jer emocije imaju važnu funkciju u definisanju iskustva. Mnogi istraživači su prepoznali da je muzej važna institucija za društvo, način učenja, sticanja znanja i iskustva [17, 18]. Ako je nivo sveukupnog zadovoljstva posetilaca visoka, osoba će verovatno širiti pozitivne reči – od do usta porodici ili prijateljima, a može ga posetiti ponovo u budućnosti [19, 12]. Doživljaj kvaliteta je direktna odrednica zadovoljstva, kao i emocije i postoji značajna veza između kvaliteta i emocija [15]. Ove činjenice omogućavaju definisanje sledeće hipoteze:

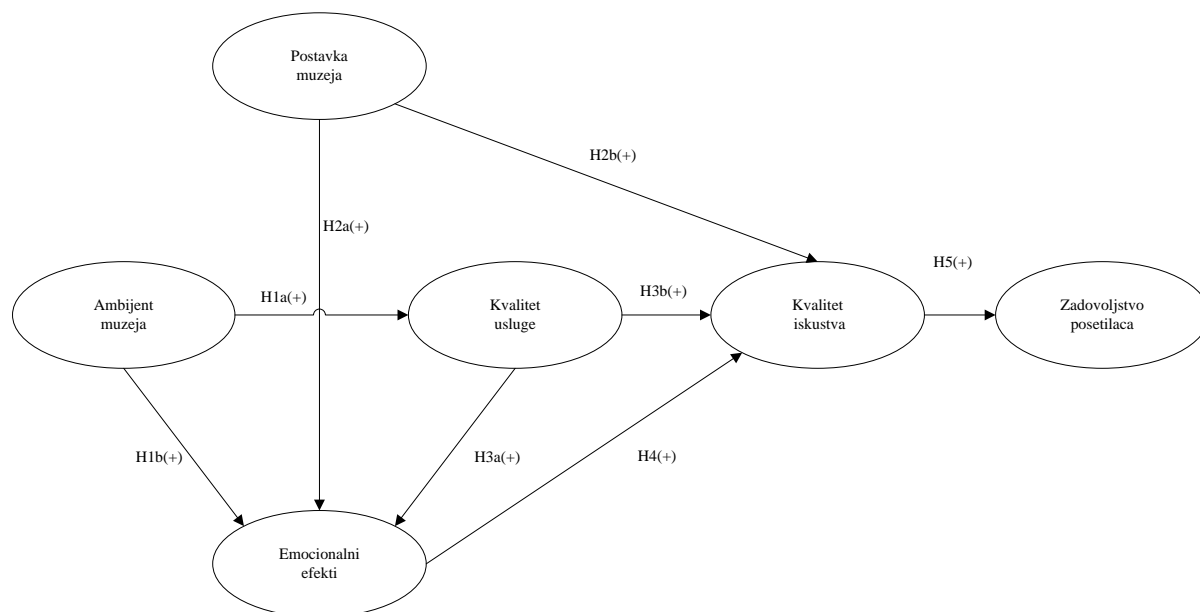
H4 - Emocionalni efekti imaju pozitivan uticaj na kvalitet iskustva posetilaca muzeja.

2.6. KVALITET ISKUSTVA

Percepcija kvaliteta se definiše kao potrošačev lični sud o celokupnom kvalitetu ili izvrsnosti nekog proizvoda ili usluge [20]. Muzeji se danas suočavaju sa brojnim izazovima i trenutno traže načine da privuku i zadrže publiku i angažovanje u javnosti [21]. Muzej nije skladište prošlosti, već most u budućnost, omogućavajući nam na kratko budućnost koja

prevazilazi naše sadašnje koncepcije sveta. Dakle, pre nego što je skladište prošlosti, može se spekulirati o tome da li je pravi potencijal muzeja u stvari, da rade kao "tehnologija mašte" [22]. Muzej je posebna institucija u kojoj se može putovati po istoriji, ili po različitim kulturama i ima ekskluzivno mesto u obrazovanju. Studija autora Sheng i Chen [23] se fokusira na kvalitet iskustva i istražuje iskustvo posetilaca i nasleđe turizma, odnose između kvaliteta tih iskustava procenom vrednosti, zadovoljstva i ponašanja. Postoji potreba i obaveza da zaposleni u muzeju shvate zahteve posetilaca i na taj način se prilagode njihovim očekivanjima. Prilikom posete muzeja, posetioci uglavnom očekuju da iskuse lakoću i zabavu [2]. Studija autora Vajcnerova i njegovih kolega [24] bavi se utvrđivanjem najvažnijih faktora koji imaju najveći uticaj na ukupno zadovoljstvo posetilaca. Kvalitet iskustva od ključnog je značaja za zadovoljstvo posetilaca muzeja, što omogućava definisanje sledeće hipoteze:
H5 - Kvalitet iskustva posetilaca ima pozitivan uticaj na zadovoljstvo posetilaca muzeja.

Na osnovu teorijskih razmatranja osnovnih kriterijuma koji utiču na zadovoljstvo posetilaca muzeja, moguće je definisati teorijski hipotetički model o uticaju muzejske ponude na zadovoljstvo posetilaca (slika 1).



Slika 1. Konceptualni model uticaja ponude muzeja na zadovoljstvo posetilaca u Narodnom muzeju u Leskovcu

3. METODOLOGIJA ISTRAŽIVANJA

Za istraživanje, čiji su rezultati predstavljeni u ovom radu, koršćen je upitnik iz literature. Istraživanje je obavljeno tako što je upitnik popunjen od strane 304 slučajno izabranih posetilaca u Stalnoj postavci Narodnog muzeja, kao i u Gradskoj kući u Leskovcu. Ukupan broj pitanja u istraživanju iznosio je 24, podeljenih u 6 grupa. Nakon obilaska muzeja, posetioci su bili zamoljeni da popune upitnik. Od ukupno 320 ponuđenih upitnika,

broj posetilaca koji su popunili upitnik iznosi 304. Za merenje odgovora na postavljena pitanja u upitniku korišćena je petostepena Likert-ova skala. Demografske karakteristike uzorka prikazane su u tabeli 1.

Tabela 1. Demografske karakteristike uzorka

Demografske varijable	Struktura uzorka		Učešće (%)
	Kategorija	Broj	
Pol	Muški	166	
	Ženski	138	54.6
Zanimanje	Radnik	79	45.4
	Ostalo	60	26.0
	Ekonomista	34	19.7
	Professor	34	11.2
	Student	34	11.2
	Inženjer	21	11.2
	Pravnik	18	6.9
	Lekar	12	5.9
	Menadžer	12	3.9
Starosna struktura ispitanika	16-25 godina	63	20.7
	26-35 godina	80	26.3
	36-45 godina	75	24.7
	46-55 godina	47	15.5
	Preko 55 godina	39	12.8
Stručna sprema	Osnovna ili srednja skola	108	35.5
	Viša škola	40	13.2
	Visoka stručna sprema	109	35.8
	Magistratura ili master	40	13.2
	Doktorat	7	2.3

4. REZULTATI I DISKUSIJA

Validacija teorijskog modela definisanog na slici 1 je sprovedena pomoću softverskog paketa SPSS st. 18 i LISREL V. 16. Za empirijsku validaciju hipotetičkog modela u ovom radu korišćena je SEM (Structural Equation Modeling) metodologija. U statističkoj analizi validacije definisanja modela, prvo je jedanodimenzionalnost potvrđena pomoću PCA faktorske analize (Principal Component Analysis), preko svih 6 grupa latentnih varijabli u modelu. Faktorska opterećenja i procenat opisanih varijabiliteta od strane jednodimenzionalnih faktora – latentnih varijabli u modelu, su prikazana u tabeli 2.

Da bi se obezbedila pouzdanost i validnost istraživačkog modela u radu definisan je merni model nad kojim je sprovedena Konfirmatorna faktorska analiza CFA (Confirmatory

Factor Analysis). Dakle, CFA je realizovana na svih 6 grupa latentnih faktora mernog modela, upostavljajući sve moguće korelacione veze između njih. Dobijeni rezultati u Tabeli 2. za CFA pokazuju da su u svim slučajevima t-vrednosti mnogo veće od praga poželjne vrednosti ($C.R.>2$) sa nivoom značajnosti $p < 0.05$, dakle CFA analiza je potvrdila dobro uklapanje kontrolnog modela i da sve varijable u modelu imaju jaku konvergentnu validnost, što praktično verifikuje da 24 definisane varijable opisuju, na pouzdan način, šest latentnih promenljivih definisanih u istraživačkom modelu (slika 1).

Konzistentnost varijabli definisanih u okviru latentnih klasa, u istraživačkom modelu, merena je veličinom Cronbach alfa koeficijenta [25]. Dobijene vrednosti Cronbach alfe veće su od 0,7, za svaku grupu pitanja (tabela 2), čime pokazuju dobru konzistentnost pojedinačnih varijabli u okviru 6 definisanih latentnih grupa varijabli ispitivanog modela. Cronbach Alpha vrednost za celu populaciju je 0,92, tako da se dobijeni podaci mogu smatrati pouzdanim za testiranje predloženog modela. Takođe, analizom su utvrđene mere fitovanja mernog modela i vrednosti pojedinih parametara i prikazane su u Tabeli 3. Relativna vrednost chi-square-a ($\chi^2 = 457.10$ za d.f. 237) za merni model iznosi 1.928, što je ispod preporučene granične vrednosti 3, čime se ukazuje na značajno fitovanje između mernog modela i podataka u uzorku. Pored toga, i ostali indeksi fitovanja za merni model (GFI, AGFI, CFI, IFI, NFI, NNFI, RFI) su veoma blizu ili prelaze preporučenu graničnu vrednost od 0.9 (videti indekse fitovanja u Tabeli 3), što takođe ukazuje na adekvatno fitovanje mernog modela. Da bi se testirala validnost konceptualnog modela definisanog na Slici 1. softverski paket LISREL V.16 je korišćen za statističku analizu podataka korišćenjem SEM-path analize. S obzirom da je prethodna analiza mernog modela pokazala zadovoljavajuću statističku pouzdanost podataka za validaciju razmatranog hipotetičkog modela u ovom radu, pristupilo se analizi definisanih relacija između latentnih varijabli. Rezultati analiziranih indikatora fitovanja za SEM-path model su prikazani u Tabeli 3. Dobijene vrednosti razmatranih pokazatelja fitovanja (GFI, AGFI, CFI, IFI, NFI, NNFI, RFI) ukazuju na zadovoljavajući nivo uklapanja u predloženi model jer su sve vrednosti opet blizu ili prelaze preporučenu graničnu vrednost od 0.9 (kreću se u opsegu od 0.85 do 0.97), što sugeriše da se koeficijenti regresije karakterističnih strukturnih putanja mogu izračunati u definisanom teorijskom modelu na Slici 1 sa zadovoljavajućom tačnošću.

Korišćenjem LISREL V.16 koeficijenti regresije su određeni i rezultati su prikazani na Slici 2. Rezultati ukazuju da sve hipoteze definisanih modela imaju pozitivne vrednosti putanja koeficijenata. Pre donošenja konačne odluke o prihvatanju modela, neophodno je utvrditi T - vrednosti svih hipoteza, kako bi se utvrdila statistička značajnost dobijenih rezultata. Izračunate t - vrednosti su prikazane na slici 2 (vrednosti u zagradama).

Tabela 2. Rezultati faktorske analize (EFA) i konfirmatorne faktorske analize (CFA) modela

Grupa pitanja	Posmatrana varijabla	Faktorska analiza (EFA)		Konfirmatorna faktorska analiza (CFA)		
		PCA		Pouzdanost	Konvergentna validnost	
		% varijanse objašnjen faktorom jedno-dimenzionalnosti	Factor loading	Cronbach's alpha	Factor loading	t-vrednosti
Postavka muzeja	MUZ - 1	61.381	0.783	0.789	0.56	12.88*
	MUZ - 2		0.826		0.59	14.29*
	MUZ - 3		0.823		0.66	14.55*
	MUZ - 4		0.695		0.45	10.42*
Ambijent	AMB - 1	57.041	0.664	0.740	0.46	8.98*
	AMB - 2		0.756		0.48	11.17*
	AMB - 3		0.809		0.50	12.33*
	AMB - 4		0.783		0.52	13.02*
....

Napomena: nivo značajnosti * $p < 0.05$

Dobijeni rezultati imaju vrednosti koje su u svim slučajevima veći od 2 sa statističkom značajnošću $p < 0.05$. Na ovaj način, pozitivni uticaj između definisanih latentnih varijabli dodatno se potvrđuje, u okviru teorijskog modela koji je definisan na slici 1. Na osnovu ovih rezultata, očigledno je da posetioci muzeja u Leskovcu imaju dobru ponudu muzeja koja utiče na njihov nivo zadovoljstva.

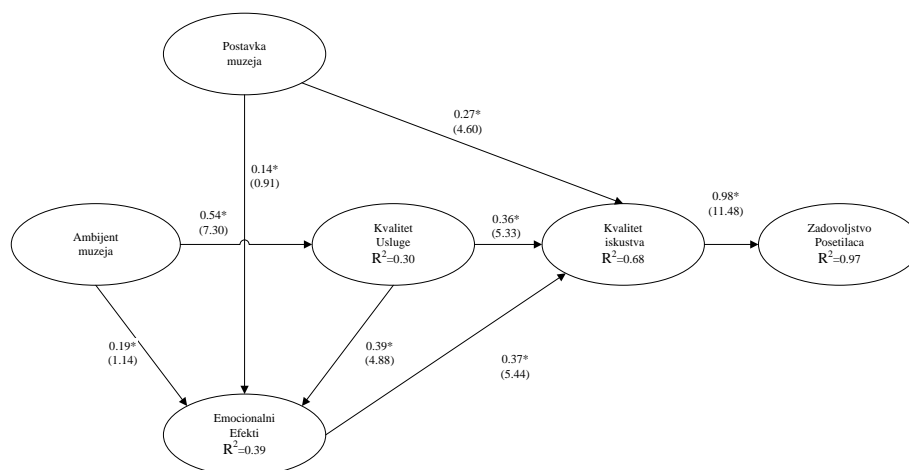
Tabela 3. Zbirne vrednosti indikatora fitovanja teorijskog mernog i konceptualnog modela

Indikatori fitovanja	Dobijene vrednosti u mernom modelu	Preporučene vrednosti	Dobijene vrednosti u strukturnom modelu
Chi-Square (χ^2)	457.10	-	495.57
Degree of freedom (d.f.)	237	-	243
Relative Chi-Square ($\chi^2/d.f.$)	1.928	< 3.0	2.039
Root Mean Square Error of Approximation (RMSEA)	0.055	0.08 – 1.0	0.059
Goodness-of-Fit Index (GFI)	0.89	> 0.8	0.88
Adjusted Goodness-of-Fit Index (AGFI)	0.86	> 0.9	0.85
Comparative Fit Index (CFI)	0.98	> 0.9	0.97
Incremental Fit Index (IFI)	0.98	> 0.9	0.97
Normed Fit Index (NFI)	0.96	> 0.9	0.95
Non-Normed Fit Index (NNFI)	0.97	> 0.9	0.97
Relative Fit Index (RFI)	0.95	> 0.9	0.95

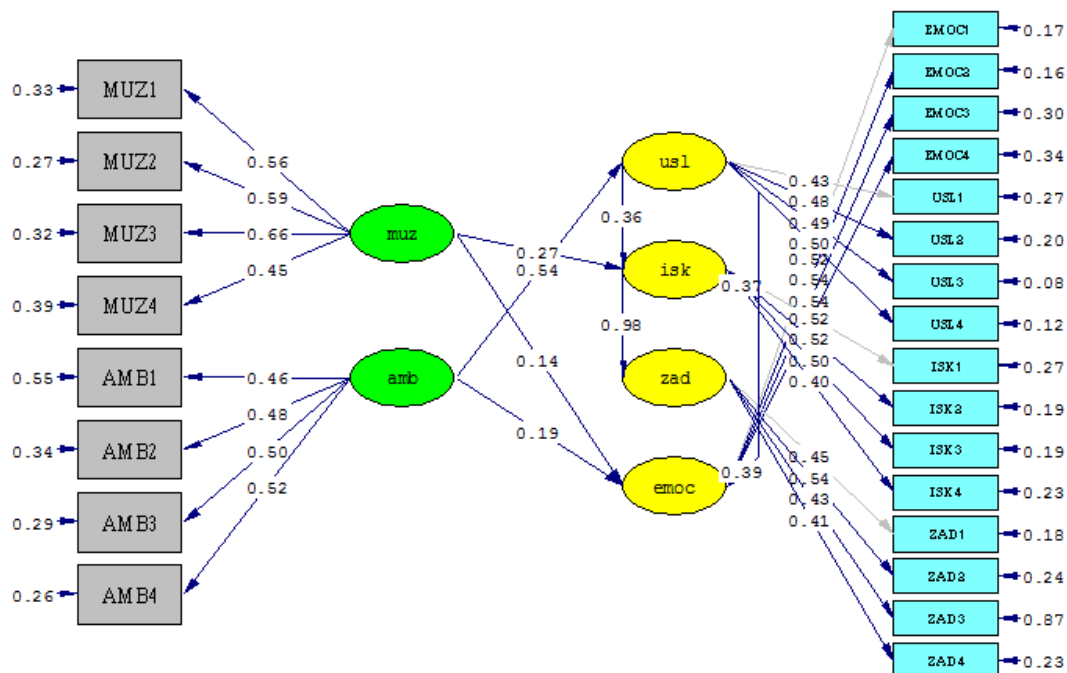
Rezultati dobijenog strukturnog modela su prikazani na slici 2. Zbog preglednosti podataka, samo su prikazane vrednosti koeficijenata putanje sa nivoima značajnosti, T - vrednosti i koeficijenti determinacije R^2 . Prikazani rezultati pokazuju da ambijent muzeja ima pozitivan uticaj na kvalitet usluga ($b = 0.54$, $t = 7.30$, $p < 0.1$) i na emocionalne efekte ($b = 0.19$, $t = 1.14$, $p < 0.1$). Prediktor postavka muzeja pozitivno utiče na kvalitet iskustva ($b =$

0,27, $t = 4,60$, $p < 0,1$) i emocionalne efekte ($b = 0,14$, $t = 0,91$, $0,16$, $p < 0,1$). Kvalitet usluga pozitivno utiče na emocionalne efekte ($b = 0,39$, $t = 4,88$, $p < 0,1$) i na kvalitet iskustva ($b = 0,36$, $t = 5,31$, $p < 0,1$). Emocionalni efekti pozitivno utiču na kvalitet iskustva ($b = 0,37$, $t = 5,44$, $p < 0,1$). Kvalitet iskustva ima pozitivan uticaj na zadovoljstvo posetilaca ($b = 0,98$, $t = 11,48$, $p < 0,1$). Rezultati strukturne analize ukazuju na snagu predviđanja za promenljive u modelu, kao i na činjenicu da su sve postavljene hipoteze u modelu i potvrđene. Pri čemu, u definisanom strukturnom modelu stepen uticaja izražava se kroz uticaj ambijenta muzeja, definisan hipotezu H1a, H1b, na zavisne prediktore i ima nivo uticaja (b - vrednosti: 0.54, 0.19, respektivno). Uticaj postavke muzeja je definisan hipotezama H2a, H2b i ima nivo uticaja (b - vrednosti: 0.14, 0.27, respektivno). Uticaj kvaliteta usluga predstavljen je kroz hipoteze H3a i H3b, (b - vrednosti: 0.39, 0.36, respektivno), i ima skoro isti nivo uticaja i kao hipoteze H4, H5 (b - vrednosti: 0.37, 0,98, respektivno).

Koficijent determinacije R^2 (Squared Multiple Correlation value) u SEM-path analizi objašnjava procenat varijanse u zavisnoj latentnoj varijabli koji se može opisati od strane nezavisnih tj. uticajnih latentnih varijabli u modelu. Sa slike 2 i 3 (PTH dijagram modela), može se zaključiti da procenat varijabiliteta u zavisnoj latentnoj varijabli Kvalitet usluge koji se može objasniti pod uticajem Ambijenta muzeja iznosi 30%. Takođe, procenat varijabiliteta od 39% u latentnoj varijabli Emocionalni efekti se može smatrati posledicom zajedničkog uticaja 3 faktora Postavke muzeja, Ambijenta muzeja i Kvaliteta usluge, pri čemu na osnovu koeficijenta putanje se može uočiti da Kvalitet usluge ima najznačajniji uticaj od ova tri faktora (b -vrednost: 0,39). Dalje, razmatrajući efekte na zavisnu latentnu varijablu Kvalitet iskustva, pri čemu je procenat varijabiliteta opisan od strane prediktorskih latentnih varijabli 68%, može se uočiti da skoro podjednak najveći uticaj imaju emocionalni efekti i kvalitet usluge. I na kraju, varijabilitet u zavisnoj varijabli Zadovoljstvo posetilaca se skoro u potpunosti može opisati kvalitetom iskustva u razmatranom modelu, obzirom da koficijent determinacije R^2 iznosi 97%, što znači da samo 3% varijabiliteta u varijabli Zadovoljstvo posetilaca je neobjašnjeno.



Slika 2. Strukturni model uticaja ponude muzeja na zadovoljstvo posetilaca u Narodnom muzeju u Leskovcu (t - vrednosti u zagradi)



Slika 3. PTH dijagram modela

5. ZAKLJUČAK

Poboljšanje kvaliteta iskustva posetilaca predstavlja cilj menadžmenta, kao i obezbeđivanja kvaliteta iskustva, a zatim i zadovoljstva koji su važna pitanja za menadžere kad određuju održivost svoje strategije očuvanja kulturnog nasleđa. Kako bi obezbedili kvalitete ukupnog iskustva, menadžeri nasleđa treba da nastoje da ispune očekivanja posetilaca [3]. Da bi muzejski posetilac bio zadovoljan potrebno je da muzej ima dobru ponudu, nove i zanimljive događaje. Muzeji jesu mesta zaštite, istraživanja i interpretacije, ali i mesta kreativnosti i razvoja čitave zajednice, mesta zadovoljstva i uživanja, edukativna mesta u kojima se posetiocu moraju obezbediti uslovi da se oseća izvrsno i da zadovolji svoje potrebe i namere zbog kojih je i došao u muzej [3,4,5].

Izvedena ispitivanja u Narodnom muzeju u Leskovcu, omogućila su definisanje modela za ocenu kvaliteta muzejske usluge koji može biti primenjen za bilo koji drugi muzej. Da bi se poboljšao kvalitet doživljaja posetilaca muzejskom ponudom, potrebno je kontinuirano meriti stepen zadovoljstva posetilaca i definisati uticaj pojedinih elemenata ponude muzeja navedenih u modelu na kvalitet doživljaja zadovoljstva posetilaca muzeja.

REFERENCE

- [1] Enasel I. O., The Role of Information in Art Museum Communication Process. *Procedia Economics and Finance* 6, 2013, 476-481.
- [2] Chen Y. - F., Huai-en Mo, Attendees' perspectives on the service quality of an exhibition organizer: A case study of a tourism exhibition. *Tourism Management Perspectives* 1, 2012, 28-33.
- [3] Chen, C. F, Chen, F. S., Experience quality, perceived value, satisfaction and behavioral intentions for heritage tourists. *Tourism Management* 3, 2010, 29-35.
- [4] Jeong, Lee, H. K., The physical environment in museums and its effects on visitors' satisfaction. *Building and Environment* 41, 2006, 963-969.
- [5] Ruiz, David Martin, M. Castellanos-Verdugo. M, Garcia,O., A visitors' evaluation index for a visit to an archaeological site. *Tourism Management* 31, 2010, 590-596.
- [6] Mueller H. F. O., Energy efficient museum buildings. *Renewable Energy*, 2013, 232-236.
- [7] Yee Man Siu, N., King Wan. P. Y, Dong P., The impact of the servicescape on the desire to stay in convention and exhibition centers: The case of Macao. *International Journal of Hospitality Management* 31, 2012, 236-246.
- [8] De Graaf T., Dessouky M., H. F. O Muller, Sustainable lighting of museum buildings. *Renewable Energy* 67, 2014, 30-34.
- [9] Lee H-Y., Y-C Lin, A decision support model for scheduling exhibition projects in art museums. *Expert Systems with Applications* 37, 2010, 919-925.
- [10] Whab. M. H. A., Zuhardi, A. F. A. Human Visual Quality: Art gallery exhibition. *Social and Behavioral Sciences*, 101, 2013, 476-487.
- [11] Pachucki M. C.. Classifying quality: Cognition, interaction, and status appraisal of art museums. *Poetics* 40, 2012, 67-90.
- [12] Pei Mey L.,Badaruddun M., Service quality, visitor satisfaction and behavioural intentions: Pilot study at a museum in malaysia. *Oural of global business and economics*, volume 1, number 1, 2010.
- [13] Worthley R., Servicescape moderation on personality traits, emotions, satisfaction, and behaviors. *International Journal of Hospitality Management* 31, 2012, 31-42.
- [14] Hosany S., G. Prayag, Patterns of tourists' emotional responses, satisfaction, and intention to recommend. *Journal of Business Research* 66, 2013, 730-737.
- [15] Camarero C., C .de Rojas., Visitors' experience, mood and satisfaction in a heritage context: Evidence from an interpretation center. *Tourism Management* 29, 2008, 525-537.

- [16] Prayag G., S. Hosany, K. Odeh., The role of tourists' emotional experiences and satisfaction in understanding behavioral intentions. *Journal of Destination Marketing & Management* 2, 2013, 118-127.
- [17] Ahmad. S, Abas. M. Y., Mohd. W. Z, Mohd. Y., M. Z, M. T., Using research as best practice in creating future museum exhibition. *Social and Behavioral Sciences*, 105, 2013, 370-382.
- [18] Abac O., H. Usba, Investigation of the effects of the program "utilization of the museums for pre-school education" on 6 year-old children. *Procedia Social and Behavioral Sciences* 2, 2010, 1205-1209.
- [19] Lee S., S. Jeon, D. Kim., The impact of tour quality and tourist satisfaction on tourist loyalty: The case of Chinese tourists in Korea. *Tourism Management* 32, 2011, 1115-1124.
- [20] Camarero C., M. Jose, Components of art exhibition brand equity for internal and external visitors. *Tourism Management* 31, 2010, 495-504.
- [21] Everett M., Barrett M. S., Investigating Sustained Visitor/Museum Relationships: Employing Narrative Research in the Field of Museum Visitor Studies. *Visitor Studies*, 2009, 37-41.
- [22] Bjerregaard P., Dissolving objects: Museums, atmosphere and the creation of Presence. *Emotion, Space and Society*, 2014, 1-8.
- [23] Sheng, C.W., Chen, M. C., A study of experience expectations of museum visitors *Tourism Manag.*, 33 (1), 2012, pp. 53-60.
- [24] Vajcnerova I., P. Žiaran, K. Ryglova, I. Andraško, Quality management of the tourist destination in the context of visitors' satisfaction. *Procedia Economics and Finance* 12, 2014, 718-724.
- [25] Cronbach, J. I., Coefficient alpha and the internal structure in tests, *Psychometrika*, 16, 1951, 297-334.

TURNAROUND MANAGEMENT

Vlado G. Vukasović

Faculty of Management, Herceg Novi, Boka Kotorska, Montenegro

Abstract: This paper is about turnaround management and deals with certain relevant aspects of three-stage process: initiating and preparing the turnaround, adoption and implementation of the turnaround programme and post-implementation stage of the turnaround.

Keywords: turnaround management, turnaround phenomenon, initiating and preparing the turnaround, adoption and implementation of the turnaround programme, post-implementation stage of the turnaround

1. INTRODUCTION

Crisis is absence of sustainability. A company crisis is an extraordinarily complex business situation, which reflects worrying weakening of its sustainability potential and development. It points to the existence of a real existential threat and uncertainty regarding its potential and final outcome of its overcoming.

Turnaround management is a contemporary global phenomenon which has been intensively developed in the past few decades as a response to more frequent and more complex forms of crises. The world situation is characteristic of a permanently large number of companies in problems – companies that suffer crisis as well as companies that disappear. A turnaround in operations of a weakened company, with existentially threatening business situation which inevitably actualises a dilemma about its destiny, represents an extraordinarily complex and delicate, very often dramatic, undertaking in all the aspects and stages of implementation.

Having in mind the fact that corporate turnaround represents a change based on the paradigm of interrupted balance, its process of implementation can be observed according to the following model: unfreezing – change – refreezing; i.e. from unfreezing the problem, through its solving until complete stabilization and return of the company to normal operations.

The process of corporate turnaround viewed in the light of a paradigm of interrupted balance forms the following three-stage model: (7)

1. Initiation stage and turnaround preparations – it includes the initiation of a turnaround, its preparation and solving of the problems that precede the corporate turnaround.
2. The stage of adoption and implementation of a turnaround programme – it includes activities regarding harmonising, shaping and adopting a turnaround programme, as well as the implementation of strategies and activities provided by a turnaround programme.

3. Post-implementation turnaround stage – it includes activities regarding final shaping of a permanently sustainable company.

We need to bear in mind that a corporate turnaround is unique, dynamic and extraordinarily complex process, whose activities are dominated by a particular turnaround situation, so that the borders of its stage division may be easily blurred.

2. TURNAROUND PHENOMENON

The turnaround management is a contemporary global phenomenon, which has been intensively developed as a response to more frequent and complex forms of crises. The world economy is characteristic of a permanently large number of companies in problems – companies that suffer crisis as well as companies that disappear. Transition processes, particularly global system disruptions such as the current world economic crisis, as a rule cause further dramatic weakening of companies, as well as a wide range of negative effects on the society in general.

The degree of sensitivity of some companies to crisis processes may be represented as a complex function of numerous internal and external factors which may be clustered as: characteristics of the economy in which the company does business; characteristics of the industry in which the company does business; and the characteristics of the company itself. The strength and the vitality of the company i.e. the business environment in which the company does business, mostly determines general potential of resistance to economic disruptions. Considering the character of the activity, certain industries mainly determine general potential of resistance to economic disruptions. Considering the character of the activity, certain industries, to a different extent, generate sensibility to turbulence and crisis processes. Apart from the context of economy and industrial specificity, the completeness of internal situation and the potential of the company are of particular importance considering susceptibility to crisis processes. Strong economy, perspective industry and successful company reflect a high degree of resistance and existential security and the other way around.

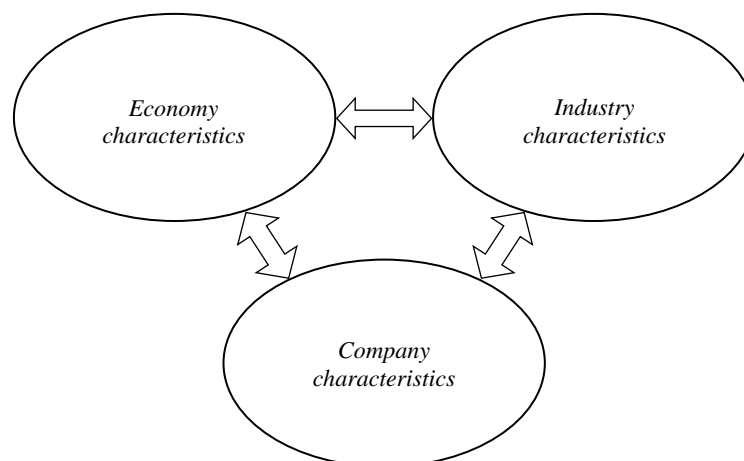


Figure 1. Company susceptibility to crisis

Most frequently the crisis does not start at once but it is preceded by a certain period of problem development, but it may express more intensive form later and in the end it assumes radical forms. In the process the character and intensity of the crisis effects is essentially different in certain development stages of the problem:

1. Incubation – a period in which the problems develop and gradually assume the form of a crisis, but they are still manifested in a partial and concealed manner, by early signals.
2. Escalation – a period in which the effects of the crisis are present in its full capacity, very often as a consequence of the lack of reaction or inappropriate reaction during the problem incubation stage.
3. Culmination – the stage of the strongest crisis effects, when there is a choice between an energetic turnaround and a complete failure. (7)

The crisis stage largely determines the possibility and manner of a company recovery. The crisis which escalates endangers the existence, whereas the one that culminates threatens to destroy the company. In this process the implementation of a corporate turnaround becomes more and more complex and the final outcome more and more uncertain.

Existential threat is an inevitable companion of the company crisis. The awareness of uncertain perspective fundamentally changes the entire company. A different level of existential threat which certain companies suffer in the period of crisis may be manifested as:

1. Existential anxiety – represents a potential crisis or a latent threat to the company.
2. Existential threat – the company is acutely affected while there is a real possibility of its recovery.
3. Existential destruction – the possibility of recovering of the company does not exist and it will certainly fail. (6)

A corporate turnaround, as an undertaking aimed to overcome the company crisis, unique in every individual case, reflects the overall specificity of a particular turnaround situation. It is an extraordinarily complex situation and totality of its character is normally best expressed and reflected in the light of the financial aspect of the problem. Thus, a corporate turnaround may be implemented in a turnaround situation which is predominantly characteristic for: (6)

1. Profit decrease – the company tends to have continuous decrease in profit with a tendency of its complete loss.
2. Loss increase – the company permanently incurs loss which is dangerously accumulated.
3. Formal insolvency – the company has become insolvent and declared bankruptcy as the last resort and a temporary safe haven which offers a certain hope of recovery.

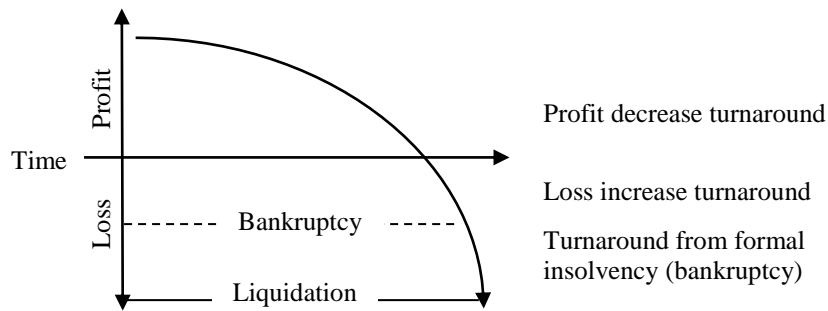


Figure 2. Types of turnaround management (6)

In relation to this, within the context of the financial aspect of a turnaround situation, we may distinguish between three principal types of turnaround: (6) profit decrease turnaround; loss increase turnaround; turnaround from formal insolvency.

More favourable and overall business situation usually provides greater autonomy to the company in the implementation of corporate turnaround, the implementation of less strict measures and more chances of its success. Options and procedures of a corporate turnaround from formal insolvency (bankruptcy, liquidation) are provided by national legislations and may differ considerably. These differences depend on social-political, economic and legal system, as well as dominant national culture.

3.INITIATION AND PREPARATION OF TURNAROUND

The stage of initiation and preparation of a turnaround includes initiation of a turnaround, its implementation and solving problems that precede the corporate turnaround.

The awareness of the company crisis initiates forming a critical level of initiative necessary for decisive reaction. It is favourable if early signs of crisis have been noticed, which enables the management of the company to keep the initiative and initiate a corporate turnaround in time, which provides more chances for more successful recovery. If the management failed to act, the initiative is taken by the key stakeholders, usually creditors and shareholders, who, first of all, want to be informed in detail about the situation and the possibility of a successful solution. In such case the autonomy of the company and its management may be threatened.

The first or one of the first actions which is, as a rule, implemented in crisis situation is the appointment of the new leadership of the company. The certainty of the implementation of company leadership change practice is increasing together with increasing turnaround situation. The leadership change occurs because of their objective responsibility for the crisis or because they are not qualified to implement a corporate turnaround. The reason for management change may also be the need to personalise the culprits for the situation which has arisen and/or it may be clear dissociation in relation to the business policy of the company up to that moment. Turnaround management is normally entrusted to turnaround specialists whose authority in the very beginning usually includes: fast establishment of situation control, taking urgent measures and preparation of a turnaround programme.

The expertise of business operations is immediately done so that the answer to the question is given: can the company be saved, in what manner and at what cost? Diagnostic review should offer fast and objective estimate of the situation, point to the essence and the character of the problem, as well as to the objective possibilities of reaction. It represents the analytical basis for the choice of the best option in the particular turnaround situation. Its elaboration is usually entrusted to independent experts, but experienced turnaround practitioners insist on their own direct inspection.

The purpose of diagnostic review is the estimate of the possibility of recovery and short-term sustainability of the company and it has the following key objectives: (3)

- Estimate if the company is able to survive in a short-term period, within the next three to six months and determine the scope of necessary external financing for its short-term survival.
- Estimate the ability of the company's growth in the mid-term and long-term.
- estimate available options of the company and identify the most favourable ones for the stakeholders.
- Diagnose the key problems and the necessary mix of strategies and actions for the short-term survival and further.
- Estimate the positions of the key stakeholders (creditors, shareholders, management, employees), their readiness to support and, if necessary, to back up the turnaround financially, as well as their relative negotiating power and the ability to influence the outcome.
- Perform preliminary estimate of the management.

The analysis of the capability of growth, risk and the possibility of a turnaround requires the estimate of a set of internal and external factors, through the series of interdependent operative, strategic and specific industrial diagnoses, which includes: key success factors, industry attractiveness, competition position and advantage, consumer satisfaction, business strategy and the possibility of its improvement, business system, organisation, traditional reduction of costs, efficiency of operations, macro and development trends. (2)

A weakened company may basically decide on leaving the business or a corporate turnaround. The condition of some companies is such that the attempt of saving them is not rational either. These are companies whose problems are too complex and which do not have realistic recovery potential. They may resort to the alienation of the business, a gradual end-game or quick liquidation. If the situation regarding the recovery is hopeful and the position of the key stakeholders promising, the company decides on a turnaround procedure.

A company in a turnaround situation is in an extremely delicate position. Namely, as the level of the existential threat is growing, a dramatic decrease of the company ability to self-recover occurs; at the same time the relationship with the stakeholders is becoming worse and worse and the dependence on their help and the support to the turnaround programme is increasingly rising.

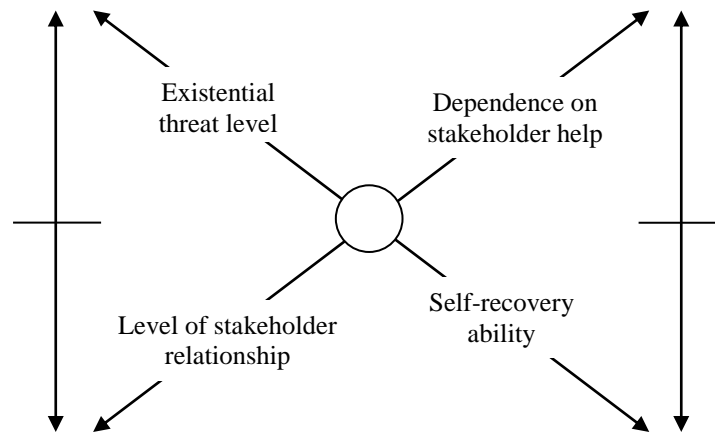


Figure 3. The complexity of the problems, the role of stakeholders, and the ability to self-recovery of the company [6]

The position of the stakeholders in the company in a turnaround situation is essentially changing – they suffer actual pressure, their interest is in danger and they have the risks of their own, so their different reactions to weakening of the company and the turnaround programme may be expected. Weakening of the company brings their justifiable anxiety and expected harsher attitude towards the company. The attitude of the stakeholders towards the weakened company and the turnaround programme is primarily influenced by: (5) their interest in the company, their perceived engagement expenses and their role in company decline. The stakeholders may basically: essentially support the turnaround programme and get involved in its implementation, dissociate from it or oppose the turnaround programme and obstruct it. Generally speaking, the stakeholders who are firmly related to the company and its destiny and who have big interest in it are normally not in the position to dissociate from the company in a turnaround situation, but they are trying, depending on their power and influence, to take an active role in the resolution of the situation. When it comes to looser relationships and smaller interests of the stakeholders in the company in a turnaround situation, there is a dilemma regarding their further engagement in relation to the existing interests and dissociation from a weakened company.

One of the key jobs of a turnaround specialist is to overcome the misunderstanding and establish successful cooperation with the stakeholders. It is precious and very often necessary to gain support and potential necessary help of the key stakeholders in the turnaround programme, the precondition of which is considering and alignment of their interests. The stakeholders that supported and aligned with the turnaround programme, generally, in a more or less direct manner, get involved in its implementation as well.

4. ADOPTION AND IMPLEMENTATION OF A TURNAROUND PROGRAMME

The stage of adoption and implementation of a turnaround programme includes activities directed toward the harmonization, formation and creation of a turnaround programme, as well as the application of strategies and activities provided by a turnaround programme.

The turnaround programme represents a general strategic framework of a corporate turnaround and its strategic initiatives and measures worked out in detail. A business turnaround usually requires the application of a large number of strategies and initiatives, and the type of a general strategic orientation depends on the character of a particular turnaround situation and overall possibilities of overcoming it. The turnaround programme of an individual initiative is harmonized with a general strategic orientation, simultaneously the strategic initiatives are synchronized with each other. The turnaround programme must respond adequately to the given turnaround situation, although to some extent it can also reflect some specific aspects of the delicate harmonization of the interests of the key stakeholders.

One of the main challenges a turnaround practitioner is faced with is to work out a clear turnaround programme. The recovery of a sick company depends on the effective implementation of an appropriate turnaround programme, which must do the following: [4]

- Identify the fundamental problems – it is crucial to focus on solving the problems referring to existential threats.
- Deal with causes (not the symptoms) of a problem – a long-term strategy of recovery must overcome the causes of a collapse.
- Be deep and wide enough to encompass all crucial issues – mission critical problems must be solved.

A comprehensive turnaround programme must have long-term and short-term implications. Within a short term, naturally, the focus is on the short-term survival of a company, which represents a precondition of all possible further activities. It is favourable if the application of urgent operational measures are not dictated by an extreme short-term existential threat, but constitutes a part of a strategic context of the recovery of a company anticipated by the turnaround programme. Within a long term a turnaround programme has strategic implications and it is directed towards permanent sustainability of a company. It is a particularly complex and delicate undertaking to find optimal strategic option in a critical moment when there is a critical business situation, and when the very survival of a company is in question.

Undoubtedly, it is utterly indispensable to have a clear-cut strategy for running all corporate actions, so that meagre resources will not be wasted in vain in non-productive ways in a turnaround situation.[1] At the same time, companies often restore their vitality by virtue of a turnaround programme which successfully combines measures of contractual and developmental character. The following strategies are considered to be the general strategies most frequently used in the turnaround situations: [3]

- Redefinition of the business – it is a fundamental form of strategic change. The very nature of business is redefined by change of long-term goals and thinking of the management.
- Disinvestment – it is often a constituent part of refocusing of production and market. A company closes production lines or whole business areas, and thus assets are liquidated or removed.
- Grow through acquisition – it is a seemingly unexpected, but quite common recovery strategy which enables the faster fulfilment of a turnaround programme in relation to the organic grow. Its application requires available financial assets.
- Refocusing of production and market – it is a fundamental, but a less radical strategic change compared to redefinition of the whole business. It represents the answer to the question: which mix of products or services should be sold and to which segments of consumers?
- „*Outsource*” processes – they address the position of a company within the chain of values of production system in which it does business, focusing on the profitable processes where a company has a relative advantage, while the rest is left to outsources.

During the implementation of a turnaround programme it is necessary to follow permanently and control all relevant indicators, and if needed, to make some timely correction of the individual plan parameters. The turnaround programme is subject to adjustments and changes in the light of inconsistencies or bad solutions noticed in practice. At the same time it is important to overcome the inertia and possible escalation of commitment and make necessary changes on time.

In practice real possibility of hiring highly specialised turnaround practitioners is often questioned regarding the financial possibilities of a company in the turnaround situation. The similar challenge may be encountered regarding the possibility of hiring other experts needed for the formation of a functional turnaround team. All this can lead a turnaround specialist to a position to try to implement the corporate turnaround programme with the available staff.

5. POST-IMPLEMENTATION STAGE OF THE TURNAROUND

The post-implementation stage of the turnaround includes activities directed to final formation of a permanently sustainable company.

Corporate culture change represents an extremely complex, long and delicate, but all the more necessary segment of a turnaround programme. Even in the early stage of the turnaround it is particularly important to build a corporate culture that support the mission and a strategy carefully developing and cherishing it during the whole turnaround process, so that it could be institutionalized as a reflection of a new business philosophy and profile of the company in the final stage. To recovered company its integrative effects are valuable as an extraordinary stabilizer of sustainability.

If during the turnaround there has appeared some sporadic unwanted effects to business performances, e.g. due to the application of authoritative management, unharmonised application of operational and strategic measures, and the like, necessary

corrections for optimization of the system must be made. Also, if the turnaround has been marked with hard measures, such as mass dismissal of employees and if thereupon the social pressure has influenced the formation of a wider hostile environment, the activities directed towards regaining the confidence of the social community must be planned carefully.

A complete corporate turnaround is aimed at getting a company back to normal business. Temporary and partial solutions can be purposeful only as an in-between move or a current transitional situation. The crown of a successful implementation of the turnaround programme is a permanently sustainable company.

There the engagement of a turnaround practitioner is usually completed, and by the rule the recovered company hires a new leadership for regular business activities.

6. CONCLUSION

The turnaround management is a contemporary global phenomenon, which has been intensively developed in the past few decades, as a response to more and more frequent and more and more complex forms of crises. The business turnaround of a weakened company from an existentially threatening business situation, which inevitably poses dilemma about its destiny, represents an extraordinarily complex and delicate, and often a dramatic undertaking in all the aspects and stages of implementation. The corporate turnaround is unique in each individual case and reflects the overall specificity of particular turnaround situation, and within the context of its financial aspect, we may distinguish between three principal types of turnaround: profit decrease turnaround, loss increase turnaround, turnaround from formal insolvency.

The process of a corporate turnaround viewed in the light of a paradigm of interrupted balance constitutes the following three-stage model: initiating and preparing the turnaround, adoption and implementation of the turnaround programme, and the post-implementation stage of the turnaround programme.

The stage of initiation and preparation of turnaround includes: the initiation of turnaround, its preparation and solving the problems which precede a corporate turnaround. The awareness of a crisis of a company incites the formation of the critical level of initiative needed for a decisive reaction. A new leadership of a company is appointed, a turnaround specialist is hired most frequently, which has significant functional and psychological effects. The expertise of business offers a quick and objective estimate of the situation, points to the essence and character of the problem, as well as to the objective possibilities of reaction. A company in the turnaround situation is in an extremely delicate position: as the level of an existential threat grows, a dramatic decrease of the company ability to self-recover occurs, simultaneously relationship with the stakeholders deteriorates, and dependence on their help and support for the turnaround programme increasingly rises. The successful management of the stakeholders, in all its complexity, is essentially important for a successful recovery of a company.

The stage of the adoption and implementation of a turnaround programme includes activities directed toward the harmonization, formation and creation of a turnaround programme, as well as the application of strategies and activities anticipated by a turnaround

programme. The turnaround programme represents a general strategic framework of a corporate turnaround and its strategic initiatives and measures worked out in detail. . The turnaround programme must respond adequately to the given turnaround situation, although to some extent it can also reflect some specific aspects of the delicate harmonization of the interests of the key stakeholders. A comprehensive turnaround programme has long-term and short-term implications. Within a short term, naturally, the focus is on the short-term survival of a company, which represents a precondition of all possible further activities. Within a long term a turnaround programme has strategic implications and it is directed towards permanently sustainability of a company. It is a particularly complex and delicate enterprise to find and implement optimal strategic option in a critical moment when there is a critical business situation, and when the very survival of a company is in question.

The post-implementation stage of the turnaround includes activities directed to final formation of a permanently sustainable company. Corporate culture change represents an extremely complex, long and delicate, but all the more necessary segment of a turnaround programme. To recovered company its integrative effects are valuable as an extraordinary stabilizer of sustainability. If during the turnaround there has appeared some sporadic unwanted effects to business performances, necessary corrections for optimization of the system must be made. The crown of a successful implementation of the turnaround programme is a permanently sustainable company.

REFERENCES

1. Hofer, C. W. Turnaround strategies, *Journal of Business Strategy*, Vol. 1, No 1, 1980, p. 20.
2. Kieren, H. T. The Viability Assessment Under Uncertainty: A Discussion Prior to the Crisis Management Decision. *Turnaround Management – A Guide to Corporate Restructuring*. Institutional Investor in association with Turnaround Management Association, spring, 2002, p.121.
3. Slatter, S. Lovett, D. *Corporate Turnaround – Managing Companies in Distress*, Penguin Books, 1999, pp. 104–105; p. 84.
4. Slatter, S. Lovett, D. Barlow, L. *Leading Corporate Turnaround – How Leaders Fix Troubled Companies*, John Wiley & Sons Ltd, 2008, pp. 19–20.
5. Maheshwari, K. S. *Turnaround Excellence – Six Studies of Corporate Renewal*. Penguin Books. 2007, p. 18.
6. Vukasović, G. V. Corporate Turnaround: Current State and Application in the Contemporary Business Context. *Global Business Conference*. Dubrovnik. 2010.
7. Vukasović, G. V. *Strategic corporate turnaround*. Unpublished doctoral thesis, Faculty of Economics, Podgorica. 2011.

CHALLENGES AND PROBLEMS IN THE PROCESS OF STRATEGIC PLANNING IN MICRO, SMALL AND MEDIUM ENTERPRISES (MSMES)

Lidija Stefanovska¹, Mende Soluncevski²

¹BAS Institute of Management Bitola, Business Academy Smilevski BAS Skopje; ²Ministry of Defense, Demir Hisar, Macedonia

Abstract: In the process of strategic planning MSMEs face a series of challenges that are imposed primarily due to the size, structure and work process of these organizations. Namely, one of the main problems faced by these organizations is the lack of comprehensive analysis of the environment, which would provide a good basis for setting strategic goals. This is mostly due to lack of personnel for this purpose, lack of knowledge of organizational intelligence techniques, as well as lack of software for selection and storage of the received information. Studies point to the conclusion that, in the process of strategic planning, MSMEs are usually based on financial and other reports from the previous year, as well as significant level of intuition on the part of the top management for possible trends in the future.

The second problem concerns the involvement of the parties concerned in the strategic planning process, in order to ensure synergic creating of goals, transparency and integration. Field research shows that, despite the desire for participation, attendance at work meetings by these people is minimal, and points to insufficient awareness of all parties concerned for the importance of strategic planning for the future development of the organization and preservation of the competitive position.

In this context, the paper will present several more challenges and problems faced by SMEs in the strategic planning process, and some of the results in the paper will be based on research conducted by the BAS Institute of Management Bitola within the research project "Developing strategically focused organizations for competitiveness".

Keywords: strategic planning, strategic challenges and problems.

1. INTRODUCTION

The changing processes that occur in all segments of the environment have increased the responsibility of organizations in the activities to be undertaken in the process of strategic planning. In fact, the new general, as well as the challenges in the specific environment, impose greater responsibility on organizations before their employees as well as before their clients and ultimately before the community. Strategic planning is a creative process by which an organization defines the desired future and planned actions for achieving the goals. It is based on modern principles founded on inclusiveness of stakeholders and the use of positive synergy, as an integral part of the modern way of managing organizations, that experiences its true implementation, for the time being, in developed countries and large organizations.

Nevertheless, this does not mean that, as a concept, it cannot be applied in micro, small and medium-sized organizations and countries in transition, precisely because of the tendency to get close to that modern way of management, and it generally represents one of the aspirations for joining the European family.

2. CHALLENGES AND PROBLEMS OF MSME - research framework

Despite all the efforts of MSMEs to apply the concept of strategic planning and the overall strategic management process, still they face more challenges and problems in this context. Namely, these organizations often have simple structure and a small number of employees who simultaneously perform multiple job functions. Hence, a large percentage of these organizations can not devote enough time and attention to the analysis of the environment as an important basis for further strategic planning process. These statements were confirmed by the preliminary research that was conducted on 31 organizations of Pelagonia region, from production and service sector, which are among the MSMEs.

The research goal, revealing the challenges and problems faced by MSMEs in the process of strategic planning, is formulated based on the problems and situations that have been discovered in the area of research and is based on information obtained from the field with practical application of strategic management, especially as a process implemented by MSMEs. The scientific justification of the paper is aimed at generating new scientific knowledge that will find appropriate application not only among MSMEs, but with prospective students on study programs in the field of professional management, as well as at encouraging awareness of the more professional practice of strategic management in MSMEs, despite the differences they have with large organizations.

The research was conducted as pre-research within the research program of the BAS Institute of Management Bitola "Developing strategically focused organizations for competitiveness," whose main purpose is to determine the factors that affect the competitiveness of companies through the implementation of three sub-projects in the domain of the strategic and operational management, innovation and organizational change. The research results in this paper will be presented for part of the organizations in the Pelagonija region in the Republic of Macedonia, which are within the MSMEs.

In order to obtain reliable data, during the research a survey was used. In this way, the basic requirements in research have been met, which are: objectivity and comparability, in order to obtain data by statistical processing, in the direction of the scientific objective of the paper. The research has specifically used the instrument "Survey for managers of organizations in the private sector", that has been completed by the representatives of the top management. The answers to the questions in the survey are further analyzed:

3. RESULTS AND DISCUSSION

One of the biggest problems faced by MSMEs is lack of staff. Strategic management requires highly educated staff that knows the issues of strategic management and is able to properly implement each phase of strategic management in organizations. Precisely in this

context, the strategic role of human resources starts from the fact that the employees should be regarded as equity, since they are key to the success of the organization, and therefore "the most important factor in competitive success is how the enterprise manages its work force" (Pfeffer, 1995). In fact, the management of human resources is a process of harmonization that connects the organizational goals and strategy with the right approach for retaining the human capital of the firm (Baron & Kreps, 1999). In order to detect the conditions of the surveyed organizations, part of the questions in the Survey concern how much employees participate in the process of strategic planning.

The review of table 1 displays the condition of the staff that professionally performs the analysis of the environment in the process of strategic planning in MSMEs.

Table 1. Condition of the staff that professionally performs the analysis of the environment in the process of strategic planning in MSMEs

<i>Is there a person in the organization / team that is responsible for analyzing the environment?</i>			
Statements	Production sector	Service sector	Total
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
No	30%	35%	32,5%
Yes	60%	65%	62,5%
It is done by an external person	10%	0%	5%

According to the results it can be seen that in the sector of service companies 65% of respondents said that it is done by a person in charge for that, as opposed to 60% of statements in production firms and only 10% of them reported that it is done by an external person. Further analysis of the table leads to the conclusion that in almost 40% of organizations surveyed from the production sector and 35% of the service sector there is no person or team that is responsible for analyzing the environment.

It is particularly important to emphasize the large percentage of affirmative answers that there is such person or team. From casual conversation with managers of surveyed organizations it has been noted that it is done solely for the purpose of strategic planning, but without a character of continuity and deeper analysis of the received information. Which means that such assignment is temporary and not a specific system process that should continue and develop.

Chi-Square Tests

	Value	Df	Asymp. Sig. (2-sided)
Pearson Chi-Square	2.170	2	0.338
Likelihood Ratio	2.334	2	0.311
Linear-by-Linear Association	0.431	1	0.512
N of Valid Cases	31		

According to the values of **Chi-square** test, it can be concluded that **there are no** statistically significant differences in statements in frequencies among respondents from production and service sector, indicated by the values of $X^2(2, n = 31) = 2.170, p = 0.338$ (Sig. = .338).

As for the information the organizations have in the process of strategic planning, it can be concluded that the persons responsible for making strategic decisions in the organization are often forced to make the decision with limited information about market conditions (Hansen and Haas, 2001). Such statements are confirmed largely by the answer to the question: *Does the strategic planning, often "rely on your intuition"?* The results are processed by **Chi - square** test and shown in the table below:

VAR00001 * VAR00002 Crosstabulation

			VAR00002		Total
			Production	Service	
VAR00001	Always	Count	4	2	6
		% within VAR00001	66,7%	33,3%	100,0%
		% within VAR00002	40,0%	9,5%	19,4%
	Often	% of Total	12,9%	6,5%	19,4%
		Count	5	15	20
		% within VAR00001	25,0%	75,0%	100,0%
	Rare	% within VAR00002	50,0%	71,4%	64,5%
		% of Total	16,1%	48,4%	64,5%
		Count	1	3	4
	Very Rare	% within VAR00001	25,0%	75,0%	100,0%
		% within VAR00002	10,0%	14,3%	12,9%
		% of Total	3,2%	9,7%	12,9%
	Total	Count	0	1	1
		% within VAR00001	0,0%	100,0%	100,0%
		% within VAR00002	0,0%	4,8%	3,2%
% of Total		0,0%	3,2%	3,2%	
Count		10	21	31	
	% within VAR00001	32,3%	67,7%	100,0%	
	% within VAR00002	100,0%	100,0%	100,0%	
	% of Total	32,3%	67,7%	100,0%	

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	4,306 ^a	3	,230
Likelihood Ratio	4,355	3	,226
Linear-by-Linear Association	2,847	1	,092
N of Valid Cases	31		

According to the values of **Chi - square** test, it can be concluded that there are no statistically significant differences in statements in frequencies among respondents from production and service sector, indicated by the values of $X^2 (3, n=31) = 4.306, p = 0.230$ (Sig. = .230). Also, if we analyze the table with percentage representation of the answers, it can be seen that the majority of respondents both in the production and in the service sector there is practice where managers in the process of strategic planning rely on the intuition and experience they possess in the field of management. Part of this practice is based on the notion that MSMEs do not have enough time or staff to carry out this analysis of environment as a continuous process, as well as to process, cluster and store the information received.

Part of the attention and the data that we wanted to obtain by the Survey related to what information from the external environment is the most relevant to organizations in the process of strategic planning. In this context, several categories of information have been offered. The managers ranked them according to priority of importance. Here are the results.

Table 2. Ranked informations according to priority

<i>Rate the most important information you need for successful strategic planning</i>	
<i>Type of information</i>	<i>Rank</i>
Client information	1
Competition information	2
Supplier information	3
Distributor information	4
Information obtained from open sources (Internet, newspapers, etc.).	5

In the context of solving the above problems relating to strategic planning, and in particular to the analysis of the environment, much of the efforts invested by MSMEs are aimed at implementing the strategy of applying modern information and communication

technologies. Thus they reduce the cost of analysis of the environment and improve the communication channels in the organization thus allowing greater and timely flow of information.

These benefits of using ICT have a very important role particularly in the promotion and raising the level of competitiveness of MSMEs. In this sense, Porter emphasizes that the Internet can be a critical factor for improving market and operational efficiency of SMEs. In other words, the Internet-based technologies allow small companies to overcome the limitations associated with their size, thereby enabling them to compete more efficiently on the larger markets and with larger enterprises (Porter, 2001). Numerous studies also indicate that the use of ICT also increases opportunities for international competition of MSMEs. In this sense we can highlight the following benefits.

- The official websites are equally accessible for both large corporations and for MSMEs;
- ICT allows MSMEs to maintain contact with dispersed customers, and to expand the range of markets where they sell their products and to maintain contacts with suppliers and other stakeholders, and all this at relatively low prices.
- It also allows organizations to raise the level of effective organizational communication, both horizontal and vertical, as well as to have efficient internal and external business cooperation.

In other words, the introduction and rapid diffusion of Internet communication technologies creates tremendous opportunities for MSMEs, by having gained access to the same capabilities that characterize large enterprises and are technically able to engage in national and international management operations, that would otherwise be inaccessible due to the need for a huge amount of money (Radulovic, 2014).

In this sense, we will analyze the answers to the question how much the organizations visit the websites of their competitors to gain certain information about them.

Table 3. How much the organizations visit the websites of their competitors to gain certain information about them

<i>Do you visit the websites of your competitors to get certain information about them?</i>			
Statements	Production sector	Service sector	Total
	<i>Percent</i>	<i>Percent</i>	<i>Percent</i>
Always	20%	9,52%	12,90%
Often	20%	47,62%	38,71%
Sometimes	30%	23,81%	25,81%
Rarely	20%	4,76%	9,68%
Never	10%	14,29%	12,90%

If we analyze the data from the table 3, it can be concluded that the highest percentage of such activities are often implemented by organizations in the service sector, and sometimes by organizations from the production sector. The remaining answers are variously deployed and we can not draw a rigorous conclusion. It refers to the conclusion that it is an individual

matter of each organization, despite the equal conditions and the availability of the Internet that all organizations have.

Chi-Square Tests

	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	3,734 ^a	4	,443
Likelihood Ratio	3,724	4	,445
Linear-by-Linear Association	,081	1	,775
N of Valid Cases	31		

According to the values of the Chi - square test it can be concluded that there are no statistically significant differences in statements in frequencies among respondents from production and service sector, indicated by the values of $X^2(4, n = 31) = 3,734; p = .443$ (Sig. = .443).

4. CONCLUSION

Based on the theoretical presentation and based on the results obtained by the research it can be concluded that despite the commitments made by MSMEs to achieve the full process of strategic management, due to their size they do not carry it out in the same manner as that of large corporations. The first challenge that emerges is the need for timely information that is needed to create a competitive strategy. To provide such information there is a necessity of a team to carry out the analysis and to implement the overall strategic planning process. That leads us to the conclusion that organizational intelligence is important not only for large corporations but also for micro, small and medium organizations.

The second challenge is to invest in ICT as a means of connecting to the globalized market and recognition of the opportunities available to them, as well as recognition of the new current needs, not only in the present but also in the following period.

One of the biggest problems, however, is the lack of staff and determination of a clear organizational structure with clearly defined tasks. Field research shows that not only MSMEs face a shortage of staff, employees often have no clearly defined tasks, which means they perform tasks of different character. This is what happens with the process of strategic planning. It is also very important to emphasize that, (this was confirmed by recent studies and leading management theorists) the strategy should be started with the expectations of stakeholders above all and use of a modified map of balanced results, and to record results

including all shareholders and stakeholders. In the context of these guidelines and considerations the term "strategic leveling" between the organization and its environment has been introduced or "strategic consistency". Thus, according to Arrow (2007), there is strategic consistency when the actions of the organization are in line with the expectations of the management and are market and context related.

In the end, we may bring a general conclusion that the inconsistency of teams for strategic planning and the lack of clustered and saved information from earlier research, require any strategic planning to start always from a zero initial state, without a certain continuity in the procedure, which is particularly important for long-term development of the organization.

REFERENCES

1. Anderson, D., (2012) Organization Development: The Process of Leading Organizational Change, SAGE publications inc;
2. Aleksić, A., (2006): The role and importance of leadership in global business, Review article, Faculty of Economics, University of Belgrade, (Uloga i značaj liderstva u poslovanju globalnog poslovanja, Pregledni naučni članak, Ekonomski fakultet, Univerzitet u Beogradu);
3. Baron J., Kreps D. M., (1999) "Consistent Human Resource Practices," California Management Review 41, no.3: 29-53;
4. Bonoma, T. V., (1985), The Marketing Edge: Making Strategies Work, The Free Press;
5. Chandler, S A., (1962), Strategy and Structure: Chapters in the History of Industrial Enterprise;
6. Certol C.P, Piter, J.P., (1991), Strategic management: Concepts and applications, McGraw Hill;
7. Child J., (1984), Organization: A guide to problem and practice, second edition by Harper & Row Ltd., London;
8. Pfeffer J., (1995), "Producing Sustainable Competitive Advantage Through the Effective Management of People", Academy of Management Executive, no.1: 55-72; and Harry Scarborough, "Recipe of Success", People Management (January 23, 2003): 32-25;
9. Porter M. E., (2001), Strategy and the Internet, Harvard Business Review: 79 (3), 63 – 68;
10. Radulovik I., (2014) Innovation capabilities of SMEs, as a factor of competitiveness on the global market, UKLO, Faculty of Economics in Prilep, p. 29;
11. Ugarovic, et al. (2006), Handbook for good management, 2006. Croatian Law Centre;

ENVIRONMENTAL DIMENSION OF SOCIAL RESPONSIBILITY IN HOTELS IN EASTERN SERBIA

Milovan Vuković, Danijela Voza, Snežana Urošević

University of Belgrade, Technical faculty in Bor, Serbia

Abstrakt: Obtaining successful results in modern business conditions and creating a positive company image is easiest to achieve by respecting the social responsibility concept. Previous studies and practical examples prove that companies that operate according to the principles of social responsibility have better position in the market and reach a stable and long-term growth. Corporate social responsibility is the subject of discussion in every sector of economy. Also, tourism industry is not an exception.

Serbia has a great chance for a successful tourism and hospitality development. In addition to creating an adequate ambient by establishing economic - legal and management - organizational conditions, the development of tourism and hospitality could accelerate thanks to the CSR. In order to determine the current status of the Serbian hospitality, the paper examined the environmental dimension of this concept. The research was conducted on the territory of eastern Serbia and covered 41 hotel facility. The results have shown that the size and visibility of the hotel does not guarantee the presence of ecological orientation. Executives and managers are familiar with ecological technology, but it is not fully implemented yet. Although the results of this research show significant changes for the better, the successful development of tourism specific destination largely depends on the state policy and economic stability of the country.

Keywords: social responsibility, ecology, tourism, hospitality, eastern Serbia

1. UVOD

Začeci hotelijerstva se vezuju za kretanje ljudi i zadovoljavanje njihovih egzistencijalnih potreba na putovanju. Prvi objekti namenjeni smeštaju turista, nastali su u trgovačkim centrima, svetilištima, lečilištima, to jest na glavnim komunikativnim pravcima. Hotelijerstvo se definiše kao delatnost koja gostima pruža usluge smeštaja, hrane i pića, rekreacije i druge raznovrsne usluge. Kvalitet usluge je kategorija koja je od vitalnog značaja za dugoročne i kratkoročne poslovne rezultate hotelskih preduzeća. Veliki svetski hotelijeri kao što su Cezar Ric, Elsvort Statler, Konrad Hilton, Ralf Huc, Ernest Henderson (osnivač međunarodnog hotelskog lanca Šeraton), Vilard Meriot, Kemons Vilson (osnivač svetskog hotelskog lanca Holiday Inn) su među prvima shvatili da je dobrobit potrošača osnovna mera kvaliteta. Oni su među prvima shvatili potrebe, želje i zahteve potrošača. Postavili su temelje menadžmenta kvaliteta u hotelijerstvu. Osim nastojanja da ostvare dobit, savremene organizacije pa tako i hoteli, nastoje da budu i pozitivna snaga u društvenom i ekološkom okruženju u kome deluju.

Pojam društvene odgovornosti u poslovanju

Društveno odgovorno poslovanje (CSR – Corporate Social Responsibility) je koncept u okviru koga kompanije integrišu u svoje poslovanje i interakciju sa svim akterima (stakeholders) društvene i izazove vezane za prirodnu okolinu, na dobrovoljnoj osnovi. Društveno odgovorno poslovanje je od izuzetne važnosti za sva preduzeća kojima je poverenje jedan od ključnih faktora poslovanja, jer će većina partnera već u samom početku poslovati sa preduzećima koja primenjuju koncept društveno odgovornog poslovanja i koja se odnose odgovorno prema zajednici u kojoj kompanija posluje, životnoj sredini i, pre svega, svojim zaposlenima kao osnovnom stubu društveno odgovornog poslovanja. Društveno odgovorno poslovanje je jedan od najsigurnijih načina poslovanja u savremenom poslovnom svetu i stvaranja pozitivnog imidža, koji neretko predstavlja granicu između uspešnog i neuspešnog poslovanja i širenja na željena tržišta. Jednostavnije rečeno, od preduzeća/institucije/organizacije se očekuje da bude odgovorna prema društvu, odnosno zajednici u kojoj radi. Društveno odgovorno poslovanje kompanija u suštini počiva na četiri stuba, to jest, prema:

- zaposlenima (usvajanje politike i prakse koje se odnose na brigu o zaposlenima i njihovom radnom okruženju);
- društvenoj zajednici (aktivnosti vezane za razvoj zajednice čine nevidljivi aspekt društveno odgovornog poslovanja kompanija);
- tržištu (odgovoran odnos prema akcionarima, investitorima, dobavljačima i potrošačima) i
- zaštiti životne sredine (uključivanje principa ekološke održivosti u svakodnevno poslovanje kompanija).

Primena društvene odgovornosti u poslovanju hotelijerstva Srbije

Dosadašnja istraživanja i praksa potvrđuju da su ona preduzeća koja su primenila načela društvene odgovornosti u svojoj poslovnoj filozofiji, sposobna da ostvare bolje rezultate i obezbede stabilniji i dugoročniji rast. Srbija ima realne šanse da perspektivno razvija turizam, a u njegovim okvirima i hotelijerstvo kao važnu komponentu. Takva ocena zasnovana je na prirodnim i antropogenim resursima kojima Srbija raspolaže, a koji uključuju i ljudske resurse kao element usluga, zatim na dostignutom razvoju u kome je stečeno značajno iskustvo i na brojnim drugim komponentama. Potrebne su i određene pretpostavke, naročito u privredno-pravnom i upravljačko-organizacionom pogledu koje bi stvorile pogodan ambijent za dalja ulaganja u hotelijerstvo i ukupan turizam i za njihov budući razvoj. Takva ulaganja trebalo bi da obuhvate direktne investicije u hotelijerske i druge turističke objekte, ali i ulaganja u znanje i stalnu edukaciju već zaposlenih radnika, zatim u istraživačko-razvojne projekte, u poslovna povezivanja preduzeća, organizovanje marketinške aktivnosti preduzeća, organizacija i destinacija, kao i u druge domene, kroz koje će se maksimizirati orijentacija na inostrane i domaće potrošače i njihove buduće zahteve.

Ovaj koncept koji se sve više širi svetom, dospo je i u Srbiju. To potvrđuje sve veći broj primera o racionalnoj potrošnji energije, vode, brizi o otpadu i manjem zagađenju životne sredine.

Ekološka svest kao osnova održivog razvoja

Ekološka svest je nastala kao rezultat izražene ekološke krize koja se ispoljila tokom 70-ih godina. Iako su vremenom preduzete značajne mere za smanjenje ekološke neravnoteže, potreba za izgrađivanjem i podizanjem nivoa ekološke svesti i dalje dobija na aktuelnosti. Ekološku svest čine predstave, načini ponašanja, motivi delovanja, želje i očekivanja koja se odnose na čovekovu prirodnu sredinu (Vuković i Štrbac, 2010). Osnovno polazište koncepta aktivne zaštite životne sredine, jeste da se životna sredina mora zaštititi i unaprediti u celini. Zaštitom životne sredine moraju biti obuhvaćeni svi njeni elementi, bez obzira što zaštita pojedinih segmenata zahteva posebne pristupe i naučne poduhvate. U vezi sa tim, potrebno je uvek i svuda voditi računa o složenosti ekoloških odnosa i procesa. Ideja i zamisao održivog razvoja zaštite životne sredine oslanja se na niz principa među kojima su: predostrožnost, predviđanje rizika, sprečavanje uzroka, novo vrednovanje životne sredine, promena načina ponašanja i potrošnje, uspostavljanje potrebnih demografskih institucija i procesa (Jensen, 1996).

Međunarodna putovanja su, u poslednjih 25 godina, porasla za više od 500% (World Travel and Tourism Councila, 2000). Na turističkim putovanjima izvan domicilne zemlje, turisti su 2000. godine potrošili 476 milijardi američkih dolara. Međutim, podaci pokazuju i sve veću zabrinutost, kako onih koji putuju poslovno, tako i onih koji putuju na odmor o šteti koju turizam nanosi životnoj sredini.

Ekološka svest predstavlja način života koji poštuje i usklađuje sa prirodnim zakonima kruženja materije, trošenja energije i obnavljanja života, pri čemu podstiče na to da se od prirode uzima samo onoliko koliko je potrebno za podmirivanje bezbedne i održive životne sredine.

Ekološku svest čine sledeći elementi:

- ekološka znanja,
- vrednovanje ekološke situacije i
- ekološko ponašanje.

Ekološka znanja predstavljaju osnovni element ekološke svesti. Ekološka saznanja se odnose na poznavanje suštine odnosa u sistemu: čovek – tehnika – priroda. Vrednovanje ekološke situacije je determinisano aktuelnim sistemom vrednosti društva ili društvene grupe u kojoj se formira i razvija ekološka svest. Ekološko ponašanje je bitan konstitutivni element ekološke svesti. Pod ekološkom svesću se ne podrazumeva samo određeni nivo „svesti” pojedinca ili društvene grupe, već i njihova praktična, konkretna individualna ili

društvena delovanja s ciljem da se postavljeni ekološki problemi razreše (Perić i Kostadinović, 2003: 83).

Ekološki menadžment u hotelijerstvu

Ekološki menadžment u hotelijerstvu definiše se kao niz poslovnih aktivnosti upravljanja hotelskim preduzećem zasnovan na savremenim principima i efikasnosti u različitim životnim aspektima, a u skladu sa održivim razvojem, odnosno upravljanje zaštitom životne sredine, briga o ekonomskim i socijalnim aspektima u odnosu na prirodne resurse, intervencije u prirodi i posledicama ljudskog ponašanja (Lax, 2002).

Ekološki menadžment u hotelijerstvu zahteva poslovnu orijentaciju kontinuiranog i aktivnog pozicioniranja na tržištu, odgovornost i delovanje u oblasti obrazovanja, razvoj proizvoda i usluga i stalnu privrženost zdravoj životnoj sredini kao svoju konkurentsku prednost. Potrebno je vršiti kontinuirano ocenjivanje, postavljanje ciljeva i strategija, primenjivati akcione planove kontinuiranog praćenja i intenzivne komunikacije sa svim uključenim stranama, stalne evaluacije itd.

2. EKSPERIMENTALNI DEO

Oblast istraživanja

Oblast obavljenog istraživanja je istočna Srbija, tačnije Borski i Zaječarski okrug. Ovaj region poznat je po brojnim arheološkim nalazištima iz antičkog doba i prirodnim lepotama. Ispitivanjem je obuhvaćen 41 hotelski objekat u ova dva okruga.

U blizini Bora se nalazi veći broj zanimljivih turističkih centara. Pored Zlotskih pećina i Brestovačke banje, ističu se i planine Crni Vrh i Stol, lovište „Dubašnica”, omladinsko odmaralište „Savača”. Ovi centri dobro su saobraćajno povezani sa Borom i nude raznovrsne turističke i rekreativne sadržaje: lovni i ribolovni turizam, planinski turizam. Na Crnom vrhu nalaze se skijaški tereni i planinarski dom. Planina Rtanj je poznata po brojnim izvorima i pećinama. Na ovom mestu spajaju se ruže vetrova sa Karpata, Jadranskog mora i severnih ravnicama. Poseban izazov predstavlja uspon ka vrhu Rtnja sa koga doseže pogled čak do ušća Save u Dunav. Felix Romuliana, blizu Zaječara, jedan je od najprezentativnijih i najsloženijih spomenika rimske dvorske arhitekture i pod zaštitom je UNESCO-a.

U ključne turističke proizvode ove oblasti spadaju: kružna putovanja, specijalni interesi, planine i jezera, zdravstveni turizam i ruralni turizam. Najveći investicioni projekti u narednom periodu su projekat Stara planina, projekat rehabilitacije banja, rehabilitacija gradskih hotela, kao i projekti turističke infrastrukture i sadržaja za upotpunjavanje slobodnog vremena.

Opis istraživanja

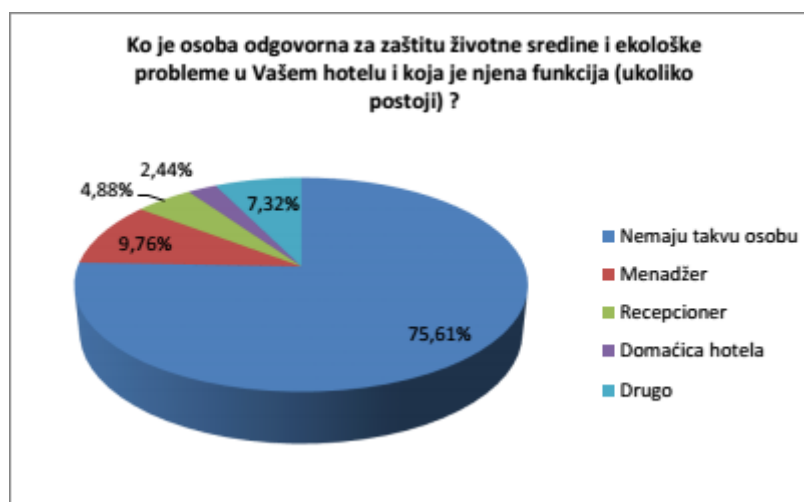
Cilj istraživanja jeste ispitati ekološku dimenziju društvene odgovornosti u hotelijerstvu. Ispitivanje je sprovedeno putem anketnog upitnika, koji se sastojao od tri grupe pitanja.

Prvi deo upitnika obuhvata opšte podatke o hotelu, naziv hotelskog preduzeća i adresu, kao i strukturu hotelskih kapaciteta. Drugi deo upitnika se odnosi na politiku preduzeća u oblasti ekološke problematike. Dok su u trećem delu postavljena pitanja o socio - demografskim karakteristikama ispitanika – pol, godine starosti, stepen obrazovanja i dužina radnog staža.

3. REZULTATI ISTRAŽIVANJA

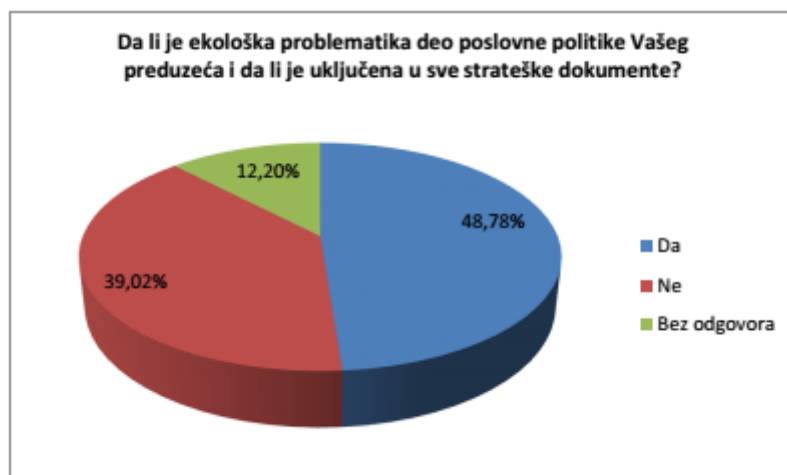
U narednom delu, predstavljeni su odgovori ispitanika o politici preduzeća u oblasti ekološke problematike. Ispitanici su odgovarali na pitanja zaokruživanjem jednog od ponuđenih odgovora. Ovaj deo upitnika opisuje ekološke probleme u preduzeću/hotelu: npr. da li postoji osoba odgovorna za zaštitu životne sredine i ekološke probleme u hotelima i koja je njena funkcija, kao i da li imaju neki od ekoloških standarda ili standarda kvaliteta.

Na pitanje „*Da li u preduzeću postoji osoba odgovorna za ekološke probleme*“, najveći broj ispitanika je odgovorilo negativno. Međutim, značajan je podatak da postoji i određeni broj ljudi koji su uključeni u ekološku problematiku, kao što je menadžer. U proseku, 75,61% ispitanika je odgovorilo da nemaju osobu odgovornu za ekološke probleme u hotelima (slika 1).



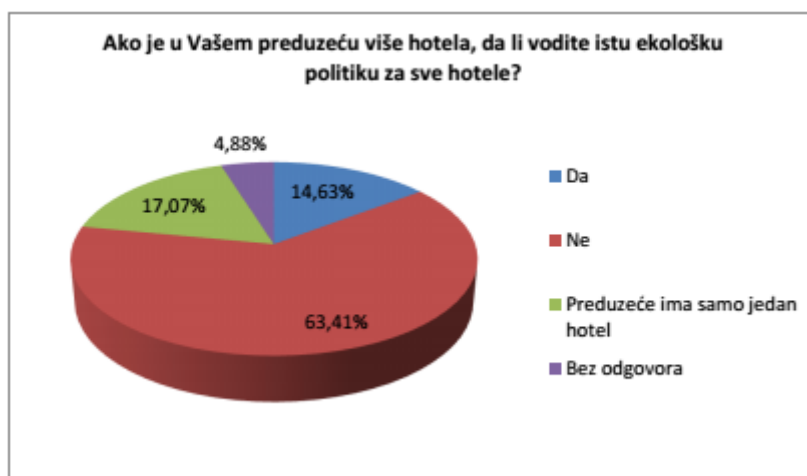
Slika 1. Struktura odgovora ispitanika na pitanje o osobi odgovornoj za zaštitu životne sredine

Na pitanje: „*Da li je ekološka problematika deo politike preduzeća i da li je uključena u sve strateške dokumente*“, najveći broj ispitanika je odgovorilo pozitivno (48,78%). U proseku 39,02% ispitanika se ne slažu sa ovom konstatacijom (slika 2).



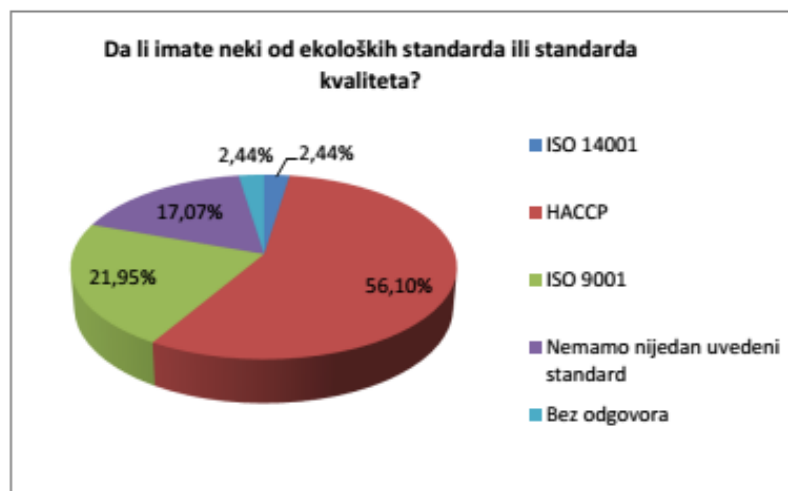
Slika 2. Struktura odgovora ispitanika o postojanju ekološke problematike kao deo poslovne politike hotelskog preduzeća

Analizom pitanja: „Ako je u preduzeću više hotela, da li vode istu politiku za sve hotele“, dobijeni su rezultati prikazani na slici 3.



Slika 3. Ista ekološka politika za sve hotele (ukoliko je u preduzeću više hotela)

Odgovori na pitanje „Da li hoteli imaju neki od ekoloških standarda i za koje delatnosti?“, predstavljeni su na slici 4.



Slika 4. Ekološki standardi u analiziranim hotelima

Analiza dobijenih odgovora dovela je do neprijatnog iznenađenja da samo jedan, od 41 istraživanjem obuhvaćenih objekata, ima uveden međunarodni standard vezan za ekologiju – ISO 14001. Standard HACCP ima 56,10% hotela, 21,95% ima standard ISO 9001, dok 17,07% hotela nema nijedan standard.

4. ZAKLJUČAK

Zaštita životne sredine je od suštinskog značaja za kvalitet života sadašnjih i budućih generacija. U veku u kome prete klimatske promene, nedostatak energije i sve veća prisutnost zdravstvenih problema ljudi, sve je veća potreba za izgradnjom objekata koji su postojani, štede energiju, smanjuju otpad i zagađenje. Održivi razvoj i kvalitet su ključni zadaci turističke privrede Srbije u narednom periodu. Tržište diktira trendove i promoviše nove oblike turizma – ekoturizam, ruralni turizam, istraživački i dr. Hotelijerske kompanije moraju, ne samo da prate trendove u pogledu nastajanja novih oblika turizma, već i da kroz stalnu analizu ponašanja potrošača, projektuju njihove buduće potrebe, a sa tim u skladu i svoju poslovnu strategiju. Hotelski proizvod nije više usluga koja se sastoji samo od smeštaja, hrane i neke prateće usluge. Menadžment hotela mora da razmišlja u pravcu inoviranja i razvoja novih sadržaja koje hotel treba da ponudi.

Zahvalnost: Pripremljeno u okviru projekta Održivost identiteta Srba i nacionalnih manjina u pograničnim opštinama istočne i jugoistočne Srbije (179013), koji se izvodi na Univerzitetu u Nišu – Mašinski fakultet, a finansira ga Ministarstvo za nauku i tehnološki razvoj RS.

REFERENCE

- [1] Holjevac A., Upravljanje kvalitetom u turizmu i hotelskoj industriji, Fakultet za turistički menadžment, Opatija, 2000.
- [2] Kosar Lj. Globalizacija u hotelijerstvu – poslovna strategija budućnosti, Turizam (5) (2001): 61-62.
- [3] Stojanović V. Održivi razvoj turizma i životne sredine, Prirodno-matematički fakultet, Novi Sad, 2006
- [4] Vuković M., Štrbac N., Ekološka svest kao osnova održivog razvoja, Ekološki menadžment, Tehnički Fakultet u Boru, 2010.
- [5] Nikolić M., Menadžment razvojnog procesa u hotelu – komplementarni segment održivosti turističkih vrednosti, Turizam (10) (2006): 68-70.

MODELLING OF SPATIAL VARIATIONS IN SURFACE WATER QUALITY

Danijela Voza, Milovan Vuković, Milica Arsić

University of Belgrade, Technical faculty in Bor, Serbia

Abstract: The most acceptable environmental and water decisions about establishing typical development scenarios is difficult to bring without careful monitoring, prediction and analysis of water quality of river flows. A well-planned and implemented a monitoring system is needed to signal, control or predict changes and trends in the water bodies quality. On that basis, preventive measures for restoring and maintaining the balance of this ecosystems could be maintained. Although, many countries have established regular monitoring systems that provide large analytical data sets available to different users, there is still lack of a comprehensive studies which examines all aspects of river flows and take into account all possible information from raw data sets.

The objective of this research is to apply multivariate techniques in order to determine spatial changes of surface water quality and identify the most significant pollution sources on the Morava river system example.

Keywords: Morava river, surface water, multivariate statistical techniques, monitoring, pollution

1. INTRODUCTION

Since rivers constitute the main inland water resources for domestic, industrial and irrigation purposes, it is our primary task to prevent and control river pollution as well as to ensure reliable information on water quality for effective management [1]. Rivers have important multi-usage components, such as sources of drinking water, the irrigation, fishery and energy production [2]. Almost every sector of economy, including agriculture, industry, transportation and public water supplies, depends on this water body.

The European Union significantly contributes to the protection and preservation of water resources and environment, considering them as the base of sustainable development in the 21st century. Hence, the EU has decided not to leave such an important issue to independent decision making by individual countries within the Union, but to make a unique and coherent strategy for the environment protection and water management. In order to solve this problem, in 2000 the EU established the Water Framework Directive, which requires mutual action of the Member States regarding the protection, restoration and improvement of water bodies [3]. However, significant and positive issues in this regard have not been achieved yet. Huge amounts of industrial, domestic sewage and agricultural waste still end up in rivers and lakes preventing thus the balance of these ecosystems.

Water quality monitoring is one of the most important aspects of the overall water quality management [4]. In order to solve the problems caused by collinearity between quality

parameters during the water quality analysis, researchers have conventionally used two statistical techniques: excluding some of the most intercorrelated variables or summarizing the variation of several explanatory variables into composite variables using, for example, principal components analysis [5]. Multivariate analysis techniques help in reducing the complexity of a large-scale data sets

The aim of this article is to reduce complex data set obtained by eight-year monitoring of water quality parameters from locations along Morava – the major river system in Serbia. Also, the aim of this study is to confirm the utility of two different multivariate statistical techniques (CA, DA) in order to determine spatial variations in the water quality data matrix.

2. EXPERIMENTAL

The subject of this study is Morava River System. This river system consists of South Morava, West Morava and Great Morava rivers and their tributaries. The significance of this river system water quality evaluation is particularly supported by the fact that the Great Morava River belongs to the Danube River basin, the second largest river in Europe. Therefore, monitoring and the effective management of water from the river system is becoming a matter of international importance [4]. Monitoring was carried out monthly, from 2005 – 2012 at 14 measuring points presented at figure 1.

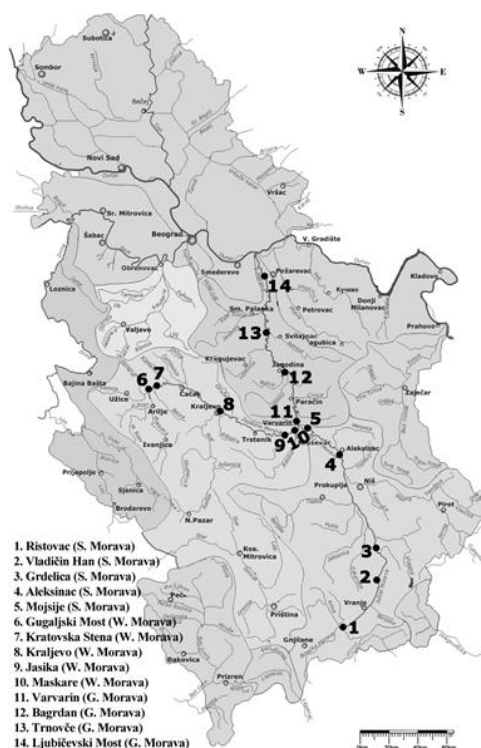


Figure 2. Study area and surface water quality monitoring stations (listed 1-14) in the Morava River System.

Table 1. Water quality parameters associated with their abbreviations and units used in this study

Parameter	Abbreviation	Unit
Water temperature	WT	°C
Suspended solids	SS	mg/l
Dissolved oxygen	DO	mg/l
Total hardness (as CaCO ₃)	TH	mg/l
pH	pH	pH units
Electrical conductivity	EC	μS/cm
Nitrate	NO ₃	mg/l
Total nitrogen	TN	mg/l
Orthophosphate-phosphorus	PO ₄	mg/l
Total phosphorus	TP	mg/l
Dissolved silicates SiO ₂	SiO ₂	mg/l
Sodium	Na	mg/l
Potassium	K	mg/l
Calcium	Ca	mg/l
Magnesium	Mg	mg/l
Chloride	Cl ⁻	mg/l
Sulphate	SO ₄	mg/l
5-days biochemical oxygen demand	BOD	mg/l

Eighteen physio – chemical parameters (Table 1) was monitored on each station were used for this analysis. These datasets are part of the database kept by the Republic Hydrometeorological Service of Serbia.

Results and discussion

In order to detect similar groups between the monitoring stations, the spatial CA was used. As a result, the following dendrogram (Fig. 2) was obtained, according to which 14 sampling sites were grouped into three statistically significant clusters.

Monitoring sites corresponded to the cluster 1, are mostly located near the confluence of the West and the South Morava into the Great Morava River. This region is one of the most industrially developed and densely populated regions of Serbia. There is a great number of towns and settlements nearby: Varvarin, Cicevac, Krusevac, Trstenik, Cuprija and Paracin. The fertile valley of the Morava land led to the intensive agricultural activities. Also, a great number of landfills situated on the river banks, undoubtedly affect the water quality. According to the pollution level, Aleksinac, Bagrdan and Ljubicevski Most, although dislocated are linked with the above mentioned monitoring sites belonging to the cluster. The water quality on the Bagrdan sampling station is largely determined by the vicinity of the Jagodina city, while Ljubicevski Most station is polluted mostly from Pozarevac and Smederevska Palanka cities. The South Morava River near the town of Aleksinac is exposed to the impact of a numerous point and non -point pollution sources (settlements, mines, farms, industrial wastewater, landfills). This cluster corresponds to relatively moderate pollution (MP).

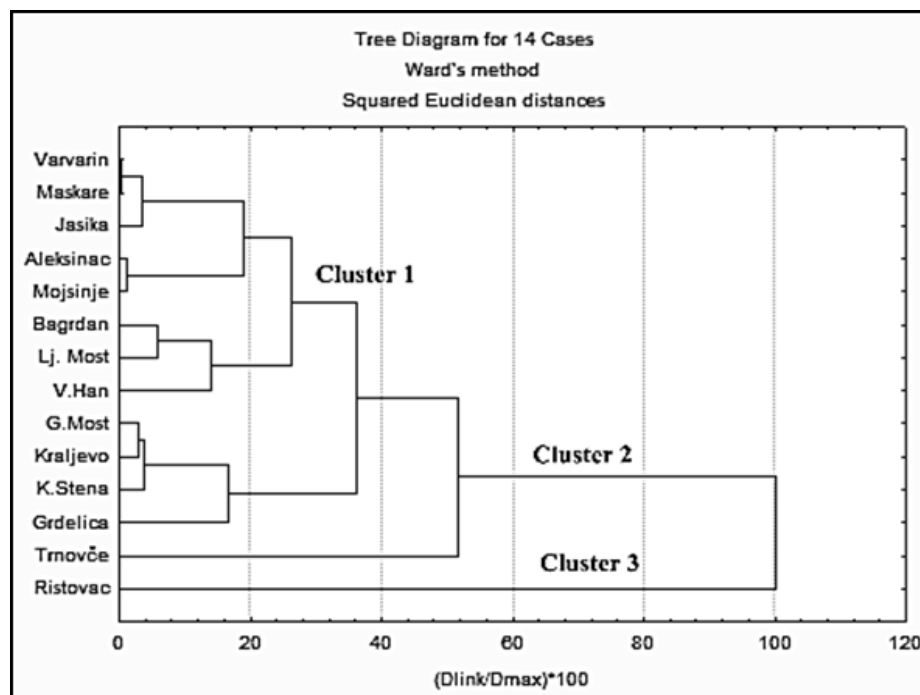


Figure 2. Dendrogram of the cluster analysis for sampling stations according to surface water quality parameters of the Morava River System

In cluster 2, five monitoring stations are integrated: Gugaljski Most, Kraljevo, Kratovska Stena, Grdelica and Trnovce. These stations correspond to relatively less polluted (LP) sites. Water quality of this region is on a higher level, mainly because of the self-purification and assimilative capacity of the river, but also because of the new pollution substances inflow reduction.

Measuring station that stands out from others is Ristovac, which presents the third cluster designated as high polluted (HP). Ristovac is the entry profile of the South Morava River. In Table 2, it can be seen that the concentration of all monitored pollutants was significantly higher at this measuring station in comparison to others. The analysis of the pollution agents of the South Morava River at this profile indicates the presence of a possible pollution source – the factory of cellulose and paper. The important information is that the factory takes the water required for the cardboard production directly from the South Morava River and after the finished technological process waste water flow of $234 \text{ m}^3/\text{h}$ is discharged directly into the river [6]. The spatial discriminant analysis (DA) was conducted with the raw data set consisting of eighteen parameters, after being grouped into three categories of LP, MP and HP sites as obtained through CA. The site groups were dependent variables, while all measured water quality parameters were independent variables. The objective of the spatial DA was to determine the most significant variables associated with the difference between clustered monitoring regions.

In Tables 6 and 7 are displayed discriminant functions (DFs) and classification matrices (CMs) as results of the standard, forward stepwise and backward stepwise mode of the spatial DA.

Parameters	Standard mode			Forward stepwise mode			Backward stepwise mode		
	LP coeff.	MP coeff.	HP coeff.	LP coeff.	MP coeff.	HP coeff.	LP coeff.	MP coeff.	HP coeff.
WT	0.227	0.268	-0.031	0.128	0.174	-0.144			
SS	-0.029	-0.033	-0.037	-0.018	-0.023	-0.026			
DO	0.430	0.188	0.133	0.660	0.432	0.345			
TH	-0.104	-0.115	-0.087						
pH	122.994	123.667	115.476	118.792	119.409	111.229	102.810	102.559	94.666
EC	-0.183	-0.202	-0.132	-0.181	-0.201	-0.128	-0.013	-0.024	0.020
NO ₃	-1.993	-2.079	-0.246	0.515	0.365	2.469			
TN	7.554	7.509	7.906						
PO ₄	130.503	132.528	96.218	132.580	134.377	98.787			
TP	71.357	70.554	87.622	72.386	71.891	88.124			
SiO ₂	0.243	0.283	0.588	0.195	0.231	0.545			
Na	0.105	0.148	0.209	0.089	0.132	0.194			
K	0.114	0.018	1.046	-0.182	-0.282	0.746	0.974	0.958	1.896
Ca	0.987	1.043	0.770	0.856	0.894	0.667			
Mg	0.711	0.638	0.515	0.459	0.354	0.313			
Cl ⁻	0.052	0.112	0.216	0.221	0.279	0.397			
SO ₄	-0.086	-0.107	-0.087	-0.065	-0.086	-0.065			
BOD	3.400	3.990	3.623	2.701	3.260	2.956			
Constant	-521.433	-520.772	-490.433	-503.273	-502.521	-471.030	-423.776	-418.448	-384.026

Table 6. Classification functions and their coefficients for the spatial DA

The standard mode constructed DFs using eighteen parameters (Table 6) assigning almost 82.6% cases correctly (Table 7). The next step in the form of forward stepwise mode of DA included sixteen water quality parameters (Table 6) of the total number, with correct assignments of 82.2% (Table 7). Backward stepwise mode DA gave CMs with 78.9% correct assignments using only three discriminating parameters (Tables 6 and 7). The DA shows that there are significant differences between three clustered regions (LP, MP and HP), which are expressed in terms of the PH value, electrical conductivity and potassium. Hence, the spatial DA rendered a considerable data reduction.

Table 7 - Discriminant matrix for the spatial DA

Monitoring regions	% Correct	Regions assigned by DA		
		LP	MP	HP
<u>Standard DA mode</u>				
LP	92.8	206	14	2
MP	44.8	32	26	0
HP	78.9	4	0	15
Total	82.6	242	40	17
<u>Forward stepwise DA mode</u>				
LP	92.7	306	18	6
MP	42.0	47	34	0
HP	72.7	6	0	16
Total	82.2	359	52	22
<u>Backward stepwise DA mode</u>				
LP	96.2	358	9	5
MP	13.3	78	12	0
HP	59.3	11	0	16
Total	78.9	447	21	21

3. CONCLUSIONS

In this study, cluster analysis and discriminant analysis were implemented in order to evaluate spatial water quality changes and data reduction. The cluster analysis has found spatial similarities in monitoring station variations across the river system, reducing the number of sampling locations to three groups with similar water quality characteristics. Obtained clusters could be divided into groups with low, moderate and high pollution level. The spatial water quality changes were further evaluated by the discriminant analysis, which rendered very good results in the data reduction. For clustered groups of monitoring sites, the DA used only three (pH value, electrical conductivity and potassium) of eighteen parameters affording more than 78% correct assignments.

This study proves the utility of multivariate statistical methods, the cluster analysis (CA), and the discriminant analysis (DA), for the analyses and interpretations of the complex water quality data sets. Extracted spatial grouping and data reduction can be used for creating a future, optimal sampling strategy, which could lower the corresponding costs.

ACKNOWLEDGEMENT

Prepared as a part of the project TR 34023 supported by the Ministry of Science and Technological Development of the Republic of Serbia.

REFERENCES

- [1] K.P. Singh, A. Malik, D. Mohan, S. Sinha. Multivariate Statistical Techniques for the Evaluation of Spatial and Temporal Variations in Water Quality of Gomti River (India) – a Case Study. *Water Research* (2014) 38: 3980-3992.
- [2] F.C. Iscen, Ö. Emiroglu, S. Ilhan, N. Arslan, V. Yilmaz, S. Ahiska, Application of multivariate statistical techniques in the assessment of surface water quality in Ulabat Lake, Turkey, *Environ. Monit. Assess.* 144 (2008) 269.
- [3] Directive 2000/60/EC of the European Parliament and of the Council of 23 October 2000 establishing a framework for community action in the field of water policy: 2000, http://ec.europa.eu/environment/water/water-framework/index_en.html, (accessed 05.03.2013) Water framework directive
- [4] D.Voza, M. Vuković, M., Lj. Takić, M. Arsić. Spatial and seasonal variations in the water quality of the Morava River System, Serbia. *Fressenius Environmental Bulletin* (2015), 24(3b): 119-1130.
- [5] G.P. Quinn, M.J. Keough. *Experimental Design and Data Analysis for Biologists*. Cambridge: Cambridge University Press 2002.
- [6] Lj. Takić, N. Živković, A. Djordjević, Lj. Randjelović. Identification of Pollution Sources in the South Morava River Using the Index Method. *Facta Universitatis Series: Working and Living Environmental Protection* (2012), 9(1): 11-17.

INFLUENCE OF ORGANIZATIONAL JUSTICE ON EMPLOYEE TURNOVER INTENTION AMONG NIGERIAN EMPLOYEES

Salisu Umar

Ahmadu Bello University, Faculty of Administration, Zaria, Nigeria.

Abstract: The organizational justice is an important area of human resource researchers and practitioners. Increasing recognition of the importance of human resources in enhancing organizational performance, as a result of globalization coupled with wider concerns about reputation and competitions have made the issue of organizational justice highly relevant to researchers and those managing organizations. This study is a response to the call for more study in the developing countries and non-western culturally based societies. Employees turnover is now a cardinal issue in most Nigerian organizations. Employee turnover intention in is greater than normal in Nigeria and therefore serves as a key threat to the existence of most organizations. The study aimed to investigate the influence of organizational justice on turnover intention. This study operationalized organizational justice in terms of three dimensions: (procedural, distributive and interpersonal justice) and employees intention to leave their organizations as uni-dimensional construct. Cross sectional survey method was used, in collecting data from the sample. Data was collected from 267 MBA (employees) students. Regression and correlation analysis were conducted to test the hypotheses (based on confirmatory factor analysis). The findings revealed that both procedural and distributive justice has more significant influence on employee turnover intention in Nigeria, but interpersonal justice no significant influence on turnover intention.

Keywords: Procedural, distributive, interpersonal justice and turnover intention.

TECHNOLOGY AS BASIC INITIATOR IN DEVELOPMENT OF CYBER CULTURE

Marijan Stevanovski¹, Marjan Mladenovski²

¹MIT University Skopje, ²Euro College Kumanovo, Macedonia

Abstract: Human understanding of technology is changing constantly. The changes that occur in the area of information technology and biological cause drastic changes in the structure and meaning of modern society and culture. These include research and glorify wider areas of human life directly related to the understanding of human society in terms of biology, language, history and culture.

Our paper presents an analysis of the social cultural aspects involving new technologies. With properly performed analysis creates opportunities for proposing new contextual content and steps in the direction of determining the anthropological cyber space in the development of cyber culture.

The observation and study of Cyber culture is observing cultural constructions that are based on new technologies and acting on their shape. Based on the study starts from the knowledge that each technology is a cultural invention because it creates and transforms the world. It appears in the appropriate culture conditions and act on the creation of new ones. Science and technology are critical to creating a culture in today's environment.

Keywords: anthropology, cyber culture, advanced technology, modern society, social aspect.

1. INTRODUCTION

The development of social sciences changes the conventional understanding of cyber culture under which technology is viewed as a set of tools and machines that humans use to improve their lifestyle in order to achieve adequate levels of wellbeing. Rapid changes in technology in modern conditions follow cyber culture. Culture gradually digitized. The process is effective and extensive in the future may unsurprisingly term digital culture to be a tautology. A characteristic aspect of technological change is changing human environment. The technology is a prerequisite for human existence. Technology causes contradictions: a man with her help it smart; the man with her assistance destructive.

Historically, the speed of technology development is evident and crucial component. The first million years, changes in the use of technological means humans did not record a corresponding development. In the last twenty or thirty thousand years begins development. In modern times, technology is developing very quickly with particular growth in the last hundred years. The development is exponential because grows in proportion to its size.[5]

While technological development is expressed through technological breakthroughs such as nuclear energy, industrial production, reduction of reserves of energy demand and

renewable energy sources self-sustaining etc.; the most striking development is the process of change taking place in mediums, particularly digital. This process is manifested through: Internet, computers, mobile phones and other devices which use the current way some time ago was unthinkable.

If you look at the development of technology we will notice that her breakthrough is made in accordance with the time periods in which man exists, his perception of technological change and education. Should modern means of communication move in the Middle Ages, the man would hardly have accepted much harder would use. Because technological change is the main driver of cyber culture and adaptation of man to the means and manner of their use.

Cyber culture includes development of new technologies mainly expressed in two sections:

- *Information technology and artificial intelligence,*
- *Biotechnology.*

Development of information technology and artificial intelligence create space for the development of social cultural structures while biotechnology development bio socially.[1]

2. DEFINITION OF CYBER SOCIETY

The term cyber first used in 1834 when the French physicist Andre Merrie Ampere (1775-1836), defined as the science of governance system of human knowledge. The modern use of the term cybernetics starts since the Second World War when Norbert Wiener in the research of technological mechanisms in his book "Cybernetics, or control and communication in the animal and machine", published in 1948 stands out as a clue. He as a rocket scientist engaged in research in response to rockets or electronic components that are responsible for the trajectory in the direction flying. It concluded that the turning direction is the key mechanism for all living creatures ranging from the simplest to the most complex and studying the reaction of changing the environment. In his book Cybernetics term defined as a combination of human and electronics.

In 1956 in Dartmouth College in Vermont was held conference on artificial intelligence, Dartmouth Artificial Intelligence conference. The conference was attended by many scientists that his hearing is based on the then-new theme, artificial intelligence. It determined that the power of computers doubles every 18 months and it is moving in the direction of their transformation into intelligent machines.

The term cyber space is defined in the literary direction of cyber punk who elaborate author Willem Gibson novel Neuromanser (1984). Cyber Punk is a subgenre within the science fiction through which the late 80s of the last century performed integration of science fiction and globalization in society, techno rebel positions and vision of human experience in a culture dominated by technology, media and information.

The term cyber enjoying a mass at the end of the 20th century with the emergence of the Internet and the creation of user friendly environment. He completely exposed after 1995 mass using the World Wide Web quickly mass with various phrases such as cyber identity, cyberspace, cyber time, cyber community, cyber art, etc.

The basic assumption on which it is based cyber culture is linked with social features. The foundation is the free exchange of information. The emergence of the Internet and digitalization daily in all areas of human life leading to new forms of social activities and fields of action particularly in the area of cyber culture. These areas of observation divergent starting from the use of the Internet through its forms of access, communications and media from political and ideological impact that the use provided.

There more definition of the term cyber culture, some of which describes settings of cyber culture, basic their numerous aspects and features through new branch of study society known as cyber culture studies (studies of cyber culture).

Therefore pass can be divided into multiple meanings and how: new form of culture; speech culture which is produced by its participants and creators.[3] Many cyber culture often equated with the term digital culture, internet culture, virtual culture, cyber culture and so on. All these terms actually describe the environment in which communication is carried out and before the exchange of information. Of course, this process has the greatest significance Internet as a global communications medium.[4]

Cyber culture as a relatively new crop is about other cultures taking the forms in symbolic connotations and pragmatic dimension. Cyber culture not revolutionizing dichotomies that are characteristic of cyber identity but contributes to greater freedom, more challenging and above all the free time that is based on domestic Internet world environment through which individuals easily join in the process of social production creating differentiation between private and public.

3. THE RATIO OF COMMUNICATION TO THE COMMUNITY

Understanding the phenomenon of cyber culture is directly related to the communication. Communication itself includes any mode of interpersonal communication or any way of communicating with the machine program, the virtual entity. The exchange of information includes a multimedia (picture, text, sound, video), which provides virtually complete information exchange. Communicating and exchanging INFORMATION is free and fair. People come into contact with each other and created through social communities / networks. Observed limits based stems from political idealization of the technology community.[6] Cyber culture is seen as a form of social solidarity dominated: intercultural, tolerance and the elimination of any kind in any marginalization features (full, gender, ethnic, class, age).

Digital social communities represent a form of social organization in which every individual can take part regardless of their previous experience. These communities built on media access, create Internet services topography and space that represents the very real reality. Participating in virtual reality means "concentration personality hyper potential one point." [2] Communication is alienating but has components presence creating the illusion of infinite symbolism which is produced by the presence.

Sectors in the field of culture must understand the changes regarding the new context of convergence and use of digital networks that redefine goals. Information of public interest always contribute to the development of creativity in which creators use existing material to create a new

creative dimension. Through this are initiate conclusion that cultural heritage and above all contained knowledge it is an important resource that an incentive to creativity of society.

The participation of users through digital communication is a real challenge for the cultural sector must abstract possibilities set changes. Cultural content in modern conditions are available on various platforms: blogs, social networks and multimedia collections and portals. These structures provide greater access to information and the creation of new modern forms of communication and exchange of information.

"When you are in the jungle of billions of documents, the question is whether anyone will notice information set?. To read you need to be visible".[2] Prevails fact that although some information is available on the Internet does not mean that it is visible and accessible to users. Although there are search engines that are sophisticated and rapidly access the required information there is a real possibility it never nobody asked for or received. Here as most exact form using portals that appear starting to use their mid-90s of the last century until today have great importance in the development of cyber culture. They are connectors and hubs that are connected with many other websites and therefore are much more visible than regular web pages that are connected to each other with very little features and content.

4. CYBER CULTURE AND NEW REALITIES

Digital technology is causing changes not only occur in communication between individual but also in the field of social communication. These elements are differently if we take into account the process of their interpretation, reality is something real, palpable difference of digital which is imaginary. Considered from this aspect of cyber culture and its forms categorically observed represent a supplement to reality and its recharge. Very often found considerations which actually represents a digital copy of the real, human. Indeed this is so given the fact that many cyber forms actually resemble the existing social structures and relationships that are established in this environment. Example: email resembles actual mail being conducted with paper, virtual cities resemble real ones digital communication usually takes place over the internet resembles real even there are rules of conduct called net etiquette.

This connection can be harmful. They ask a series of questions that logically arise from the great similarity of the virtual with the real. Another problem raises issues: whether elements of cyber culture represent simplified download the simplified forms of human real life?; whether the communication and exchange of information has drawbacks in terms of real communication ?; whether the medium that serves for the exchange of information affects the quality of information but sometimes with elements of degradation ?.

Through digital communications approach towards large quantity of information and knowledge determines the form of use and relevance to them. The effect is achieved through a process of media development and network components that are implemented and communication habits of users who constantly find themselves in a dialectical relationship. Reception, receiving information defining the essential component of digital communication defining quality information. The way of presenting the information dictates the degree of knowledge that is offered and what is achieved by using the same.

In relation to the copying of reality in virtual reality it is impossible to give an answer because the complexity of the issue and that conception is that relationship. Embryonic stage

does not offer many opportunities through which they can provide appropriate responses for the content of the complexity of the environment of the real and digital. Anyway digital communication eliminates physical barriers to access and use of information by becoming an integral part of the human environment.

Thinking that digital forms of communication adversely affect the quality of human communication can be observed in terms of personal aspirations, intentions and decisions. Really hours may hold the digital device without taking account of its obligations, friends, socializing etc. however this does not mean that technology is contrary to. Its use depends on the man, his affinity, needs and opportunities. If deeper into this topic open other issues in order to: ethics, equity in the digital community, how it functions, the behavior and so on.

Cyber culture is directly related to the cyber space. One uses resources much a part life through which eases his way of functioning. Appearance of e-banking only facilitates the process of human functioning allowing new spaces for action. There are still barriers that limit the maximum process using digital. Used additional technical devices in order to experience 3D space, using additional technical devices in order to use the virtual environment is still in the process of work is anachronous flat screen etc.

5. SITUATION IN REPUBLIC OF MACEDONIA

Cyber culture deeply into all spheres of human life and functioning in Republic shall Macedonia. There are trends that are targeted to take full advantage of Internet resources as part of cyber culture. For the above are the statistics.

Table 1[8]

in %

	Total	Type of settlement	
		urban	other
Households, total	100.0	100.0	100.0
Internet access at home:			
Have access at home	68.3	70.0	65.7
Don't have access at home	31.4	29.6	34.2
Don't know	0.3	0.4	0.1
Device for Internet access at home:			
Desktop computer	54.2	53.3	55.7
Portable computer	27.8	34.0	18.2
Other mobile device (mobile phone or smart phone, media player, etc.)	18.9	19.8	17.5
TV connected to the Internet (smart TV)	2.6	2.9	2.1
Games console	0.7	0.9	0.3
Type of the Internet connection at home:			
Broadband connection (fixed or mobile)	67.7	69.7	64.7
Fixed broadband connection (e.g. xDSL, ADSL, cable, optic fibre, satellite, public WiFi)	66.6	68.8	63.1
Mobile broadband connection via mobile phone network, at least 3G (e.g. UMTS)	9.0	8.9	9.2
Mobile narrowband conn.less then 3G (e.g. 2G+/GPRS), used by mobile phone/smart phone or modem in laptop	5.2	4.1	6.8
Reasons for not having Internet at home			
Households that do not have Internet access	100.0	100.0	100.0
Have access elsewhere	4.8	5.5	3.9
Don't need	59.7	64.6	53.1
Equipment costs too high	27.5	20.5	36.8
Access costs too high	24.1	16.0	35.1
Lack of skills	50.5	50.4	50.7
Privacy and security concerns	0.7	0.3	1.3
Don't have access in their area	0.2	0.3	-
Other	6.4	7.2	5.3

Table 2[8]

in %

Used the Internet (ever to have used)	100.0
Period of order/purchase via Internet	
In the last 3 months	10.3
Between 3 months and a year ago	4.9
More than a year ago	2.8
Never ordered/bought	82.0
<i>Ordered/bought goods or services via Internet (ever to have used)</i>	18.0
<i>Ordered/bought goods or services via Internet in the last 12 months</i>	15.2
Ordered via Internet in the last 12 months	100.0
Good/services ordered via Internet in the last 12 months:	
Food/ groceries	4.4
Household goods	6.9
Medicine, medication	5.6
Film/music	4.3
Books/magazines/e-books	6.7
e-learning materials	5.1
Clothes, sports goods	48.5
Video games, other computer software and software upgrades	5.2
Computer hardware	3.0
Electronic equipment (incl. cameras)	9.9
Telecommunication services (e.g. TV, internet subscriptions, fixed or mobile phone subscriptions, etc.)	3.3
Share purchases, insurance policies and other financial services	-
Holiday accommodation	6.7
Other travel arrangements	2.9
Tickets for events	3.0
Other	26.1
Buying or ordering goods or services by country of origin/residence of the seller	
National sellers	35.7
Sellers from other EU countries	41.9
Sellers from the rest of the world	41.6
Payment methods used for e-commerce in the last 12 months	
Provided credit or debit card details over the Internet	60.3
Provided pre-paid card or prepaid account details over the Internet	10.0
Electronic bank transfer via Internet banking	10.7
Payment not via Internet (in cash, via ordinary bank transfer etc)	26.3

According to the data of the State Statistical Office, in the first quarter of 2014, 68.3% of the households had access to the Internet at home, which is 3.3 percentage points more in comparison with the same period in 2013. Participation of the households with broadband connection in the total number of households increased from 65.0% in 2013 to 67.7% in 2014.

Almost all (99.1%) of the households with Internet access had broadband (fixed or mobile) connection to the Internet.

In the first quarter of 2014, 67.6% of the total population aged 15-74 used a computer, while 68.1% used the Internet. Internet was most used by pupils and students, i.e. 96.3%. 55.2% of the Internet users in the first quarter of 2014 used a mobile phone or a smart phone for accessing the Internet away from home or work.

Also the condition is progressive in terms of business sector presented in Table 3.[8]

Table 3[8]

in %

	Total	Enterprises according to the number of employees			
		(10+)	(10-49)	(50-249)	(250+)
Enterprises, total	100.0	100.0	100.0	100.0	100.0
Enterprises with computer	94.6	93.9	98.3	99.0	99.0
Enterprises with Internet access	93.1	92.1	98.3	99.0	99.0
- via fixed broadband connection (DSL, cable, fiber optics or other technology)	92.1	90.9	98.1	99.0	99.0
- via mobile telephone network (broadband or other mobile connection)	59.3	57.1	68.2	80.2	80.2
Broadband connection (fixed or mobile)	93.1	92.0	98.3	99.0	99.0
Provide to the persons employed portable devices that allow a mobile connection to the Internet for business use	60.7	58.5	69.3	81.8	81.8
Have a web site or a homepage	53.2	49.8	66.2	88.5	88.5
- enterprise's website providing online ordering, reservation	12.4	12.2	13.7	11.8	11.8
Used social media (but not only for paid advertise)	36.8	37.0	34.5	44.6	44.6
Have bought a Cloud computing service used over the Internet	11.9	11.8	11.7	15.4	15.4
Have ERP software package to share information	21.6	18.6	30.9	61.1	61.1
Have CRM software for managing information about its clients	20.0	18.3	25.3	43.2	43.2
Have CRM to analyse information about clients for marketing purposes	16.4	14.9	21.8	34.9	34.9

Continuation of Table 3 from previous page[8]

Electronic Data Interchange in a format that allowed its automatic processing (EDI-type messages)	40.9	37.9	53.5	66.7
- EDI-type messages for payment instructions to financial institutions	29.4	27.3	39.6	40.4
- send / receive EDI-type messages for data to/from public authorities	37.4	34.4	50.6	58.6
Share supply chain management information electronically with suppliers or customers	13.6	13.0	14.6	26.2
- via websites or web portals	10.3	10.2	10.0	13.1
- via electronic transmission suitable for automated processing (e.g. EDI-type systems, XML, EDIFACT, etc.)	5.7	5.0	7.5	18.6
Sent e-Invoices, 2013	26.3	25.3	30.9	31.4
- sent e-Invoices in a standard structure suitable for automatic processing (e.g. EDI, UBL, XML)	6.2	5.8	8.5	7.7
- sent e-Invoices, not suitable for automatic processing (e.g. PDF)	25.7	24.9	29.6	28.8
Received e-Invoices in a standard structure suitable for automatic processing, 2013	12.6	12.0	15.8	11.3
Sent or received e-Invoices in a standard structure suitable for automated processing, 2013	13.9	13.4	16.8	14.7
Usage of Radio Frequency Identification technologies (RFID)	15.2	12.1	26.5	51.6
RFID for person identification or access control	12.7	9.5	24.5	47.0
RFID for monitoring and control of industrial production and service delivery process	5.5	4.5	9.1	17.9
RFID for product identification after the production process (theft control, counterfeiting, etc.)	4.6	3.9	6.7	13.3
Enterprise employed ICT specialists	13.7	9.9	26.3	63.3
Have provided training to develop ICT skills of personnel, 2013	13.7	11.2	21.5	48.2
- for ICT specialists	5.4	4.1	8.2	31.0
- for other persons employed	12.1	9.8	19.8	41.8
Have recruited or tried to recruit ICT specialists, 2013	5.1	4.1	8.1	20.1
Had hard-to-fill vacancies for ICT specialists, 2013	1.9	1.7	3.1	2.3

According to the data of the State Statistical Office of the Republic of Macedonia, in January 2014, 93.1% of the enterprises with 10 or more employees had broadband connection to the Internet (via fixed or mobile broadband connection). Access to the Internet via a mobile connection (broadband or other mobile connection) was used by 59.3% of the enterprises.

60.7% of the enterprises provided to their employees portable devices that allow a mobile connection to the Internet for business use, but only 10% of the persons employed were using these devices (e.g. notebook, laptop, smartphone, PDA phone).

Social Media (e.g. Facebook, LinkedIn, Twitter, Present.ly, YouTube, Flickr, Picassa, Wiki-tools, etc.) were used (but not only for paid advertising) by 36.8% of the enterprises. Cloud computing services used over the Internet were bought by 11.9% of the enterprises. 40.9% of enterprises were sending or receiving EDI-type messages in a format that allowed their automatic processing (e.g. EDIElectronic Data Interchange, UBL, XML), 21.6% had ERP-software package to share information within the enterprise, and 20% used CRM software for managing information about the clients.

During 2013, 9.7% of enterprises with 10 or more employees had e-commerce, i.e. buying or selling goods or services over computer networks (via websites or EDI-type systems), 6.4% of enterprises had web-sales, and 4.4% of enterprises made web-purchases.

6. CONCLUSION

The speed of the changes affects phenomenon, digital culture. It has no boundaries even though there are contradictions concerning the very definition of problems that appear to access the very plot.

Contextual framework of the participatory internet changes to the cultural sector acting users who directly prepare digital cultural content. However, virtual cultural projects are monitored in the context of social and cultural policy.

Although this is the real interweaving with digital still cannot talk about without actually digitally. Digital culture with the use of appropriate media and means raises the entire social and business premises. The use of information technology causes the process of drawing new boundaries that mark through the process of fully human functioning. That process is mandatory although the future is unpredictable.

REFERENCES

1. Arturo Escobar, *Ethnography Internet, Welcome to Kiberija*, notes on anthropology of cyber culture, Institute of Ethnology and Folklore, 2004, Zagreb, pg. 56
2. Barabási, Albert-László (2006) *On the Net: why everything is connected and how to think in a network of science, business and everyday life*. Jesenski and Turk, pg.35
3. David Silver, "Introducing Cybe rculture: Looking Backwards, Looking Forward: Cyber culture Studies 1990-2000", <http://www.com.washington.edu/rccs/intro.asp> ,

originally published in: Web studies: Rewiring Media Studies for the Digital Age edited by David Gauntlett (Oxford University Press, 2000): pg.19-30.

4. Kevin Roberts and Frank Webster, "Prospects of a Virtual Culture", Science as Culture , Carfax Publishing (Taylor & Francis Group), Volume 11, Number 2, 2002., 235 - 257, pg. 242.
5. Charlie Gere, Digital Culture, Reaktion Books, London, 2008, pg. 10
6. Ursula Frohne, Christian Katti, "Crossing Boundaries in Cyberspace? The Politics of "Body" and "Language" after the Emergence of New Media - Critical Essay", Art Journal Winter 2000,
http://www.findarticles.com/p/articles/mi_m0425/is_4_59/ai_69294344
7. Žan Bodrijar, Another of the same, Lapis, Beograd, 1994, pg.27.
8. State Statistical Office of the Republic of Macedonia

CORPORATE IDENTITY, PUBLICITY, PUBLIC RELATIONS AND ADVERTISING

Mirko Tripunoski, Lazar Arsovski, Maja Tripunoska

Faculty of Economics, FON, Skopje, Macedonia

Abstract: The challenges of marketing in recent times and the digital age, represent a virtuous circle of using techniques and technologies that raise the growth and development of corporate firms in modern economic developments, where corporate governance is a permanent current process involving continuous innovation in its concept, encompassing various aspects economic, managerial, legal and social character, which has raised its multidimensionality in encouraging the efficient use of resources and the responsibility of those who manage resources. The mission and vision of the company recover corporate identity, which includes the main values of the same identity as the organization and its meaning and idea itself, something as individual sense of self, with its uniqueness in setting tasks that require activities undertaken in publicity, public relations and corporate advertising. Therefore, the authors of this paper publicity see very often beyond the control of marketing, management of publicity but accept it as a new marketing strategy. Attempts to create positive publicity are not new but they make changes in the functions of public relations companies. However, the importance of public relations in the field of competitive marketing is questionable. Publicity, public relations and corporate advertising each of them have promotional programs that can bring a lot of convenience for marketing managers. They are an integral part of the overall promotional effort that is coordinated with the other elements of the promotional mix. The purpose of these three elements is not always promoting products and services and do not always use the same methods to achieve the goals. Content these elements with one goal, to change attitudes towards the organization, or a problem, more than directly participate in the promotion of products.

Keywords: identity, publicity, public relations, corporate advertising, promotion.

1. INTRODUCTION

This paper deals with the role of promotional items in public relations, publicity and corporate advertising. They are equally important for marketing and communication strategy of the company and are different from other promotional items. The difference is that they are designed to promote a specific product or service and in many cases it is difficult for the consumer to see the connection of the communication process and its purpose. Public relations are useful whether used with their traditional approach or more marketing oriented. In many companies there is a special department for public relations, which is separate from the marketing department, while in others it is an integrated part of marketing. Many

companies have a system for public relations in their frames, and external system for public relations.

When it comes about publicity there is another interesting element, the lack of control of the message, which will be transmitted. In public relations and corporate advertising company is the one that has control of things. Publicity is often reactive rather than proactive, but can contribute to greater success of the company by any other means of communication. Although it can be managed with publicity, SEPA marketer should recognize its impact. As responsibilities marketer occur real reactions and strategies for dealing with things that are not in his hands. Corporate advertising is labeled controversial because the source of information is the management of the company. To bring the result that element should better align and connect with other communication elements.

Assessment methods and control required for each of these promotional items as part of the promotional mix, Indicators public relations, publicity and corporate advertising is considered an integral part of the company and the overall communication strategy. Therefore they must adhere to the same rules that apply to other elements of the promotional mix, in order to get a company to success.

2. PUBLICITY

Publicity concerns the generation of the news about a person, product or service that occurs in a medium. For many marketers publicity and public relations are synonymous. Actually, publicity is seen as a subset of public relations. But there are a few major differences. First, publicity is a strategy for a short period of time, while public relations are long-term. Secondly, public relations are designed to express the positive image of the company and are performed by the company. On the other hand, the publicity is not always positive and always has been created by the organization. Both positive and negative publicity comes from other sources rather than the company. In most organizations publicity is controlled and assigned by the department of public relations. In this section we will discuss the role of publicity in the promotional program and ways marketers react to this type of communication. One of the factors that distinguish publicity from other program elements is generation of a special power. Unfortunately marketers and this power are not always realized in a way that they want. Publicity can make or break your product, or even an entire company. Why publicity has greater power of advertising or sales promotion? First, publicity is very reliable. Unlike advertising and promotion, the publicity cannot be seen as an instrument of an organization. Because of these consumers are more reliable for information. Information from publicity approved carrier that have occurred. For example, publicity about the discovery of the durability of golf balls would be appreciated if such articles are published the magazine Golf, or where the award for Car of the Year reflects the perception of the magazine for the quality of the selected car. Another reason for the power of publicity is the value of information and how it is transmitted. If publicity is positive companies benefit from it. If the publicity is negative companies might suffer as sales drop, court disputes or distortion of their image. The bottom line publicity means news, and people want to spread the news. This means that publicity is free, credible source for information on a company and its products¹.

3. PUBLIC RELATIONS

What does the term public relations? How is it different from other elements of the marketing? Perhaps it would be better to start with the traditional meaning of the term, and to explain its contemporary role. Many authors have tried to define this term, but perhaps the most appropriate definition of it is given in Public Relations News, a weekly magazine on the subject. He says that public relations are actually managerial function which evaluates public opinion, identify policy of an organization with the public interest, and apply an active policy to win public approval. Therefore, public relations represent managerial tool². Term management, or management, should be used in a wider sense, so that the term should not be limited to business management, but also manage other types of institutions as non-profit organizations. So the definition of the term public relations can be divided into several parts: first, the determination and evaluation of public opinion, secondly, identifying policies with public interest organizations, third, creation and implementation of a communication program CIP to attract public attention . This process does not take place at once. An effective program of public relations is a process that takes months and even years³. Finally, by this definition recognizes that public relations are not only active in selling a product or service. The PR may contain some of the above elements and use them appropriately. For example, a company may announce the launch of a new product or a change in the company. Companies can organize special events to create well-being of society, but also an organization can use advertising to declare its position on a controversial issue. A growing number of companies are marketing oriented set a new role for public relations. From this perspective, public relations are observed in broad terms in order to promote the organization and the product or service.

The way in which companies and organizations use the activity in public relations is best considered in continuity. On the one hand the use of public relations is considered the traditional way. From this perspective, it is not considered as marketing functions whose main duty is to maintain the useful link between the organization and the public. In this case, potential and existing customers are only part of the general public, which includes employees, investors, neighbors, groups of special interest etc. Marketing and public relations are two separate areas, and require the use of different external systems⁴ On the other hand, public relations are considered as a marketing communication tool. All relationships are associated with potential customers are an important tool in marketing. In such organizations public relation are directly related to marketing. At the same time, the role of public relations constantly changes and gets new role with that move away from the traditional. The new role of managers predicts strong marketing department and strong public relations. Instead of each department to work separately, they work together, blending their talents in order to provide the best picture of the organization and its activities.

4. CORPORATE ADVERTISING

Corporate advertising is designed to achieve two objectives, namely: First, create a positive image for the company and second, the expression of the views of the company's social and environmental problems, where as more specific applied arise: First, raising the

morale of the employee equalization of labor relations, second, helping the new The industry has to break susceptibility of consumers and to answer the questions investors Third, Helping Companies - daughters to take pictures Company mothers than just make efforts to build brand. According to these goals, corporate advertising is paid to internal and external audiences and includes the promotion of the organization and its ideology. There are many types of corporate advertising that will process this material.

Image Advertising Company - A form of corporate advertising is advertising its own image. The advertising image is accomplished several objectives such as: creating goodwill internally and externally, creating the position of the company and generating sources such as financial and human. For this purpose it is used several methods: First, a general picture or placement of ads, companies create ads to explore their image among the public. Many companies even created new names to of creating a new image, second, sponsorship - often their company advertising them to the television programs. So earmarked TV programs are made in order to present the company as a conscientious citizen, Third, Recruitment - Advertising is a good way to attract new employees. If you interested in accounting and want to work with people who share the same passion you can become part of them. Print ads that appear in magazines are a great opportunity to find a job in a particular company, fourth, generating financial support - Types of corporate advertising is created in order to attract investment. By creating attractive images for the company, you are increasing the interest of potential Investors for that company. With the increasing number of investments increased capital and money for new research and development. In such instances, corporate advertising has promotional purposes for a product that actually represents the company. Although there is no concrete evidence that corporate advertising comes to investments, a study shows that there is some relation between corporate advertising and stock price. Companies that spend money on corporate advertising have expensive shares. Positive image of the company can only be created by several commercials. As the factors creating the overall image quality of the company arise quality products and services, innovation, strong financial position, good marketing and the like. According to a survey of Fortune proved that profits and shareholder value are of paramount importance to create reputation kompanijata⁵.

Sponsoring events - As one of the most popular forms of public relations is the sponsorship of events. Some companies with more traditional goals sponsor only certain kinds of events, but also increase the use of sponsoring events in order to realize the marketing-oriented goals. As new things that are sponsored by a company appear equipment for concerts, stadiums, football matches etc. But you have to pay attention to the risks that can occur on both sides. When the company bears the risk to give it name to the stadium it would make a lot of money, which could result in the emergence of concern among investors and shareholders.

Advertising representation - As the third largest form of corporate advertising is addressing the social, business and environmental issues. Such advertising aims to propagate ideas and clarifies controversial topics that are of public importance in a manner that supports the interests of the sponsor. Rather than focusing on advertising company, advertising advocacy aims to address only one problem. This type of advertising usually sponsored by the

company itself or by associations in order to explain the functioning of a company. Sometimes this advertising is in response to negative publicity or the inability of the company to properly convey information. Like other forms of advertising representation is issuing advertisements for an issue which is more frequent. Through this company want to point out to the public that it is interested about the problem. Advocacy advertising is still heavily criticized. This form of advertising it had a long way. Critics companies that have a large advertising budget occupy much time and space and such advertising can be inconsistent. But the most relevant judge reader and their consumers.

Causal advertising - A popular way of building the image of the company appears causal advertising, through which the company sponsored charitable or nonprofit organizations. The company has the benefit of good publicity while charities receive financial aid. Proponents of this by saying that this process contributes to the differentiation of one from another brand increases customer approval for change in the prices and gets positive publicity. There are many ways companies participate, including: direct grants to non-profit organizations, giving equipment, volunteering, etc. But this type of marketing will guarantee success. Causal marketing is more than just association with any organization, it takes time and effort. Companies have had problems with that wrongly stated their customer relationships, or spend so much money for causes that had little connection. According to a survey of more than 300 companies linked to associations to fight against breast cancer, but drove his donated sponsorship⁶. Others companies have chosen the wrong cause, with that found that customers are not interested in it. And finally, it is not always easy to measure the efforts made in this field.

Advantages and disadvantages of corporate advertising. The advantages of this method in communicating: First, a great way of company positioning- Companies such products should create their own picture of the market. Well positioned product market sell better than no product image, and the same goes for companies. Companies with strong picture has a great advantage over their rivals in the process of promotion, Second, use the advantages that come from relationships with public- As increasing efforts of the departments of public relations companies, so does the attention of the media event, just because there are a lot of events that need to be covered. The net outcome is actually that when the company engages in public relations, there is no guarantee that you will get publicity. When it comes to corporate advertising, although customers do not consider such an objective, however desired message is transmitted, third, closer to the target group-corporate advertising should be addressed to the general public. It is addressed to managers and investors of the company. Although the public does not approve this kind of communication, it is important that the message is delivered to the target group.

As flawed corporate advertising arise: First, suspicious efficiency – there is no reliable evidence that corporate advertising is successful. Conducted survey of Bozel & Jacobs Advertising⁷ resulted in what was revealed that corporate advertising contributed only 4% change in the amount of shares Second, Constitutionality and / or moral critics wealthier companies can control public opinion. However, many consumers still see this way of advertising as unfair and create a negative image for the company. There are many reasons

pro and counter corporate advertising. However, two things are certain First, no one knows who is right and second, the use of this mode of communication grows.

Measuring the effectiveness of corporate advertising. The methods used to measure the effectiveness of corporate advertisement are: First, polls reactions - One way to lean efficiency of corporate advertising is through understanding the reactions of the public and investors, Second, studies relating to corporate advertising and stock price - These studies point to the fact that even though the models for measuring effectiveness are reasonable, it can infect some methodological problems and a dispute, Third, Target groups - The target groups are used to actually see what investors want to see in ads and how would you react to it. However this method is the border with advertising product allows although measurable outcomes. Although the effectiveness of advertising is measured by the methods used to measure advertising products, research in this field didn't move along with the consumer. Reason appears that the ads for the company are the responsibility of top management, and they did not want to be held responsibility⁸. It is interesting that those who should be most responsible actually try in every way to avoid responsibility.

Global advertising and communication processes. International communications can fail for a number of reasons: The message could not pass because of inadequate media, the message can be received but cannot be understood because of the different interpretations of the culture, and the message can be received by the audience may have no effect because marketers correctly done anything to the requirements and needs of the consumer. The effectiveness of the strategy for improvement may be threatened by many factors that marketers need to be reliable and to control impacts. These international executives who understand communication process better manage the diversity facing the development of an international program to promote. In international communication process, identifying each of the seven steps can act on the accuracy of the process, in terms of: **information resources**. International marketing executive with a message for product communication, **coding**. Message from the source should be converted into effective symbolism for transmission to the receiver, **release channel**. Sales pitch and / or advertising medium lead coded message to the receiver, **decoding**. The interpretation by the recipient of the symbols transmitted from information recipient, the action of those who receive the message and are the purpose of the transmitted thought, **turning system**, Information on the effectiveness of the message travels from the recipient (deliberate order) back to the source information for evaluating the effectiveness of the process **noise**, Uncontrolled and unpredictable impact as competitive activities and confusion that distracts from the process and can affect other 6 steps. Many misunderstandings and errors in international marketing are attributed to a few of these steps that reflect the culture improper influence or lack of knowledge of Target Market. From the methodology of applying these steps depends on the system that recognizes any future coding.

Legal Restrictions. Laws that control corporate advertising vary in different countries in Europe. In Germany it is illegal to use any corporate terminology, can be sued by a competitor. Belgium and Luxembourg explicitly prohibit corporate advertising, while in the UK, Ireland, Spain and Portugal completely allowed. European Commission decided several

directives to harmonize the laws of government advertising. Many fears exist if the laws are not harmonized, the main members can use to close the complaints that do not comply with their national laws and regulations. Corporate advertising is hard to regulate the rest of the world.

Linguistic Restrictions. Language is one of the biggest barriers to the effectiveness of communication through advertising. The problem involves different languages from different countries, different languages and different dialects, and the biggest problem diversities shade, even the national language and accent. Indeed, in recent Irish accent was voted the sexiest in Britain and Ireland, who won the Competition Scots, and other Western countries. For many countries, the language is a cultural pride- France is the biggest example. Recklessness about language Rallick caused many problems in all countries. In addition to the challenge of translation, the low level of literacy and vocabulary for many countries this is a barrier to communication and requires more creativity and using more vocabulary words. Communication in advertising must be perfect, and linguistic differences on some levels cause problems.

Culture diversity. Problem related to communication between people in different cultures is one of the biggest challenges in creative advertising. A government statement was: "International advertising is almost uniformly threatening largely because people do not understand the language and culture." 9 Communication is very difficult because of the culture factors that determine a large number of phenomena that are accepted. If the transmission is different, the perception of the message will be different as well. Knowledge about culture diversity must include the total of direct advertising.

Media restrictions. Here we will focus on the creative limitations imposed by media strategies can reduce role in advertising and has forced marketers to highlight other elements of the promotional mix. The creativity of the marketer is certainly challenging when TV ads are limited to 10 exhibitions annually. Creative advertising in some countries even developed their own media to overcome media restrictions. In some African countries, the advertisers travel by boat and play popular music broadcasting products in rural areas.

5. CONCLUSION

One of the most controversial forms of advertising is the corporate advertising. It is not designed to promote a product or service, but to advertise the company by improving its image and its direct involvement in the desired processes. There are many reasons why corporate advertising more noble action in delivering real value to customers where they will determine whether they are interested for this type of advertising- According to surveys 35% of consumers are interested in advertising on the company. It probably appears because consumers do not know the reason for such advertising and require additional explanations. Public relations, publicity and corporate advertising in general are very expensive and the self, it is evident that such companies use advertising to satisfy the ego of the top management. This argument stems from the fact that the ads for the company is not easy to think. The

message needs to be communicated and refined as that of a product, so top management usually dictates the content of the advertisements which transmit their image of the company and not the image that consumers perceive. The suspicion that the company is in trouble and faces open risk, many experts believe that then companies are opting for corporate advertising and when in any trouble, such as financial, and through advertising trying to rectify their situation. According to them, these goals are important for the company because it is not managed of the fact way. Thinking of many marketing experts that money for corporate advertising are given for free, critics say that this money could be used in other ways, since the purpose of this advertising is not, nor have attracted someone ATTENTION, nor to promote a new product or the like it. This advertising is usually untouchable through his company is not trying to gain new investors. It just creates a picture of the company. Because these endorsements have some specific purpose, many critics believe that the company should relocate its assets. However, corporate advertising is getting more and more application despite the many criticisms. It was calculated that about 7% of the total money spent on advertising is corporate advertising. Corporate advertising is used as the basis for all types of advertising that is beneficial for the companies.

REFERENCES:

1. Arnold, Tm "Who's Your Daddy?" Adweek, February 21 2005, pp. 15-16.
2. Draper, John "Shock Value", Entrepreneur, August 2005, p.69.
3. O'Brien, Keith, PRweek, January 24 2005, p.4.
4. Zammit, Deanna, "GoDaddy Severs Ties to Ad Store", Adweek, March 28 2005, p.7.
5. Rutherford W. M. Atthew, Buller P.F., and McMullen P.R., Human resource management problems over the life cycle of small to medium-sized firms, Human Resource Management, Vol. 42, No. 4, 321-335, 2003.
6. Strati A., Aesthetic understanding of work and organizational life: Approaches and Research Developments, Sociology Compass 4/10: 880-893, 2010.
7. Globber W. (2008) – How it works Mobile communication international, Informa Telekoms & Media London.
8. D. Bleg & S. Jang, "What makes a leader?", Harvard Business School Bulletin, Feb, 2001.
9. Hans Kasper, " Culture and leadership in market-oriented service organizations, European journal of marketing.

FUZZY TOPSIS RANKING OF ZINC CONCENTRATES FOR THE HYDROMETALLURGICAL PROCESS OF ZINC PRODUCTION

Marija Savić, Đorđe Nikolić, Živan Živković

University of Belgrade, Technical Faculty in Bor, Serbia

Abstract: This paper presents the results of zinc concentrates ranking for the hydrometallurgical process of zinc production. It is about zinc concentrates which are available to the lead and zinc factory from Plovdiv (Bulgaria) and differ in their chemical content of useful and harmful components in them, as well as their market prices. For the research in this paper, four different research scenarios were defined, in order to make effective and high quality decision about which concentrates to purchase for the hydrometallurgical zinc production at this factory. TOPSIS methodology was applied to the collected data of available zinc concentrates. Given that this approach is not simple and it is not possible to apply it to the input data, it was necessary to apply the fuzzy logic approach. All initial values are first expressed by linguistic variables, and then translated into triangular fuzzy numbers. Based on the obtained values of *fuzzy positive* and *fuzzy negative ideal solution*, distance of each alternative from these solutions is determined. Finally, values of the relative closeness of each alternative (*Closeness Coefficient - CC*) to the ideal solution, are calculated, and on that basis, ranking of alternatives (zinc concentrates) is performed for each of the four defined research scenarios, and thus, the optimal mixture of zinc concentrates is determined.

Keywords: TOPSIS, fuzzy logic, zinc, concentrates

INNOVATIVE EFFICIENCY IN SERBIA - CURRENT STATUS AND PROSPECTS

Nebojša Djokić, Ljiljana Arsić

Ekonomski fakultet Priština, Kosovska Mitrovica, Serbia

Abstract: Today, organisations must be ready for the new age which requires a more efficient and stimulating management of innovations. Many studies have confirmed that the organisations which accept the challenges of managing innovations become more prestigious and more successful on the market compared to their competitors. The process of European integration puts before Serbia the need to recognise innovations as a necessary condition for faster growth and development. The aim of this paper is to present the state of the measurement of innovative efficiency in Serbia, which is of critical importance, yet is sparsely present, as well as to indicate the possible future perspective.

Keywords: Innovation, efficiency, learning and development, enterprise resource.

1. UVOD

Inovativnost i inovacije posljednjih godina su evropska tema broj jedan. Preduzeća moraju imati inovativan pristup ukoliko žele da zadrže svoju konkurentnost na tržištu. Inovacije nisu samo nove tehnologije ili novi proizvodi, nego su to i novi i pametniji načini za obavljanje poslova, nove metode upravljanja, novi poslovni sistemi ili nove usluge. Inovacije ne donose samo veći razvoj, više poslova i novaca, inovacije dovode do stvaranja „pametnog“ razvoja. Inovacije koje donose pametan razvoj zahtijevaju ultimativno društvenu interakciju, a društveno i kulturno okruženje ključ su inovativnog procesa.

Inovativnost i inovacije su top prioritet evropske politike. Evropa je kao odgovor na izazove globalizacije usvojila Lisabonsku agendu, kojom je uspostavljn set ambicioznih ciljeva baziranih na ideji da Evropa treba ojačati inovacije i istraživanja kako bi ostala konkurentna. Fokusiranje na inovacije dovelo je do stvaranja nove generacije transnacionalnih programa saradnje kojima se prioritetno finansiraju inovacije.

Inovacije su jedno od primarnih sredstava pomoću kojih preduzeća rastu i jačaju svoju strategijsku poziciju. Inovacija podrazumeva upotrebu novog znanja s ciljem transformisanja organizacionih procesa ili stvaranje novih proizvoda i pružanje specifičnih usluga koje su primamljive i komercijalno isplative. Inovaciju karakteriše kreiranje vrednosti za kupca koju on prepoznaje kao značajnu i distinktivnu prednost u odnosu na konkurentske proizvode. Sam pristup kreiranju vrednosti postaje kontinuirano inovativan.

Inovacije predstavljaju novi pristup rešavanju problema, koji često podrazumeva inkrementalne, revolucionarne promene u načinu razmišljanja, proizvodima, procesima ili organizacijama. Da bi bila efektivna, inovacija treba da bude jednostavna. Inovativnost je svojevrsni mentalni stav koji fokusira preduzeće da vidi ispred sadašnjosti, u budućnost. Cilj inovacija je pozitivna promena. Inovativno preduzeće mora imati konzistentnu tehnološku

strategiju. Preduzeće orijentisano na potrošače sa posebnim zahtevima, spremno je da uči od drugih, što predstavlja osnovu za inovaciju. Inovativni menadžeri treba da stvari urade različito od drugih, a ne samo bolje i efikasnije. Značaj inovacija se ogleda u sledećem:

- ✓ inovacija podstiče ekonomski rast i stvara dobit;
- ✓ inovacija direktno utiče na povećanje zaposlenosti, i indirektno doprinosi ekonomskoj efikasnosti i dobiti;
- ✓ inovativni proizvodi omogućavaju da se osvoji i zadrži udeo na tržištu, ali i uveća profitabilnost na tržištima.
- ✓

Što se tiče malih i velikih inovativnih preduzeća, istraživanja pokazuju da su mala inovativna preduzeća izvor tehnoloških inovacija, tj. da svoje istraživačke i razvojne aktivnosti usmeravaju ka oblastima u kojima tehnološke inovacije imaju visok proizvodni i komercijalni rizik, a nisu vezana za velika finansijska izdvajanja, dok su velika preduzeća nosioci tehnološkog razvoja. Na pitanje koje je preduzeće efikasnije, ne možemo dati jednostavan i jedinstven odgovor.

2. MERENJE INOVATIVNOSTI

Inovacija i njen uticaj mogu se meriti na više načina, ali nijedan od njih nije idealan. Neki eksperti poput Milera, Velkengesa i Merlina (Muller, Välikangas, Merlyn, 2005.) ukazuju da inovacija treba da se meri kroz tri različita prikaza [1]:

1. **Prikaz resursa**, koji analizira inpute poput kapitala, talenata i vremena sa faktorima kao što su procenat vremena posvećenog inovacijama, broju zaposlenih sa preduzetničkim iskustvom ili procentom kapitala posvećenom inovativnim aktivnostima.
2. **Prikaz sposobnosti**, koji meri inpute kroz broj inovativnih alata, procenat zaposlenih sa inovativnim sposobnostima, kao ključnim indikatorom performansi, kao i procentom zaposlenih koji su u trenajnim aktivnostima povezani sa inovacijama.
3. **Prikaz upravljanja i liderstva**, koji meri inpute kroz procenat upotrebljenog vremena u inovacije nasuprot operacijama, ili u kojoj je meri upravljački tim obučen da koristi inovativne alate.

Jasno je da preduzeća imaju mnogo opcija kada je reč o pokušaju merenja inovacija. Njihov izbor će zavisi od tipa njihove proizvodnje, njihovog iskustva u primeni takvih merenja, i njihovoj sposobnosti da svako merenje bude što je moguće preciznije. Ključni problem u definisanju indikatora inovativnosti su:

- konceptualizacija objekata koji se meri,
- značenja koncepta merenja i
- generalna izvodljivost različitih merila tj. merila inovativnosti.

Indikatori inovativnosti tj. oblasti korišćenja indikatora mogu biti:

- podaci vezani za istraživanje i razvoj,
- podaci vezani za broj prijavljenih patenata i
- bibliometrijski podaci.

Podaci vezani za istraživanje i razvoj dati su u priručniku Standard Practice for Surveys of Research and Experimental Development-Frascati Manual (1963, 2002-2007-2010 izdanja). Svake godine prikupljaju se novi rezultati. Priručnik je definisan na osnovu pravila i zahteva Lisabonske strategije kako bi obezbedio komparativnu ocenu inovacionih rezultata zemalja članica EU, ako se uzmu u obzir 29 indikatora. Klasifikacija zemalja data je u IV grupe gde svaka ima posebnu strategiju inovativnosti što se može videti u tabeli 1 [2]:

Tabela 1. Inovativni rezultati u zemljama članicama EU

Grupa	Stopa rasta	Lideri rasta	Srednji Ulagači	Slabi ulagači
Lideri u inovacijama	1.6%	Finska, Nemačka		Danska, Švedska
Sledbenici	2.6%	Estonija, Slovenija	Austrija, Belgija, Francuska, Luksemburg, Holandija	Kipar, Velika Britanija
Prosečni inovatori	3.5%	Malta, Portugal	Češka, Mađarska, Litvanija, Poljska, Italija, Grčka, Španija	
Skromni inovatori	3.3%	Bugarska, Rumunija	Bugarska Hrvatska, Latvija, Turska...	Letonija

Moguće načine strukturiranja merila inovativnosti možemo svrstati u četiri grupe:

I Način (Davila, Epstein, Shelton 2007) koji sva merila svrstavaju u [3]:

- Ulazne elemente,
- Elementi procesa u preduzeća,
- Izlazne elemente-rezultate inovativnih napora (kvalitet, vreme, količina) i
- Izlazne vrednosti-vrednosti izlaznih elemenata za preduzeće (finansijska merila)

II Način-BSC (sa inovativnog aspekta) izvršiti klasifikaciju merila na četiri perspective (Niven, 2007) [4,5]:

- Finansije
- Kupci,
- Interni poslovni procesi i
- Učenje i rast.

III Način (Praveen Gupta, 2007) klasifikuje merila u sedam osnovnih oblasti [6]:

- Liderstvo i profitabilnost,
- Menadžment i poboljšanja,
- Zaposleni i inovacije,

- Nabavka-rezultati (kvalitet),
- Operativna izvrsnost,
- Prodaja i distribucija i
- Usluge i rast.

IV Način (Hornakova, 2006) - merila inovativnosti ili indikatore raspoređuje u ključne oblasti [7]:

- Strategijsko planiranje,
- Marketing,
- Tehnološki razvoj,
- Menadžment kvaliteta,
- Logistika i
- Ljudski resursi.

Preduzeća koja ozbiljno teže ka inovaciji kao sposobnosti u velikoj meri moraju koristiti okvir **merila za ulaganje, merila za protok i merila za učinak**.

Ne postoji optimalan izbor merila i optimalna vrednost inovacija već ona zavisi od preduzeća do preduzeća. Zato se u preduzećima formira tzv. **Inovativna karta** u cilju merenja efikasnosti inovativne sposobnosti. U većini preduzeća ta karta je bezuslovno neizbalansirana, više naginje na stranu na kojoj je organizacija nego na onu gde je inovacija. Da bi preduzeće obezbedilo uspešnost i inovacije i efikasnosti ono mora da obezbedi njihovu ravnotežu. Cilj je da se inovacija i efikasnost neprestano nalaze u interakciji i da se adekvatno nose sa svojim uzajamnim različitostima. Izazov za organizaciju sastoji se u tome da održi konstantnu kreativnu napetost.

3. STANJE INOVATIVNE EFIKASNOSTI U SRBIJI

Srbija je 46. na listi od 141 zemlje po inovacijama, pokazao je izveštaj međunarodne poslovne škole INSEAD i Svetske organizacije za zaštitu intelektualne svojine. Izveštaj, u kojem su inovacije shvaćene u širokom smislu te reči, tako da uključuju i inovacije u poslovanju, sadrži dve osnovne komponente - uslove za inovacije, odnosno infrastrukturu, obrazovanje i druge faktore, i sa druge strane rezultate. Jedna od osnovnih karakteristika Srbije su dobri rezultati u poređenju sa uslovima za inovacije. To, međutim, nije pokazatelj kojim bi Srbija trebalo da se hvali. Izveštaj naime sadrži listu 10 zemalja vodećih po "efikasnosti inovacija", odnosno dobrim rezultatima u poređenju sa uslovima za inovacije. Srbija je na toj listi na 7. mestu, prva je Kina, a druga Indija.

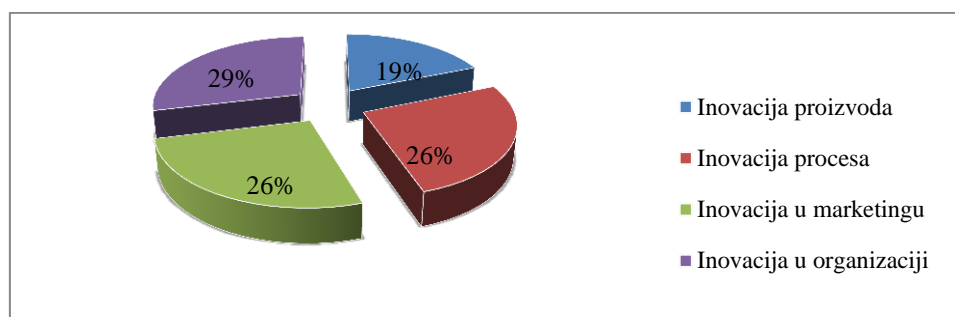
Međutim, Srbija tim rezultatom ne bi trebalo da se hvali. Kako se ističe, visoka efikasnost u inovacijama, odnosno jako dobar rezultat u odnosu na okruženje, ukazuje na manjkavosti u okruženju za posticanje inovacija i u najvećem broju slučajeva reč je o zemljama koje su lošije rangirane od proseka u svojoj grupi po visini bruto domaćeg prihoda po stanovniku. Izuzeci u tom pogledu postoje, što pokazuje primer Švajcarske, koja je na 1. mestu po stanju inovacija u svetu, a na 5. po efikasnosti inovacija, ali su njeni rezultati dobri u obe komponente - i po uslovima i po rezultatima. Srbija je po uslovima za inovacije, koji podrazumevaju između ostalog obrazovanje, poslovno okruženje i izdvajanja za istraživanje i nauku, na 65. mestu, dok je po rezultatima - između ostalog po znanju, uticaju znanja na

produktivnost, korišćenju novih tehnologija u organizaciji posla - na 36. mestu. Sa 65. mestom po uslovima za inovacije, Srbija je iza većine zemalja regiona - Bugarske, Crne Gore, Rumunije, Makedonije, kao i drugih zemalja koje su u istoj kategoriji po ekonomskoj razvijenosti, poput Perua, Kolumbije i Rusije. Najlošija tačka Srbije su nivo razvijenosti poslovanja, što uključuje i saradnju različitih sektora društva, poput univerziteta i biznisa, udeo zaposlenih na mestima koja iziskuju visoku stručnost, priliv direktnih stranih investicija i programi usavršavanja koje pružaju firme zaposlenima. Srbija je po tome na 86. mestu, odnosno u drugoj polovini liste, a loša je - na 78. mestu - i po razvijenosti tržišta, poput zaštite investitora, konkurencije i mogućnosti dobijanja kredita. "Slaba tačka" su i institucije, odnosno političko, pravno i poslovno okruženje gde je Srbija na 71. mestu, a u tom domenu je najlošije ocenjena po jednostavnosti plaćanja poreza gde je na 105. mestu. Srbiji ocenu najviše popravlja rezultat u pogledu znanja i tehnologije, gde je na 29. mestu sa ocenom 40, rezultatom koji je bliži zemljama sa visokim prihodima čija prosečna ocena je 44. Po ukupnoj oceni za stanje inovacija, Srbija je dobila 40 bodova, što je svrstava iznad proseka za grupu zemalja višim srednjim prihodima, kojoj i sama pripada, a čiji prosek je 35,42. Iz te kategorije najbolja je Letonija, na 30. mestu, a za njom slede Malezija (32), Kina (34), Litvanija (38), Bugarska (43) i Crna Gora, koja je neposredno ispred Srbije (45). Lošije rangirane od Srbije su Rumunija (52), Makedonija (62) i Bosna i Hercegovina (72), kao i neke druge zemlje koje nisu iz regiona - Meksiko, Belorusija, Argentina, Kolumbija i druge. Na boljoj poziciji našle su se i dve zemlje bivše Jugoslavije Slovenija (26) i Hrvatska (42), koje spadaju u kategoriju zemalja sa visokim prihodom po stanovniku, kao i većina članica EU. U poređenju sa prošlom godinom Srbija je u ukupnom indeksu napredovala za 9 mesta, što je u najvećoj meri rezultat realnog napretka, ali je uticaj imala i promena samog indeksa. Ubacivanje novih privreda u indeks otežalo je Srbiji napredovanje na listi. U izveštaju se ističe da inovacije dobijaju dodatni značaj u doba ekonomske krize, budući da su značajne za privredni oporavak. Takođe, njihovo "zapuštanje" usled krize se ne može lako nadoknaditi. Lista obuhvata 141 privredu, koje pokrivaju 94,9% svetskog stanovništva i 99,4% svetskog bruto domaćeg proizvoda. Cilj je da se proceni stanje inovacija, ali sa šireg stanovišta koje se ne svodi na udeo ulaganja u istraživanje i razvoj u bruto domaćem proizvodu i broj objavljenih naučnih radova, mada su i ti pokazatelji ubrojani.

Tržište Srbije nije samo malo već i izolovano, pa je praksa korišćenja modela merenja inovativne efikasnosti na niskom nivou. Postoji više razloga za to, a među njima su tranzicioni proces u kome se nalazimo, ekonomska i politička nestabilnost, globalna ekonomska kriza, itd. Sa druge strane, narod u Srbiji pokazuje snažnu orijentaciju u pravcu pridruživanja Evropskoj uniji, a poslovanje na tržištu zajednice podrazumeva potpunu primenu savremene tehnologije na svim nivoima privređivanja. Korišćenjem modela merenja inovativne efikasnosti na jednostavan način organizacija uključuje sve zainteresovane kreativne pojedince, omogućava da se konkretan problem privrednog subjekta u kratkom roku uspešno reši. U radu su prikazani rezultati istraživanja koje sprovodi svake druge godine Republički zavod za statistiku. Istraživanje je sprovedeno prvi put tokom 2006. godine, analizirani rezultati se odnose na inovativne aktivnosti preduzeća u periodu do 2008. godine [11]. Analizom odgovora na pitanje da li su uveli inovacije proizvoda i procesa prethodnih godina utvrđeno je da od 100 preduzeća modifikovalo je ili uvelo nove proizvode i procese 20.3% malih, 17.7% srednjih, 18.5 % velikih preduzeća (tabela 2, slika 1).

Tabela 2. Struktura vrste inovacija i veličina organizacije [11]

Veličina preduzeća	Inovacije	Broj uvedenih inovacija (proizvoda i procesa)	Inovacije procesa	Inovacije u organizaciji preduzeća	Inovacije u marketingu
		%		%	%
Mala	100	20.3	26.4	28.0	25.3
Srednja	100	17.7	26.1	29.0	27.3
Velika	100	18.5	26.2	29.5	25.9
Ukupno	100	18.8	26.2	28.8	26.2

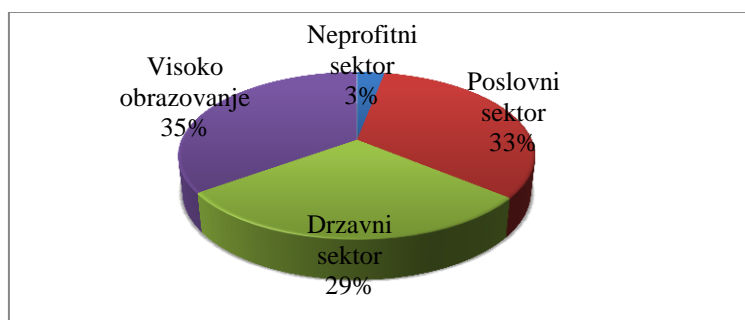


Slika 1. Inovacije proizvoda, procesa, organizacije i marketinga [11]

Istraživanjem je obuhvaćena inovativna aktivnost preduzeća prema naučnim oblastima (tabela 3 i slika 2), pri čemu je analiziran broj organizacija koje se bave istraživanjem i razvojem po sektorima.

Tabela 3. Organizacije koje se bave istraživanjem i razvojem prema sektorima i naučnim oblastima u 2008. [11]

Naučne oblasti	Nefinansijski sektor	Sektor države	Visoko obrazovanje	Neprofitni sektor	Ukupno
Prirodno-matematičke	12	11	9	-	32
Tehničko-tehnološke	60	14	20	-	94
Poljoprivredne nauke	13	14	5	-	32
Medicinske nauke	5	3	7	-	15
Društvene nauke	5	15	35	8	63
Humanističke nauke	1	10	11	-	22
Multidisciplinarne	6	1	6	-	13
Republika Srbija	102	68	93	8	271



Slika 2. Učešće organizacija prema sektorima [11]

Može se zaključiti da se nivo inovativnih aktivnosti značajno razlikuje s obzirom na pripadnost određenom sektoru. Rezultati su u skladu sa većinom empirijskih istraživanja koja su pokazala da naučna oblast značajno utiče na izbor strategije inovacija. Analiza stepena patentne zaštite inovacija je jako mala (tabela 4). Razlozi niskog stepena patentiranja nisu razmatrani unutar ovog istraživanja.

Tabela 4. Zaštita inovacija [12]

Oblici zaštite	Mala preduzeća	Srednja preduzeća	Velika Preduzeća	Ukupno
Prijave patenata	2.04	3.73	3.75	3.05
Prijave malih patenata	0.68	2.24	3.75	1.94
Zaštita industrijskog dizajna	4.43	2.29	10.00	4.43
Zaštita žiga	11.91	14.18	18.75	11.91
Zaštita autorskog prava	7.20	5.22	11.25	7.20

Analiza je obuhvatila i efekte inovacija (izraženih ukupnim prihodom) u organizaciji što je prikazano u tabeli 5 [11].

Tabela 5. Efekti inovacija u ukupnom prihodu inovatora za 2008. [11]

Efekti inovacija u organizaciji	Mala preduzeća	Srednja preduzeća	Velika Preduzeća	Ukupno
Od inovacija proizvoda/usluga novih za tržište	0.9	0.9	3.9	100
Od inovacija proizvoda/usluga novih za preduzeće	1.6	22.0	9.0	100
Od nepromenjenih proizvoda i usluga	90.0	96.9	87.1	100

Tabela 6 ukazuje na efekte uvedenih tehnoloških inovacija koje su inovatori ocenili kao značajne u 2008. godini.

Tabela 6. Efekti uvedenih tehnoloških inovacija koje su inovatori ocenili kao značajne u 2008 (u %) [11]

Efekti inovacija u organizaciji	Mala preduzeća	Srednja preduzeća	Velika preduzeća	Ukupno
Efekti povezani sa proizvodima	34.4	34.5	29,9	33.3
Efekti povezani sa procesima	33.5	28.9	32.4	31.7
Drugi efekti	25.9	27.1	21.6	25.5

Istraživanjem je obuhvaćen odnos između izvora znanja i strategije inovacija. Nizak obim saradnje sa obrazovnim i naučno-istraživačkim organizacijama pokazuje da je razmena znanja između privrede i univerziteta na veoma niskom nivou. Konkretnije, da naučna istraživanja ne prate potrebe privrede kao i da ne doživljavaju praktičnu primenu.

Dakle, možemo reći da nauka u Srbiji jedino može dati pozitivne efekte ukoliko se uspostavi jedinstveni nacionalni inovacioni sistem. Finansiranje inovacija u Srbiji je ključni parameter kojim će se moći premeriti brzina tranzicije kojom Srbija ide. U ovom trenutku je ona značajno smanjena, ali potencijal u Srbiji postoji, potrebno ga je na pravi način podstaći i organizovati [13].

4. ZAKLJUČAK

Nivo inovativnosti privredne delatnosti pokazuje da je Srbija ispod proseka u odnosu na zemlje EU, i da u Srbiji ne postoji adekvatna infrastruktura za podsticanje kreativnosti i inovativnosti preduzeća i preduzetništva. Srbiji je potreban model razvoja MSPP koji bi u uslovima Svetske ekonomske krize, nedostatka obrtnog i investicionog kapitala u zemlji i sa nasleđenim problemima iz postsocijalističkog perioda bio prekretnica u obnavljanju privrede, povećanju zaposlenosti i životnog standarda stanovništva. Model rasta ekonomije Srbije, pre krize se suočio sa ozbiljnim ograničenjima i bio je neodrživ na duži rok. Efekti recesije negativno su uticali na poslovanje preduzeća i preduzetničku klimu. Rezultati istraživanja preduzetničke aktivnosti ukazuju na smanjen broj početnika, kao i novih preduzetnika. Sve ovo, kao i loša inovativna klima, na koju posebno utiče ekonomska i politička nestabilnost, imaju negativan uticaj na razvoj privrede uopšte. Merenje inovativnosti privrede, kao statistička vrednost, svakako neće doprineti promeni opisanih okolnosti, ali može uticati podsticajno na potencijalna inovativna kretanja, koja moraju biti prepoznata od strane šire društvene i privredne javnosti, jer promocija inovativnosti može bitno uticati na visinu stranog investiranja, a samim tim i bolje iskorišćenje inovativnog potencijala, što neminovno dovodi do rasta privredne aktivnosti na nivou privrede.

REFERENCE

- [1] A. Muller, L. Välikangas and P. Merlyn, Metrics for Innovation: Guidelines for Developing a Customized Suite of Innovation Metrics, *Strategy & Leadership* 33, 2005, str. 37–45.
- [2] Innovation union scoreboard 2010, The innovation union's performance scoreboard for research and innovation 1 february 2011, str. 11 <http://www.proinno-europe.eu/inno-metrics/page/innovation-union-scoreboard-2010>
- [3] T. Davila, M. Epstein, R. Shelton, Making Innovation Work: How to Manage it, Measure it, and profit it, 2007, str. 202.
- [4] P.R. Niven, *Balanced Scorecard Step by Step: Maximizing Performance and Maintaining Results*, New York, NY: John Wiley and Sons, 2002, str. 34–37.
- [5] R. Kaplan, D. Norton, *Uravnotežena tablica rezultata-prevođenje strategije u djelovanje*, Mate Zagreb, 2010, str. 24–29.
- [6] <http://www.realinnovation.com/commentary/praveengupta>
- [7] P. Vidicki, J. Borocki, V. Rašković, V. Šenk, Innovation Activities in Enterprise: Different Models of Measurement, XV International Scientific Conference on Industrial Systems, Tehnički fakultet Novi Sad, 2011, str. 476.
- [8] P. Skarazinski, R. Gipson, *Inovacija pre svega*, Finesa Beograd, 2009, str. 188.
- [9] <http://www.emg.rs/vesti/srbija/7213.html>
- [10] Lj. Kontić, S. Čabrilo, A strategic model for measuring intellectual capital in Serbian industrial enterprises, *Economic Annals*, LIV (183), 2009, str. 89–117.
- [11] *Statistički godišnjak Srbije 2011-nauka i tehnologija*, Republički zavod za statistiku, 2011, str. 346, 358, 359.
- [12] *Saopštenje-statistika inovativne aktivnosti*, Republički zavod za statistiku, br. 171. god. LVII, 26.06.2008, str 4.
- [13] D. Povrenović, *Analiza inovacione delatnosti u Srbiji*, Zavod za intelektualnu svojinu, Beograd, ATC-Beograd, 2011, str. 96.

THE IMPACT OF THE BRAND ON CONSUMER'S DECISION MAKING PROCESS

Daliborka Blazeska, Natasha Ristovska

University of Tourism and Management in Skopje, Republic of Macedonia

Abstract: The success of a company in the marketplace depends on its ability to differentiate the products and services it produces from those of competitors. The brand itself represents a valuable marketing and strategic tool that ensures successful performance and at the same time is an important source of competitive advantage. Marketers have interest in knowing how consumers make their buying decisions. This decision-making process is extremely complex considering that consumers are faced with numerous same or similar products on the market. The real question is how consumers are making the buying decision, what information are crucial for making the decision and how they perceive the strong and well-established brands. These are the main issues that are elaborated in this paper. The main objective of the paper's research is to identify the factors that influence the consumer's decision making process. For this purpose, a survey is conducted and its results clearly confirm that the brand is the most effective way of communicating with consumers and a major factor in decision making process. In the current highly competitive environment, it is not enough for companies to offer qualitative products and services, but to find an effective way for their sale. Accordingly, in order to gain a higher market share and to realize the planned sales, creating a brand is highly required and recommended.

Keywords: brand, competitive advantage, differentiation, purchasing, decision-making process.

1. INTRODUCTION

What is common in all aspects is the fact that we live in a time of globalization where competition is more apparent. In order to succeed in the market in these circumstances, it is necessary to differentiate from others, and that can be done by creating strong brand. While in the past the country's development was based on the comparative advantages such as cheap labor and natural resources, lately the international competitiveness is affected by other factual conditions, obtained based on knowledge and developed infrastructure, high technology and innovation, i.e. based on the development of the global information society and the general liberalization. The circumstances of the modern economy imply the need of the enterprises to ensure a better competitive position in the market by combining various strategies and tactics. We should know that the glut on the market is a major problem. In this case we have a growing number of similar products and services where innovation products will not lead to long-term sustainable competitive advantage because this functional advantage usually is quickly copied. The success of the market will be possible only by creating a strong brand that may be a unique characteristic that differentiate products and

services from the competitive offer. So when purchasing products, customers are deciding to choose the product from a manufacturer that has a brand product, because they believe in it, and it offers besides the basic values and additional values[1].

This paper will highlight the role of the brand in the process of deciding making in shopping, understanding the importance of brands in order to achieve competitive advantage, defining key components for the brand and the buying process, understanding the factors that besides brand could affect a process of decision making in purchasing and proofing the importance of the brand to increase competitiveness and successful functioning of enterprises in domestic and foreign markets.

2. THE IMPORTANCE OF BRAND MANAGEMENT AS A WAY TO ACHHIEVE MARKET SUCCESS

The brand is extremely important for a decision making process by the consumers. When making the decision to purchase, the customers start from two parameters, namely - differentiation and added value. Therefore companies are interested in managing brands and achieving differentiation. Differentiation involves efforts to differentiate the product from others, while the added value refers to the possibility of product labeled with the brand to have a greater value for customers, rather than one product whose brand is not assigned.

The labeling of the product with brand is not something new. In the new circumstances "brand marking" implies uniqueness of the product, which allows consumers to access the necessary information upon which to make a decision whether to purchase a particular product or not. The role of brands is to draw attention to a product that meets specific needs. When we talk about brands we think not only of brands that are assigned to specific products but also about services brands. According to David Jobber [2], branding is the process by which the company differentiates its offer from the competition. The market where you can buy a number of similar products is important to be different from others. You have to create something that will make you stand out from the competition, something based on what consumers will worship their trust. In order to succeed you must be able to know your customers. Branding - is a process involving various experts. The research which is conducted to obtain baseline results for branding, team of marketing managers, psychologists and designers are taking part. Marketing managers, based on identified needs, explore what kind of product or service consumers expect, the possible total market share, price etc. Psychologists, based on a survey or focus group discussion, with decide what the consumers think about competition, why they prefer a certain brand, what associates them about a particular brand and which design, color or shape is the most appropriate according to them. Finally, graphic designers create the visual elements of the brand. These visual future designs are presented to the consumers who are asked to choose which solution they like and to describe in more detail the reasons for that decision.

The market value of the brand is a prerequisite for the financial success of the brand. Often the question is what the value of individual brands on the market is. The answer to these questions is not easy. This difficulty comes from the fact that on the value of the brand a great number of factors affect, which cannot be fully quantified. These factors include: brand

loyalty, brand familiarity, quality experience, associations tied to the brand, other benefits related to the ownership of the brand [3].

3. BUYER'S DECISION MAKING PROCESS

The stages through which the consumer is going through in making the decision to purchase the product may have different durations, or some rapid change, and some slow-going, and in some cases even some phases can be skipped or abandoned. The decision-making process for the purchase of product is really very complicated process considering the fact that consumers are confronted with a number of the same or similar products. In fact, the decision to purchase is defined as "mental process" through which the consumer is going through when purchasing. Many decisions about buying new products depend on the nature of customers, types of products or the situation in which the purchase is executed. One of the key factors in deciding to purchase a product is the impact of the brand [4].

The complexity of this process comes from the fact that people do not always behave as rationally during the act of purchase. What makes the process of making a decision to purchase complex is that two main types of influences upon him exist, namely: monetary and non-monetary impacts. The decision to buy is based on research and gathering information about the needs i.e. the process of purchasing products, services or ideas. Then, according to Kotler, 5 steps are known, i.e. recognition of the needs or problem, research, evaluation of alternatives, selection and evaluation after the purchase. But most acceptable in the marketing literature is the division in five stages through which the process of making a decision to purchase starts, and they are [5]:

- recognition of the need,
- gathering information
- evaluating the various alternatives,
- selection and purchasing and
- the process after the purchase.

4. RESEARCH

The survey ascertains the reasons why consumers buy certain products, followed through the prism of the brand. This paper examines the intensity of the impact of certain traits of the product, its cost, and certain promotional activities related to it.

The purpose of the survey is to obtain data on the impact of individual traits of the product, and the same to be used to achieve different benefits for consumers, but also for the manufacturers.

The problem, which is elaborated in this paper, is determining what motivates consumers to buy the products. In fact, it examines the impact of the brand on the product, its design, quality, its price and promotion. The goal of the research is aimed at proving whether there is an influence from the impact of the brand on the decision to purchase and whether it may increase the competitive advantage of the product.

Secondary and primary data that are collected for the specific purpose of the research are used in this research. These data were collected through the test method, a questionnaire that is the most commonly used method for collecting primary data and consisting of a set of questions that ask respondents to get their answers. This method is chosen because of its flexibility, as well as the speed of data collection apart from other research methods such as observation and experiment.

In the following part of this paper, some of the conducted questions are isolated, those that are key to this research.

One of the key questions was the following: Do the consumers in the Republic of Macedonia buy branded products? Regarding this question, the following results were gained:

Table 1. The purchase of branded products in Republic of Macedonia

Purchasing branded products	Yes	No
Percentage of respondents	68%	32%

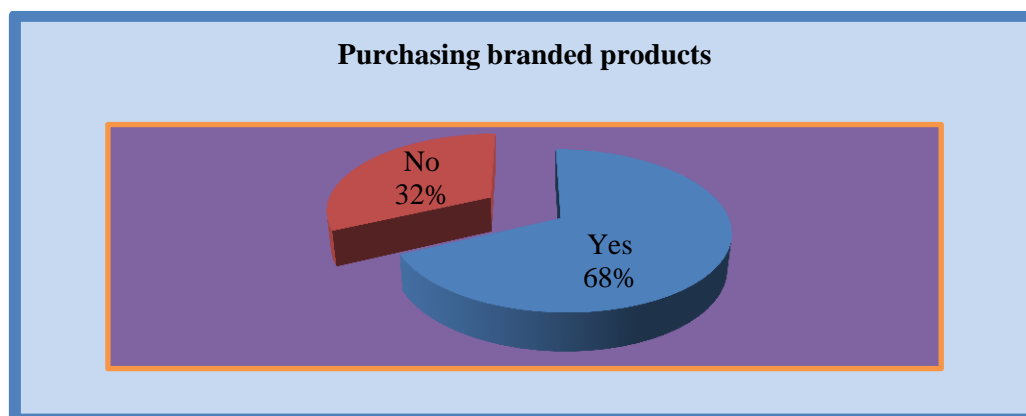


Figure 1. Percentage of buying branded products in the Republic of Macedonia

As it can be seen from the previously mentioned figures, 68% of the respondents said they buy branded products, which could be used as a general conclusion that there is a place for examining the impact of brand products on purchase decision.

The answers to the question: Which brands are mostly preferred by the customers in the Republic of Macedonia? were the following:

Table 2. Preferred brand by the customers

Brand	Argeta	Stobi Flips	Coca Cola	Milka	Pelisterka
Percentage of respondents	31%	28%	20%	13%	8%

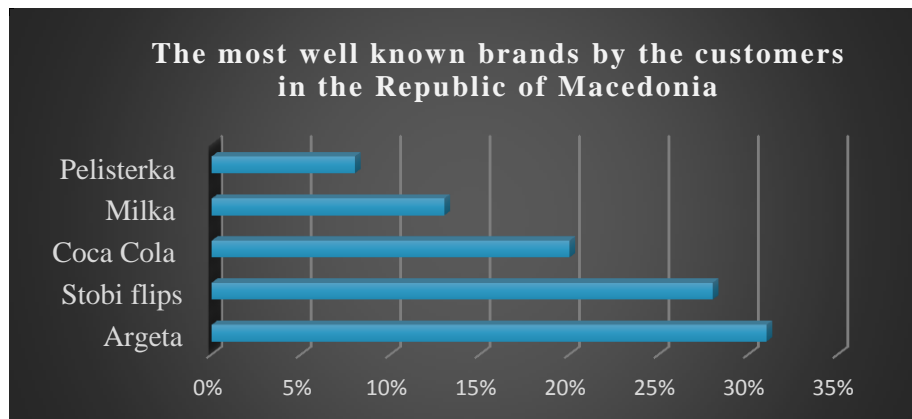


Figure 2. Percentage of the brands that are well known by the customers in the Republic of Macedonia

The attached results show that respondents recognize many Macedonian and foreign brands. The strongest brand in Macedonia is Argeta and 31% of the respondents claimed that, then Stobi Flips which reported 28% of respondents, followed by Coca Cola brand which reported 20% of respondents, Milka brand which reported 13 % of respondents, and ultimately brand Pelisterka which reported 8% of respondents. From these results (presented in Figure 1 and Figure 2), but they are also backed up by the research conducted by Valikon [6], it can be concluded that the strongest brands in the Macedonian Republic of Macedonia for 2014 are Stobi Flips and Pelisterka. Besides Macedonian brands in the country in the top 5 strongest brands are foreign brands like Argeta, Coca Cola and Milka.

Next question on the questionnaire was: Which factor are the most influential on the decision making process in purchasing?

The respondents were asked to rank the factors that according to them are the most influential on their decision making process in purchasing some product. According to the gathered data (results), the brand of the product took the first place, second was its price, third the design, fourth its promotion and on fifth place the economic propaganda i.e.:



Picture 1. Factors that are the most influential to the customers on the decision making process in purchasing some product in the Republic of Macedonia

From the results of this question we may come to the conclusion that the majority of respondents said that overriding is the brand of the product which once again confirms the hypothesis that for the consumers the brand is very important when making their purchasing decision. Not a small number of respondents answered that an important factor in the decision to purchase is the price of the product. Mostly brand of products is accompanied by a high price, but it must be concluded that the price is important to the respondents as a factor in purchasing decision because a large number of respondents have small purchasing power.

The question: How design influences the purchasing decision? gave the following data: 65% of respondents said that product design is important for choosing a product and 35% of respondents believe that product design is important when choosing a product, i.e.:

Table 3. The influence of the design on the purchasing decision

The influence of the design on the purchasing decision	Yes	No
Percentage of respondents	65%	35%

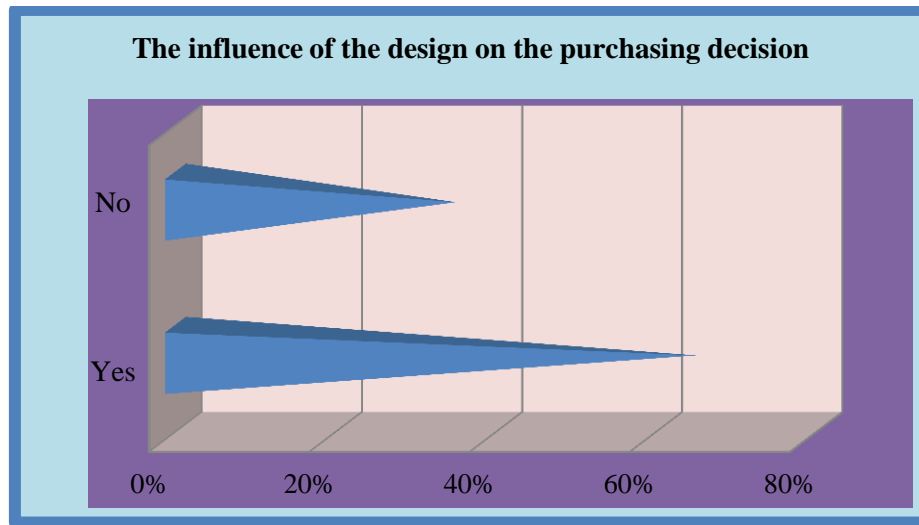


Figure 3. Percentage of the design influence on the purchasing decision

The next question was about the share of respondents that have ever payed attention on the promotional activities and their impact on the decision to purchase. Indeed, the question: Do the promotional activities influence the decision to purchase? gave the following results:

Table 4. The influence of the promotional activities on the purchasing decision

The influence of the promotional activities on the purchasing decision	Yes	No
Percentage of respondents	40%	60%

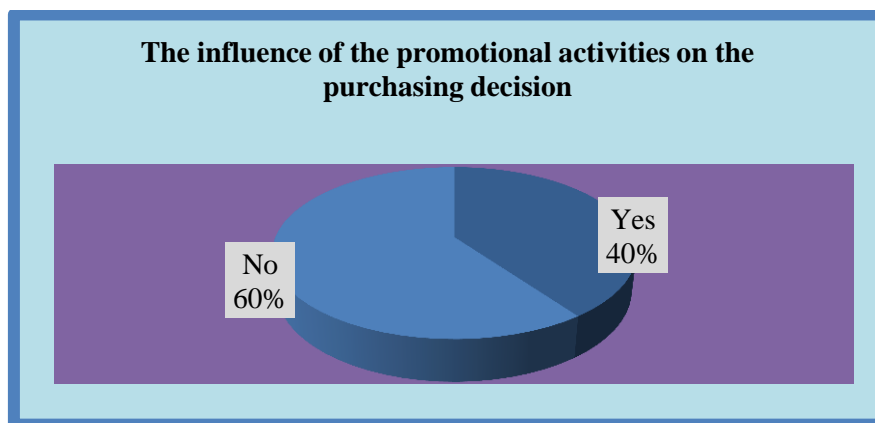


Figure 4. Percentage of the influence of the promotional activities the purchasing decision

According to the results, 60% of the respondents said that the promotional activities did not have a great impact on their decision to purchase, while 40% of the respondents said that the promotional activities of the companies influence their decision to purchase.

The final survey question conducted for this research was: Does the price influence the decision to purchase? The following results were obtained:

Table 5: The influence of the price on the decision to purchase

The influence of the price on the purchasing decision	Yes	No
Percentage of respondents	75%	25%

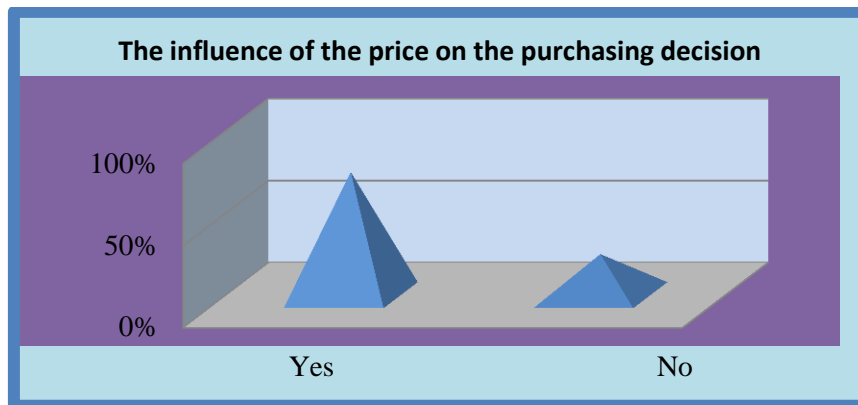


Figure 5. Percentage of the influence of the purchasing decision

The results show that purchasing decision for 75% of the respondents is influenced by the and 35% of respondents said that the price does not influence their decision to purchase.

5. RESEARCH RESULTS

From the answers given and processed, it can be concluded that the participants in the process of making a purchase decision are influenced by a number of factors such as brand, price, design, sales promotion and economic propaganda. This can be represented in the table as follows:

Table 6. The individual factors that affect the process of deciding to purchase

Question	Brand	Price	Design	Sales promotion	Economic propaganda
Percentage of respondents	80%	75%	70%	65%	40%

According to the obtained data it may be noted that 80% of respondents believe that the brand is the most important factor influencing the process of decision making by consumers, 75% of respondents think that the price is an important factor in deciding to purchase, 70% of respondents considered that the decision adopted as a result of design, 65% believe that the decision to purchase is made on the basis of sales promotion and 40% believe that the decision to purchase is made on the basis of economic propaganda.

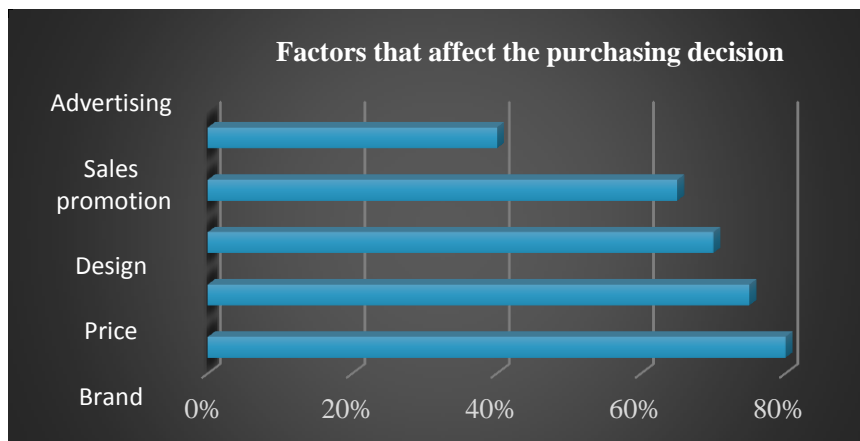
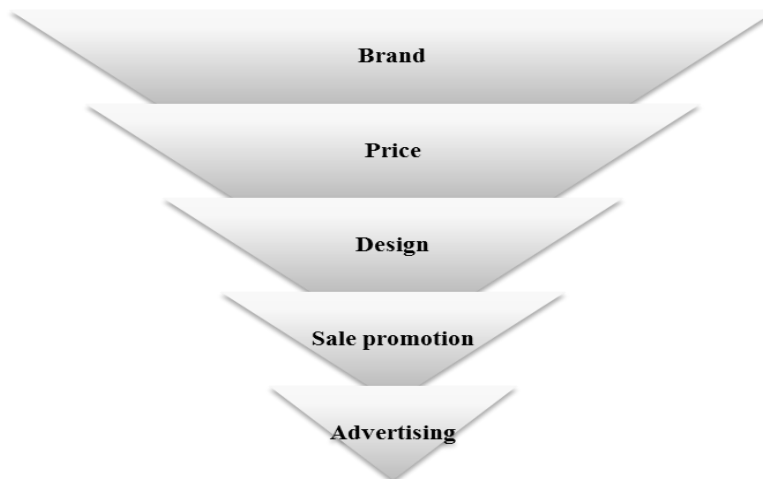


Figure 6. Individual factors that affect the purchasing decision

From this Figure 6, we come to the answer that the brand has the biggest role in making the decision to purchase a product, thus confirming the hypothesis of this study that the brand products influence the consumers' decision to purchase.



Picture 2. The most influential factors on consumers in the purchasing decision making process of products in the Republic of Macedonia

This is confirmed by the summarized results of the last question of the questionnaire, where the respondents asked to rank the reasons why they buy the products so that one would mark the most important factor that will influence their decision or the 5 least important factor, presented in Picture 2.

6. CONCLUSION

Changes occurring in the global economy lead to need Macedonian companies to pay special attention to improving its competitive advantage. It appears necessary especially in the last fifty years because companies have changed from production to consumption. Practically, it means more than ever the key to success is in knowing the customers' needs and in their satisfaction. Till now, Macedonian companies have no real international competition in the domestic market. However, as Macedonia is approaching Europe, the interest of foreign companies in the region grows. All this together with the consumers who are becoming pickier, can reduce the sales volume of the Macedonian enterprises. Therefore, enterprises should pay attention to several things in order to be able to perform successfully in foreign markets and at the same time to be competitive in the domestic market compared to foreign enterprises. Marketing, public relations and price reduction can help in the short term, but we need to know that investing in building brands is the right strategy to improve competitiveness and what is really needed in the future. Without this, domestic companies would risk losing the marketing fight with the sophisticated foreign brands as well as the pace with innovation. The circumstances of the modern economy will imply the need, enterprises by combining various strategies and tactics to ensure a better competitive position in the market. The brand is an effective way to communicate with consumers and between consumers. In fact its size and utility is immense.

REFERENCES

1. K.L. Kevin, Strategic Brand Management- building, measuring, and managing brand equity, Pearson Prentice Hall, London, 2008, p. 98.
2. D. Jobber, Principles and Practice of Marketing, McGraw-Hill, London, 2004, p.265.
3. Ph. Kotler, F. Valdemar, B2B Brand management, ASEE, Novi Sad, 2007, p. 121.
4. S. Hoeffler and K.L. Keller, The marketing advantages of strong brands, *Journal of Brand Management* 10, Palgrave Macmillan, 2003, pp. 421–445.
5. Ph. Kotler, K.L. Keller, Marketing management, Prentice Hall, London, 2008, p.117
6. <http://www.marketing365.mk> (Accessed on 26.03.2015)

ENERGY EFFICIENT CONSTRUCTION STRATEGIES AS AN ELEMENT OF THE SUSTAINABLE DEVELOPMENT STRATEGY IN POLAND

Renata Stasiak-Betlejewska

Czestochowa University of Technology, Poland

Abstract: Sustainable development understood as the continuous improvement of quality of life and well-being of present and future generations is currently the main objective of the European Union. Poland fulfilling membership obligations in European Union needs to introduce a number of measures to improve energy efficiency in the economy. In Poland, as in Europe, approximately 36% of primary energy is consumed in buildings, which is more consumption than in transport industry. In the construction sector, there is still commercially reasonable large potential for energy saving. Growing energy purchase costs and increasing requirements of European Union in terms of actions against climate change force construction manufacturers to use solutions related to energy efficiency improvement in the buildings. The article discusses not only the essence of the energy-efficient construction, but it also presents major initiatives of the construction companies aimed to deliver the sustainable development objectives.

Keywords: energy efficiency, construction, strategy, sustainable development.

1. INTRODUCTION

The concept of "sustainable development" refers to the process of development, which, striving to fully meet the needs of the present generation, doesn't reduce the potential of future generations. This definition appeared for the first time in the report "Our Common Future" prepared in 1987 by the World Commission on Environment and Development Organization of the United Nations [Report of the World Commission, 1987].

The definition of sustainable development that allow meeting the present needs without compromising the ability to meet future generations needs, is applied to many areas of human activity, including the construction industry. In the case of examining issues of sustainable development in the construction industry three groups of aspects were classified: environmental, social (social) and economic. Environmental aspects (in particular those related to carbon dioxide emissions and primary energy demand) have been the subject of both a wide range of scientific studies as well as standardization work. Social and economic aspects have been so far, due to difficulties in establishing clearly definable and quantifiable indicators, the object of less interest to the world of science and technology. The various aspects of the sustainable development (groups aspects) are the subject of acts and legislative initiatives of European Union. Recently, however, more and more regulation applies to the whole area of sustainable building and creates demand for new standardization documents.

Environmental aspects are aspects of the building structure in the full cycle of life, which can cause changes in the environment. There are most often mentioned among the environmental aspects a potential strengthening of the greenhouse effect and ozone depletion potential, ozone production potential, climate, demand for primary energy, waste generation, emissions of hazardous substances, water consumption and other aspects affecting the global and local environment. Due to the growing awareness of the problem of excessive energy consumption and associated greenhouse gas emissions to the atmosphere there was created a wide range of EU documents related to the energy (and therefore environmentally) sustainable development aspect in the construction. According to data from the European Commission, buildings are responsible for 42% of energy consumption and 35% of greenhouse gas emissions in the European Union. In the context of combating climate change it is therefore necessary to implement amendments to the design, construction, operation and demolition of buildings. This applies in particular to:

- reduce the demand for heat, cooling and electricity,
- use of non-conventional and renewable sources of energy,
- increase the efficiency of the equipment and systems used for heating,
- ventilation and air conditioning of buildings,
- changes in user behaviour,
- changes in the approach to system design,
- optimizing the architecture of buildings,
- minimizing greenhouse gas emissions (except CO₂).

One of the first acts aimed at reducing carbon dioxide emissions into the atmosphere was Directive 93/76 / EEC concerning the improvement of energy efficiency. It underlines the need of the energy efficiency increase, among others in the construction industry, with emphasis on the need for audit services, thermal insulation of buildings and a corresponding method of calculating costs [Council Directive 93/76/EEC 1993].

Another important document outlining the energy policy of the European countries was signed in 1997 Kyoto Protocol to the United Nations Framework Convention on Climate Change. It requires the individual countries defined quantitative targets for reducing greenhouse gas emissions into the atmosphere. This act persuaded a change not only in the power industry, but also in the construction industry. The most important act of the EU relating to the energy aspect of the building is currently being implemented Directive 2002/91 / EC. Directive EPBD (Energy Performance of Buildings Directive) aims to improve the energy performance of new and existing buildings by making it compulsory for them to so-called development energy performance certificates which can take meaning for the consumer to primary and secondary markets. The proposal of the European Parliament and the Council presented on 13th November 2008 presented the basic changes to be made to the content of Directive 2002/91/EC. The proposed changes should result in:

- reducing the energy consumption by 5-6% in 2020,
- reducing CO₂ emissions by 4-5% in 2020,

- increasing employment directly related to the energy efficiency certification in the construction, as well as in industry (manufacturing of products used in energy-efficient buildings).

Modifications to the contents of the directive itself will mean among others:

- establishing minimum requirements for energy performance,
- the development of the Commission's multi-criteria comparative methodology,
- promoting alternative energy sources,
- the promotion of energy-saving buildings and zero carbon,
- the requirement to develop a certificate for buildings in which more than 250 m² is occupied by public authorities (at the latest by the end of 2010)
- promoting building certification connection with financial incentives.

On the other hand inclusion of energy efficiency in the operation phase of the building it will be possible mainly using assessment tools in the form of building energy performance certificate. On the basis of the technical characteristics - of a building, how to use, references climatic conditions, using the calculation methodology shall be determined in computational demand for non-renewable primary energy allowing to cover the needs of heating, cooling, ventilation, hot water preparation and, in the case of buildings utilities, lighting. The result of the calculation is a value of EP indicator [kWh/m²*year]. According to the Construction Law implementing Directive 2002/91/EC, elaboration of the energy performance certificate is mandatory for all newly created real estate since 1st January 2009. The system is intended to allow performing comparisons of energy efficiency between individual buildings.

Another important document emphasizes the importance of energy sphere of sustainable development in the construction is "Action Plan for Energy Efficiency". It aims to mobilize the general public and decision-makers to improve the energy efficiency infrastructure. Construction is mentioned as an element of infrastructure featuring the greatest potential for reducing energy consumption (from 27% for residential and 30% for public buildings by 2020). This aim will be achieved by increasing the energy efficiency of products and buildings (min. through introduction of minimum requirements for energy performance). The activities to be supported by funding energy efficiency, economic incentives and increasing user awareness.

One of the elements that reduce the use of natural resources and minimization of energy consumption and emissions in the waste management industry and their reuse is effective waste management that is regulated by Directive 2006/12/EC. It refers, inter alia, to prevent and reduce waste production, recycling and regeneration conducting or obligation networking infrastructure for waste disposal.

Social aspects are aspects of the building in its life cycle that could affect the quality of life of society. Group of the social aspects includes: microclimate conditions in the rooms, adjustable by the user, the quality of indoor air and drinking water, acoustic comfort, visual comfort, efficient use of space, adaptability, lack of barriers and accessible to the public.

The other social aspect concerns parameters of the indoor microclimate what is related to the to the provision of thermal comfort. There is also other important aspect of the social

(and environmental) sustainability in the construction industry connected with ensuring the minimization of noise and the maintenance of acoustic comfort.

Economic aspects are aspects of building a full life-cycle affecting economic conditions. One of the most important economic aspect is the cost of building life cycle, income generated during its existence (e.g. derived from the lease of office space), or the stability of the value of the object in its life cycle. Analysis of lifecycle costs (Life Cycle Cost - LCC) allows to estimate the costs associated with the facility or construction product throughout the life cycle. Life cycle cost takes into account capital expenditures to form the structure and its systems, operating and maintenance costs and expenditures related to the demolition. The economic model for highest economic efficiency while minimizing the value of an integrated LCC.

Meeting the requirements related to aspects of sustainable development by building object it is associated with the need to meet a number of technical and functional requirements related to: mechanical resistance and stability, fire safety, hygiene, health and environment, safety in use, protection against noise and the energy economy and heat retention.

2. THE SUSTAINABLE DEVELOPMENT STRATEGY IN THE CONSTRUCTION

The sustainable development strategy is a tool for making decisions based on knowledge, allowing for the systematic inclusion of impact various sectors and areas. Strategy tasks are following:

- supports the institutionalization process of consultation, mediation and consensus building around priority objectives,
- allows to undertake complex social and economic problems - helping to create new opportunities, to develop procedures and legislative framework to allocate resources in an efficient way, for a limited time,
- indirect benefits associated with the process of its development (relationship building, awareness-raising).
- promotes the mobilization of human, financial and material - external and internal, it points to the need for coordination and better use,
- build human and institutional capacity by the established objectives and the means to achieve them - the potential to be used to solve complex and multidisciplinary tasks.

Strategy conditions:

- Contribution state:
 - objectives and processes consistent with the needs of the state,
 - the share of government at central and local levels (the authorities at the local level will be the contractors and beneficiaries of the strategy),
 - leadership and management - determining the roles of responsibility for implementation in specific areas,

- a shared vision - to provide support to the market participants responsible for the implementation,
- continuity of strategy development - provide continuous and cyclic process independent of current political trends.
- Participation and partnership:
 - a wide public participation in decision-making - the legitimacy of processes,
 - the involvement of partners required to implement,
 - a source of new information in the process of strategy development,
 - conflict prevention,
 - promoting and building public - private partnership
- Institutional and substantive potential:
 - the merit possibility - the ability to analyze issues of scientific, technical, political, financial and institutional,
 - interpersonal skills - ability to work together and overcoming conflicts,
 - institutional capacity.

Energy efficient construction constitutes a crucial part of the solution for a sustainable energy future [International Passive House Award. 2015]. The strategy of the sustainable construction in Poland is a coordinated procedure with an iterative nature, which should [Tworek J. et al. 2009]:

- take into account the role of many responsible bodies of public administration, industry and other participants in the construction market,
- translate goals and aspirations in the field of sustainable development into concrete policies and actions in the area of construction,
- in contrast to the classical approach to present action plans cyclical and iterative process of planning and action to achieve the goals of the upcoming sustainability.

Conditions for the strategy of the sustainable construction are following:

- consistency with the policies and strategies of other sectors,
- objectives of short, medium and long term,
- ensure a balance between the objectives of environmental, social and economic.
- avoiding the side effects - the consensus in setting targets.

An example of the sustainable construction strategy implementation is "Strategy for Sustainable Construction" implemented in Great Britain in 2008. Process of creating the mentioned strategy is following:

- 1999 - Sustainable development strategy for the UK,
- 2000 - I version of the strategy of sustainable construction,
- 2001 - Creation of a Strategic Forum for Construction,
- 2007 - Consultation Document sustainable building strategies.

British strategy means were connected with: orders, increasing the share of contracts in line with the practices of "Clients 'Commitments' (up to 60% in 2012), demonstration projects and training, the creation of a centre of expertise for sustainable procurement and development of guidelines for customers. Scope of British strategy design is related to: the use of Design Quality Indicator (process of assessing the project quality, what can be proved by 10% annual growth projects in line with DQI for public buildings, requirement to obtain evaluation "excellent" (BREEAM) for buildings which are the subject of government procurement. In terms of innovation the following solutions have been introduced within British sustainable development construction strategy: promotion and financing of innovative solutions (automation, information technology, buildings "low impact"), knowledge-sharing networks, indicators of innovation, eco-towns initiative (10 sustainable settlements). People factor related to British strategy introduction concerns: an increase in the qualifications of employees in industry (number of people trained), promotion of investment in human resources and Construction Qualifications Strategy.

British strategy has the following goals: mitigation of climate change, new buildings "zero carbon" by 2016, reduction of CO² emissions for buildings central administration, reduction of CO² emissions from transport processes and climb objects. Materials that have been used within the strategy concern: pilot schemes concerning the impact on the environment in the life cycle, increasing the share of products compliant with the criteria of the Responsible Sourcing Scheme and increase the availability of information for LCI designers.

3. THE SUSTAINABLE DEVELOPMENT CONSTRUCTION STRATEGIES – RESEARCH ANALYSIS

EU cohesion policy and national regional development policy for the coming years stand under the sign of "smart specialization". In line with the European Commission, the regional innovation strategy for smart specialization is an integrated, geographically marked economic transformation strategy, that [Foray D. et al. 2011]:

- focus public resources on priorities, challenges and needs associated with the development based on innovation and knowledge (election);
- provides support tools for private investment in research and development;
- is based on the potential and regional competences in order to create a competitive advantage in the context of European and global value chains (competitive advantage and critical mass);
- promotes grassroots involvement of different communities in creating new solutions and experimenting (cooperation and leadership);

- is based on evidence and includes a clear monitoring and evaluation system.

Regions in Poland have taken initiatives on the sustainable development strategy within the construction industry that are related with other industries initiatives as well. The aim of research analysis in the paper is identification of major initiatives of the construction companies included in the cluster/consortia groups that are aimed to deliver the sustainable development objectives.

3.1. THE SUSTAINABLE STRATEGY ACHIEVEMENTS IN ŚWIĘTOKRZYSKIE REGION

The Board of Świętokrzyskie province has taken on 16 February 2011 Resolution 135/11 on the indication of innovative specialization of economic development for Świętokrzyskie province, constituting the basis for drafting the updated Regional Innovation Świętokrzyskie Region Strategy. The Annex to this resolution is the report: "Innovative specializations Świętokrzyskie Province, where report's authors justify the choice of area of specialization "Effective Use of Power" following theses [Nowicka P. et al. 2010]:

- forms part of Europe-wide trend of sustainable development and in accordance with one of the flagship projects of the European Commission's "Europe Resource efficient" and its development should lead to the transition to a low carbon economy, increasing the use of renewable energy sources and promote energy efficiency;
- the sustainable development project is necessary to maintain the security of the region and to prevent the huge loss of energy (mainly caused by inefficient energy transmission in connection with the old infrastructure of transmission);
- the existing potential in the region, both in terms of renewable energy resources (the previous low rate of utilization) as well as scientific and research potential (activity of the Świętokrzyskie Centre for Innovation and Technology Transfer, Kielce University of Technology, the prospect of building a research laboratory) in combination with the existing business of (e.g. Połaniec Power Plant) creates opportunities for dynamic development of this area and to initiate positive changes in related industries.

These reasons relate rather the area of "renewable energy sources" (in Polish: OZE) associated with technological solutions, procedure and by product at the beginning of the electricity and heat production chain. While the term "energy efficiency use" (in Polish: EWE) is associated with three definitions [**Directive 2006/32/EC**]:

- "Energy efficiency": a ratio between an performance, service, goods or energy, and an input of energy;
- Efficiency - the ratio of the size of the resulting use-of the object, technical device or system, under standard conditions of use or operation, the amount of power consumption by the business, technical device or installation, necessary to obtain this effect;
- 'Energy efficiency improvement': an increase in energy end-use efficiency through technological changes, economic or behavioral changes.

The circle "Efficient Use of Energy" is mentioned in the document "Priorities of innovative development - Regional Innovation Świętokrzyski Strategy" in the context of operational objective 4: Practice of high innovative potential [Priorities of the innovative development, 2011].

The circle "Efficient Use of Energy" is a platform for cooperation between enterprises and scientific institutions, business institutions and local governments for energy efficiency use in Świętokrzyskie region economy. It combines energy producers, energy providers, IT companies, construction companies, suppliers of machinery and equipment of RES (OZE), developers, designers, architects, energy auditors for research teams. Renewable energy sources (in Polish: OZE), research teams on energy efficiency use (in Polish: EWE), consulting firms, financial institutions, Engineering, for the company. industrial automation, including bodies of two clusters: Świętokrzysko-Sub-Carpathian Energy cluster and Świętokrzysko-Podkarpacki Construction Cluster.

The circle "Energy Efficient Use" (in Polish: EWE) focuses on increasing the competitiveness of companies in Świętokrzyskie region by optimizing the use of energy and thus reduce the costs of their operation. At the same time benefit from the potential of the agriculture sector to create new activities in the field of renewable energy sources, in particular concerning the use of biomass and biogas. EWE (energy efficiency use) circle aims to create new solutions for distributed energy, including hybrid systems for disadvantaged areas. The circle "Efficient Use of Energy" on the one hand focuses its initiatives on an enterprise engaged in energy-intensive economic activities, companies operating in sectors characterized by high price pressure in the international markets and eco-conscious companies. On the other hand it supports the development of new forms of cooperation between renewable energy sources market players. In addition to the promotional and information, the circle organizes training and counseling, conducts strategic energy audits and provides a comprehensive servicing of investment projects in the field of renewable energy sources and energy efficiency use.

Model of the Circle "Energy Efficient Use" is based on the interaction of the Program Council, task forces and project consortia. Its flexible organizational structure will react quickly to new market opportunities and the challenges facing the public and private sectors in the field of renewable energy sources and energy efficient use in the region. The circle "Efficient Use of Energy" composed of regional leaders and leaders established in other regions but acting in Świętokrzyskie who have relevant expertise - in most cases, but in narrow specialties market value chains within renewable energy sources and energy efficiency use. They can be grouped into the following categories:

- energy-efficient construction (building materials, projects involving complex, thermo-modernization of buildings, projects for new energy efficient and passive buildings),
- renewable energy sources (construction of biogas and biomass combustion plant, construction of wind turbines, construction of hydroelectric power stations, etc.),
- energy efficiency in enterprises (cost optimization, optimization operational).

In this group there are companies related to Świętokrzysko-Podkarpacki INNOVATOR Building Cluster and the companies that increasingly specialize in the field of

renewable energy sources in the construction industry. The cluster companies includes: designers, manufacturers of building materials and contractor investment projects. The circle "Efficient Use of Energy" bases its activity on the regional potential revolving around companies and institutions in the following areas:

- Energy-efficient construction for the public sector,
- Renewable energy sources in rural areas,
- Energy efficiency in industry.

Both the European directives and laws as the public sector is predestined to play an exemplary role. According to the Law on thermal modification and repairs from 21st November 2008, the public sector entities are required to perform energy audits and to make energy-saving investments that will prove economically viable. Starting from 2014 the public sector bodies have to adapt a year at least 3% of public buildings and to make the annual inventory of buildings. In addition, local governments must prepare local plans for energy efficiency and implement appropriate energy management systems.

At the end of 2011, there was published report "Innovative activities of enterprises in 2008-2010", which presented the results of research conducted by the Central Statistical Office in Poland among companies employing more than 9 people. These are companies which in theory are the target group for the circle "Efficient Use of Energy". Among the surveyed companies in Poland, 18.1% of the total number of industrial enterprises and 13.5% of service sector enterprises were innovative entities, while in Świętokrzyskie region this share stood at 16.9% and 11.6%. The company actively innovate are those that in the analyzed period introduced at least one innovation product or process or implement in this period, at least one innovation project, which has been interrupted or abandoned during the reported period (unsuccessfully) or was not the end of this period of time (i.e. is continued) [Innovative activities of enterprises in 2008-2010, 2012].

Analyzing the share of enterprises that have introduced product and process innovations in the total number of enterprises in the region was 16.5% in industry and 11.4% in the service sector. Most companies in the industrial sector in the region has developed process innovations on their own (60.2%) and 27.5% in co-operation with other companies and research institutions in the country. In other words, there is a group of companies in the region, which is open to ideas and suggestions from outside. Among the service companies tend to dominate focus on turnkey solutions offered by domestic companies. Expenditures on innovation activities in Świętokrzyskie region in 2010 amounted 332.7 million PLN (1.4% of expenditures in Poland) in the industrial sector and 36.7 million PLN in the services sector (0.34% of expenditure in Poland). Most Polish companies allocate funds for the purchase of machinery and technical equipment, means of transport, tools, instruments, movables and equipment. The main source of financing the expenditure on innovation activities in 2010 were the own funds of the company. However, among the objectives of innovation activity in Świętokrzyskie region a quarter of innovative enterprises in the industrial sector and only 2% in the service sector designated as an important goal: the reduction of material- and energy per unit of product.

Areas of innovation in energy-efficient construction relate primarily to aspects such as reducing heat loss, use of renewable energy sources and reducing electricity consumption in buildings. Majority of companies operating in this area use already available solutions on the market. In particular, the strict construction companies, whose activities so far focused on conventional buildings, and only recently beginning to actively work in a new area. There are only a few companies specializing instead in modern energy construction such as e.g. passive houses construction.

The whole technology is derived from outside the region, and mainly from abroad where there is a true place of emergence of this kind of innovation. Using the findings obtained while they are able to translate them to create solutions tailored to the needs and conditions prevailing in the region. There were pointed solutions derived from other European regions that one of the main features is, as in Świętokrzyskie region, the co-existence of urban areas, concentration of industrial activity in certain industries with extensive rural areas of agricultural production. Selected regions should therefore be considered to be structurally similar, though not always statistically close świętokrzyskiemu voivodship. There have been selected solutions due to its versatility or reliance on potentials available also in Świętokrzyskie region (e.g. biomass), that may be of a relatively high probability of success transferred to the same region. There have been also identified examples of inter - network through participation in which (or inspiring similar) Świętokrzyskie province could transfer the knowledge that inspire active approach to the issues on within renewable energy sources and energy efficiency use and position themselves on a European scale.

Good practices applied in Świętokrzyskie region include examples coming from: Thuringia (Germany), Jutland (Denmark), New England (USA), Upper Austria, Umbria (Italy), the Bavarian Environmental Advisory Program and Audit (Bayerische Umweltberatungs- Und Auditprogramm), Programme Ökoprofit - Agency on Environment in Graz city (Austria), Certificate of Eco-Lighthouse (Norway), Nřrebro and Copenhagen (Denmark), Centre for Renewable Resources in North Rhine, Westphalia (Germany). Aspiration for the circle "Efficient Use of Energy" is the accumulation of regional potentials and competencies that in the conditions of implementation of existing and future development programs and projects in Świętokrzyskie region, that allow building a strong region.

3.2. THE SUSTAINABLE STRATEGY ACHIEVEMENTS IN POMERANIAN SPECIAL ECONOMIC ZONE

Bydgoszcz Industrial and Technological Park (BPPT) is one of the youngest and largest business parks in Poland. It is located in the south-eastern part of Bydgoszcz on post-industrial ground and has an area of almost 286 ha. A part of BPPT, with an area of almost 46 ha was included in the Pomeranian Special Economic Zone [<http://www.bppt.eu/>].

BPPT is one of the largest industrial and technology parks in Poland, which facilitates investments Polish and international companies. The Board BPPT participates in the project Cluster, together with eight other companies from the outside. Although geographically they are not in the same territory, they work in the same field and see themselves as Cluster. The aim of the project is to build a passive house in the centre of Bydgoszcz city and promote

sustainable construction practices in the region. This project is essential to promote a model of passive house (energy efficient solution), because most people and businesses are not aware of its advantages. A common fear concerns the cost of building a passive house that is higher than standard homes (in the long term passive house brings significant financial benefits that offset the initial costs).

Some embodiments and good practices in the field of the sustainable construction come from other countries (as in the case previously analysed Świętokrzyskie region) became the inspiration in achieving the objectives of the sustainable development in the Pomeranian region. In Bydgoszcz Technology Park there was proposed a process in which the company focuses on reporting, communication and development of the idea of energy-efficient buildings in Poland. Strengthening co-operation takes the form of meetings and workshops during which the participants of the cluster can better meet your goals and expectations, which will positively affect confidence and a common vision of the project.

Good practices that have been included in the sustainable construction development strategy in the analysed region include some practices such as:

- In 2004, two non-profit organizations in collaboration with the Capital Regional Housing Fund in Brussels launched a project to build energy-efficient residential building for 14 families with low incomes and poor housing situation from Molenbeek-Saint-Jean (Brussels, Belgium). These families formed a community called "l'Espoir" ("Hope"). Before the establishment of the house project, there were organized three workshops for families, during which negotiated details of construction. Houses are sold at a price of construction costs for the members of the association "l'Espoir" [L'ESPOIR].
- Passive House Day organized by the International Passive House Association IPHA gives the opportunity to look at the pros and cons of such structures. Houses that are involved in this initiative are marked with a special logo. All the houses taking part in open days can be found on the website of the International Passive House Database. Nearby Passive House Days will be held November 8-10, 2013. IPHA encourages all participants to organize workshops, lectures and information sessions or tours of passive houses and offers its assistance in promoting such local and regional events [www.passivehouse-international.de].
- The Australian government provides a Low Carbon Communities program to promote energy efficiency at the local level and among households with low incomes. Among the main activities under this program there are educational events, showing the possibility of reducing energy consumption among the population. Social organizations can apply for grants to undertake the modernization of energy efficiency [Low Carbon Communities].

3.3. THE SUSTAINABLE STRATEGY IMPLEMENTATION WITHIN WIELKOPOLSKI INNOVATIVE PASSIVE HOUSE

Greater innovative initiative within the sustainable strategy implementation in the construction industry is an idea of establishing a Wielkopolski Innovative Passive House consortium consisting of: companies in the construction sector, research institutions, business

environment institutions, local government organizations, that are interested in the development of modern low-energy building in Wielkopolska region.

Due to the cooperation between scientific and research institutes and companies there is possible development of the innovative technologies in Wielkopolska region. Cooperation of its consortium with partners from Germany and Austria allow the transfer of knowledge and best practices from regions with great experience in the application of passive house standard both in individual residential buildings as well as public buildings. This consortium project also promotes and supports technologies beyond standard passive house. Technologies such as intelligent management systems, micro installation of the renewable energy, electric transportation show its full potential only in the use of low-energy construction.

The vision of the Wielkopolska Innovative Passive House consortium is *a passive and close to zero-energy construction as a building standard in Wielkopolska before 2020.*

The mission of the Wielkopolska Innovative Passive House consortium is *organization and preparation of companies in the construction sector, research institutions, business support organizations and local governments to the widespread implementation of innovative and passive building standards in Wielkopolska region.*

In today's world, the knowledge is the primary resource of the organization. The growing importance of intangible assets such as patents, business networks, market share, brand in the construction company's market value is especially important in areas of the economy based on knowledge. This relationship applies also and perhaps primarily for network connections that are "wrapped" channels the flow of information and knowledge.

Wielkopolska Innovative Passive House bases its competitive advantage precisely on the exchange, management and use of the knowledge accumulated from different sources: external (e.g.: foreign partners, training conducted by experts, trips, fairs, Internet) and internal (e.g.: free exchange experiences between members of the cluster, interactive workshops, joint research). Particular importance in the process of acquiring knowledge have cluster meetings, which include trainings and workshops on the use of passive building technology, energy efficiency and micro-renewable installations. During the interactive workshop members have the opportunity to share their knowledge, which will enable the development of common solutions, e.g.: development of a network map of the cluster. Another important element that allows the acquisition of knowledge are also trips and foreign visits, which cluster members learn the best practices in the construction industry by more experienced foreign partners (mainly from Germany and Austria).

An important factor in building competitive advantage of Wielkopolska Innovative Passive House is an innovation. Innovation understood as a process in which cluster members use interrelated and complementary resources and activities in order to constantly improve the quality and cost of services and products. In a cluster, there is used mostly the product innovation that thanks to cooperation with research institutes enables:

- creation of new materials and services (e.g.: thanks to research on the natural fibers from Wielkopolska region use in the building insulation),
- making significant changes to existing products (e.g.: by adjusting company's offer to passive house standard).

Realization of those objectives allows the analyzed consortium to: improve technical specifications of product/service, use of new raw materials, implement changes in functional characteristics, create a new product/material usage. Product innovation can be based on new knowledge and technologies (through research projects at institutes), or may use knowledge / technology existing in a new way (e.g.: a new use of a known material with the thermal insulation of the building).

A very important element in building competitive advantage of the analyzed consortium/cluster is the organization of international exchange between partners from Wielkopolska region and partners from abroad. Using numerous contacts cluster leader - Wielkopolska Energy Management Agency with institutions (ZAP Brandenburg, BEA from Berlin, 3N from Lower Saxony etc) and foreign companies involved in the energy efficiency is possible the organization of study tours for foreign objects passive and arrivals representatives of foreign companies in Poland. Such an exchange allow the transfer of best practices as well as for deeper cooperation both purely business and R & D.

4. CONCLUSION

Presented initiatives of the construction companies included in clusters/consortia within implementation of the sustainable development objectives bring some benefits for the region/local government such as:

- economic development of companies indicating new, stable jobs for the inhabitants of the region,
- the development and implementation of new, innovative technologies to improve the competitiveness of the region and its further economic development,
- efficiently applying of individuals for funding from a new program supporting the energy-efficient and passive construction,
- joint research and implementation projects of cluster members benefiting from the funds of European programs (7th Framework Programme, the IEE, Life +),
- joint projects with partner regions for the region of Wielkopolska and Poznan (Lower Saxony, Brandenburg, Berlin).

REFERENCES

1. Council Directive 93/76/EEC to limit carbon dioxide emissions by improving energy efficiency (SAVE) (1993) Official Journal L 237, 22 September 1993, pp. 28-30.
2. Directive 2006/12/EC of the European Parliament and of the Council of 5 April 2006 on waste (Text with EEA relevance)
3. Directive 2006/32/EC of the European Parliament and of the Council of 5 April 2006 on energy end-use efficiency and energy services and repealing Council Directive 93/76/EEC (Text with EEA relevance)

4. Directive 2002/91/EC of the European Parliament and of the Council of 16 December 2002 on the energy performance of buildings.
5. Innovative activities of enterprises in 2008-2010 (2012), Central Statistical Office in Poland, Statistical Office in Szczecin. Warsaw.
6. International Passive House Award (2015). Passive House Institute.
7. Kyoto Protocol to the United Nations Framework Convention on Climate Change, 1998.
8. L'ESPOIR [060]: a reference in terms of ecological collective housing projects
Collective housing - f new building
www.buildup.eu/sites/default/files/content/0_Batex_LEspoir_en_0.pdf
9. Low Carbon Communities
<http://www.climatechange.gov.au/energy-efficiency/low-carbon-communities>
10. Palmen L, Baron M., Chojkowski M. (2012). The strategy of the circle *Efficient use of energy* within the EU framework project called "Circles of Innovation - the development of integrated tools to support the region innovativeness in areas with high growth potential". Katowice, Poland. (Polish: Strategia działania kręgu *Efektywne wykorzystanie energii* w ramach projektu EU „Kręgi Innowacji – rozwój zintegrowanych narzędzi wspierania innowacyjności województwa w obszarach o dużym potencjale wzrostu” , Katowice, luty 2012.
11. Foray D., Goddard J., Goenaga Beldarrain X., Landabaso M., McCann P., Morgan K., Nauwelaers C., Ortega-Argilés R., Mulatero F., *RIS3 Guide, draft 12/12/2011*, (2011), European Union, pp.5, 2011
12. Nowicka P., Dąbrowska A., Dziemianowicz W., Szmigiel-Rawska K. (2010). Innovative specializations of Świętokrzyskie Province (Polish: Innowacyjne specjalizacje województwa świętokrzyskiego). GEOPROFIT, pp. 22-24, Warszawa.
13. Priorities of the innovative development (2011), Regional Innovation Strategy Swietokrzyski – project of Mickiewicz University Foundation in Poznań.
14. Report of the World Commission on Environment and Development: Our Common Future, Transmitted to the General Assembly as an Annex to *document A/42/427* - Development and International Co-operation: Environment 1987.
15. Tworek J., Wall S. (2009). The requirements for sustainable construction in Poland. (Polish: Wymagania zrównoważonego budownictwa w Polsce). ITB (Building Technique Institute) Seminnar. Warszawa.
16. www.bppt.eu, 2015.
17. www.passivehouse-international.org/index.php?group=1&level1_id=75&page_id=300&lang=de

ENERGY EFFICIENCY IN EUROPEAN BUILDINGS – TRENDS AND FINANCING STRATEGIES

Renata Stasiak-Betlejewska

Czestochowa University of Technology, Poland

Abstract: Buildings represent 40% of EU final consumption and around 55% of electricity consumption. The aim of this paper is to provide insights into past data on energy use, and energy efficiency trends in the industrial sector in the EU. There is also provided a general review on energy policies directed towards financing the energy efficiency transformation in the buildings. Analysis was done with MURE database and International Energy Agency statistics included key elements of energy efficiency policy framework in European countries.

Keywords: energy consumption, Energy efficiency, building, investments.

1. INTRODUCTION

The awareness of the energy consumption changes became stronger in the last decades since there are social and economic impacts of energy consumption on the world economy. It caused that many countries put a great emphasis on developing policies and measures that promote energy efficiency.

As an energy resource, energy efficiency has the unique potential to simultaneously contribute to long-term energy security, economic growth, and even improved health and well-being; in particular it is a key means to reduce greenhouse gas emissions. By reducing or limiting energy demand, energy efficiency measures can increase resilience against a variety of risks, such as energy price rises and volatility, stress on energy infrastructure, and disruptions to energy supply systems. Energy efficiency refers to limiting or reducing energy consumption through the adoption of more efficient devices [Energy Efficiency Indicators: Essentials for Policy Making, 2014].

Identifying a definition of the energy consumption with its social aspects can improve solutions within the energy efficiency issues. Energy saving practices related to energy-smart behaviours ensure the energy consumption savings policy. Energy efficiency policy aim is to seek economic and social outcomes for ensuring its policy understanding.

Energy use refers to use of primary energy before transformation to other end-use fuels, which is equal to indigenous production plus imports and stock changes, minus exports and fuels supplied to ships and aircraft engaged in international transport [IEA 2015].

2. ENERGY CONSUMPTION ANALYSIS

Observation of Europe's energy position gives data on energy consumption. It can be stated on the basis of such energy market data, that energy consumption in Europe decreased slightly in 2007 compared to 2005 and 2006. In 2007, gross inland energy consumption in EU-27 was 1 806 Mtoe (million of TOE – tonnes of oil equivalent), while it was 1 826 Mtoe in 2005 and in 2006. There was noted further confirmation that growth of energy consumption has stopped in 2007.

Final energy consumption⁴⁰ has followed the same trend, decreasing by 1.5 % from 2006. In 2007, total final energy consumption was 1 158 Mtoe while it was 1 176 Mtoe in 2006. According to preliminary data, a slight decrease in gross inland energy consumption in 2008 (0.9 %) contrasts with the moderate increase in GDP of 0.9% between 2007 and 2008. This could, to a certain extent, provide a further confirmation of decoupling of energy consumption and economic growth. In 2007 in EU-27, natural gas consumption was mainly distributed between power generation (31 %), households (26 %), industry (21 %) and services (9 %) [Europe's energy position - markets and supply, 2010].

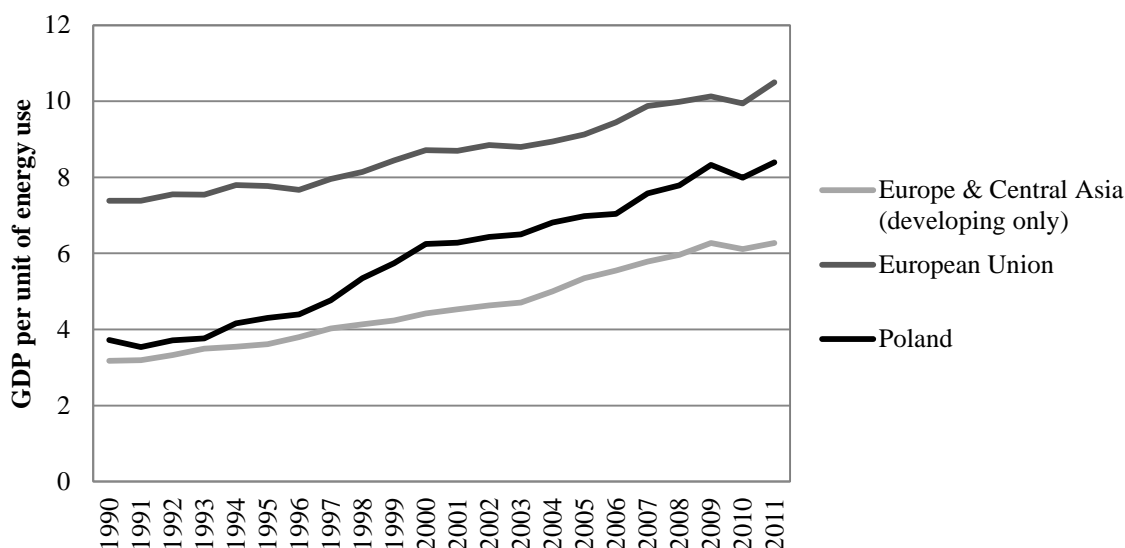


Figure 1. GDP per unit of the energy use (constant 2011 PPP \$ per kg of oil equivalent) in Europe and Poland in period 1990 – 2011.

Source: International Energy Agency (IEA Statistics © OECD/IEA, <http://www.iea.org/stats/index.asp>), and World Bank PPP data

⁴⁰ Final energy consumption includes all energy delivered to final consumers in the industry, transport, household and other sectors for all energy uses. It excludes deliveries for transformation and/or own use of the energy producing industries, as well as network losses.

In 2010 final energy consumption of the industrial sector⁴¹ was 12% below its 2000 level, with very contrasted trends over the period: it slightly increased between 2000 and 2004 (0.5%/year), then decreased by 1.8%/year from 2004 to 2008 (Figure 1). In 2009, it dropped dramatically with the global economic crisis, by almost 15%, which was slightly higher than the drop in production (-14%). In 2010, the significant rebound of the activity (4.6%) was followed by a progression of the energy consumption twice faster (around 9%).

As a result of these trends, the industrial sector is consuming a decreasing share of the energy used by final consumers in the EU: around 24 % in 2009 against 29% in 2000. In four countries (Germany, Slovakia, Austria and Malta), the share of industry has however increased. Large discrepancies exist among countries as to the importance of the industrial sector: almost half of the consumption in Finland, 30-40% in Portugal, Norway, The Czech Republic, Sweden or Slovakia compared to less than 20% in Estonia, Ireland, Hungary, Greece or Denmark. Review of countries with lowest Primary Energy Consumption per Capita in 2013 is presented in Figure 2.

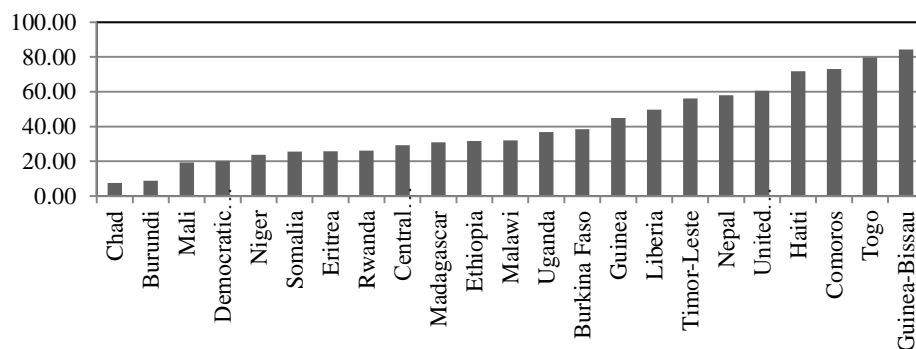


Figure 2. Countries with lowest Primary Energy Consumption per Capita (in 2013).

Source: The Shift Data Project Portal. Browse Energy and Climate Data. US EIA Historical Statistics.

Analysis of data presented in figure 3 shows trends in energy demand in the major G20 countries. As it can be stated on the basis of data from Fig. 3, there is noted economic growth at purchasing power parity (+ 2.8%) and energy consumption growth (+ 2.1%) in 2013.

⁴¹ Industrial energy consumption includes manufacturing industry, construction and non-energy mining; it excludes the energy used for non-energy uses (e.g. gas or naphtha used as feedstock in petrochemicals).

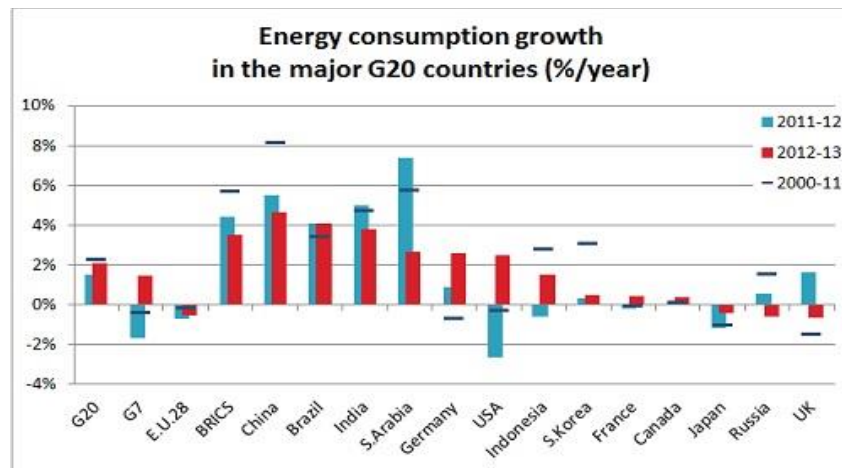


Figure 3. Energy consumption growth in the major G20 countries (%/year).

Source: The state of global energy efficiency. Global and sectoral energy efficiency trends (2014). ENERDATA. ABB Ltd.

It result from analysis of data presented in Figure 3, that the energy demand growth accelerated compared to 2012 (+2.1% en 2013 vs 1.5% in 2012). Slight energy demand has declined in Europe, Japan and Russia (weak economic activity) [Global energy balance 2013].

In 2011, the most recent year for which comparable annual data are available, total energy consumption per unit of GDP (primary energy intensity), measured at purchasing power parity, ranged from 1.9 times the world average (world = 1) in the CIS⁴² to 0.6 times the world average in Europe. The energy use per unit of GDP in the CIS is three times higher than in European countries. Levels in OECD Asia and Latin America exceed the European level by about 20%, while North America stands 40% higher but remains below the world average. The high energy intensity in the CIS, China and the Middle East is explained by various factors, including the predominance of energy-intensive industries and low energy prices [Trends in global energy efficiency 2011]. Most energy intensive countries in the world have been presented in Figure 4.

⁴² Commonwealth of Independent States

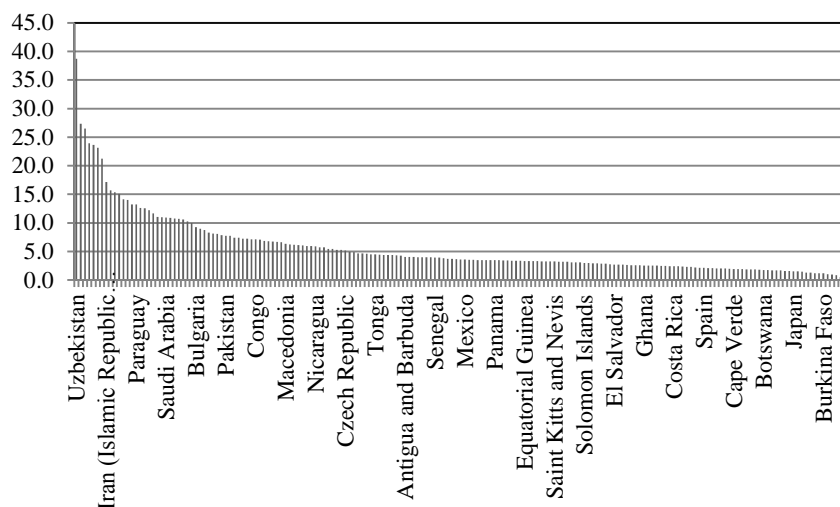


Figure 4. Most Energy Intensive Countries in the World in 2013.

Source: The Shift Data Project Portal. Browse Energy and Climate Data.

The World Bank – World Development Indicators. US EIA Historical Statistics.

Total energy intensity decreased by 1.3%/year between 1990 and 2013 (Figure 4), and fell in all regions except the Middle East. That trend is explained by the combined effect of high energy prices, energy efficiency programs and, more recently, CO₂ abatement policies in OECD countries, as well as other economic factors, such as the move by economies towards tertiary activities. The largest reductions were seen in countries or regions with the highest intensity in 1990 (China, CIS, India).

Final energy intensity is a better indicator for the assessment of energy efficiency at end-use level, since it corresponds to the energy consumed per unit of GDP by final consumers for energy uses, excluding consumption and losses in energy conversion (power plants, refineries, etc.) and non-energy uses. At world level, primary energy intensity has decreased more slowly than final energy intensity since 1990 (-1.3%/year vs. -1.6 percent/year). This trend is explained by a rise in energy conversion losses, mainly in the power sector.

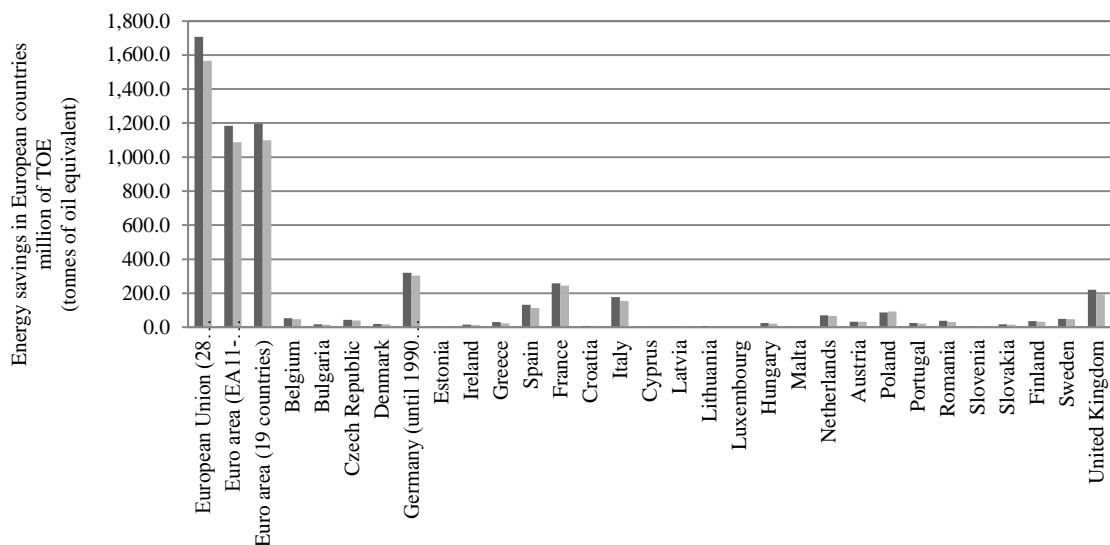


Figure 5. Energy consumption in European countries in 2004 and 2013 year (millions of TOE – tonnes of oil equivalent).

Source: Eurostat

[Final energy consumption](#) (Figure 5) increased between 2004 and 2013 by 2.3 %. The largest consumers of energy in the EU are: Germany (a 9.2 pp fall in consumption in 2012 compared to 2006), France (down 5.3%), United Kingdom (down 12.2%), Italy (down 12%) and Spain (down 11.9%). In total, these countries accounted for 64% of the energy consumption across the EU. Between 2006 and 2012, the energy consumption fell in 24 countries: Lithuania recorded the largest decrease (17%), Portugal (15.2%), Greece (14.4%) and Hungary (14.2%). Poland is among four countries, where energy consumption has increased in that time (an increase of 0.8%).

Detailed analysis for IEA countries shows that improved energy efficiency continues to play a key role in shaping energy use and CO₂ emissions patterns, but that the rate of improvement has slowed substantially [IEA 2008].

3. REGULATION OF ENERGY EFFICIENCY IN THE CONSTRUCTION

European statistics on energy efficiency trends confirms that between 1990 and 2005, global final energy consumption increased by 23%. Residential and non-residential buildings consume about 40% of total final energy requirements in Europe in 2010 (Enerdata 2012, based on Eurostat). It is the largest enduses sector, followed by transport (32%), industry (24%) and agriculture (2%). Final energy consumption of buildings has increased at EU level by around 1%/year since 1990 and by 2.4%/year for electricity (Enerdata 2012).

Final energy consumption of buildings has increased by around 1%/year since 1990 and by 2.4%/year for electricity at EU level. Annual unit consumption per m² for buildings at

EU level is around 220 kWh/m² in 2009, with a large gap between residential (200 kWh/m²) and non-residential (around 300 kWh/m²) [Lapillonne B., et al. 2012].

The building sector is one of the key consumers of energy in Europe, where energy use has increased a lot over the past 20 years. A wide array of measures has been adopted at EU level and implemented across individual Member States to actively promote the better energy performance of buildings. In 2002, the Directive on the Energy Performance of Buildings (EPBD) was adopted and recast in 2010 with more ambitious goals. More recently in the Energy Efficiency Plan 2011, the European Commission states that the greatest energy saving potential lies in buildings [Lapillonne B., et al. 2012].

The 2010 [Energy Performance of Buildings Directive](#) [Directive 2010/31/EU] and the 2012 [Energy Efficiency Directive](#) [Directive 2012/27/EU] are the EU's main legislation when it comes to reducing the energy consumption of buildings. Under the Energy Performance of Buildings Directive [European Commission on Energy]:

- energy performance certificates are to be included in all advertisements for the sale or rental of buildings,
- EU countries must establish inspection schemes for heating and air conditioning systems or put in place measures with equivalent effect,
- all new buildings must be nearly zero energy buildings by 31 December 2020 (public buildings by 31 December 2018),
- EU countries must set minimum energy performance requirements for new buildings, for the major renovation of buildings and for the replacement or retrofit of building elements (heating and cooling systems, roofs, walls, etc.),
- EU countries have to draw up lists of national financial measures to improve the energy efficiency of buildings.

There are some proposals that result from the Energy Efficiency Directive [European Commission on Energy] that can affect on the national policies:

- the increase of the renovation rate of buildings (private and public)
- the improvement of components and appliances used in buildings
- the emphasis on the outstanding (exemplary) role of public buildings, and not least.

The new directive assumes comprehensive activities that are aimed at increasing the energy efficiency and reducing the energy consumption, both primary as well as processed. The directive is aimed to give the appropriate pace of economic transformation policy energy and determine courses of action that promise the greatest chance achieving the objectives set by the European Commission. According to European Commission, the key issue is the separation of the energy consumption on the increase economic, as well as catching-up resulting so far in the area improving the energy efficiency. In other words, economic growth does not must result in an increased demand for primary energy. This approach is radically different from the traditional and represents a major challenge for individual Member States.

Member States are obliged to establish target values in the area of the energy efficiency and in terms of the absolute level of primary and final energy consumption by

2020, as well as sending these data to the European Commission. This information should include a description of the size and methods used in the calculations. The target value may be based on:

- primary or final energy consumption,
- primary or final energy savings,
- energy consumption.

The overall objective of the Directive is to support actions to energy efficiency increase in the European Union. On the other hand, the EU's strategic goal is to increase this efficiency by 20% by 2020, with further improvements in future years. The document establishes rules that should help remove barriers in the energy market and irregularities which currently exist and result in restrictions on the efficiency of delivery and use of energy. There is highlighted that requirements written in the Directive are minimal and the Member States are free to increase their internal requirements for achieving higher energy efficiency. That target shall be at least equivalent to achieving new savings each year from 1 January 2014 to 31 December 2020 of 1,5 % of the annual energy sales to final customers of all energy distributors or all retail energy sales companies by volume, averaged over the most recent three-year period prior to 1 January 2013. The sales of energy, by volume, used in transport may be partially or fully excluded from this calculation.

The 2012 [Energy Efficiency Directive](#) established a set of binding measures to help the EU reach its 20% energy efficiency target by 2020. Under the Directive, all EU countries are required to use energy more efficiently at all stages of the energy chain from its production to its final consumption. EU countries were required to transpose the Directive's provisions into their national laws by 5 June 2014 [European Council for an Energy Efficient Economy, 2012].

A certain share of the policy measures addressing energy efficiency are based on EU legislation. With regard to the building sector, the most important regulations are:

- the Energy Performance of Buildings Directive (EPBD) of 2002 (2002/91/EC) and the EPBD recast of 2010 (2010/31/EC),
- the Ecodesign Directive of 2005 (2005/32/EC) and its recast of October 2009 (2009/125/EC),
- the Energy Labelling Directive from 1992 and its recast from May 2010 (2010/30/EU).

Another important piece of energy policy for the building sector is the Renewable Energy Directive of 2009 (RED, 2009/28/EC), where renewable and energy efficiency are transformed into different strategies (increasingly interlinked in the building sector as for example building regulation integrate the use of renewable in buildings as a trade-off for energy efficiency).

In order to ensure a more homogeneous representation of EU-wide measures across the countries, a set of EU measures common to all countries (mainly EU Directives) was defined in the MURE database and separated from pure national measures. Around 130 policy

measures in the residential sector and 70 measures in the tertiary sector in MURE are classified as EU measures. If a measure is included in the National Energy Efficiency Action Plan under the EU Energy Efficiency and Service Directive ESD (2006/32/EC), it is classified as “NEEAP measure” in the MURE database, which allows an easy identification of these policies. One objective of MURE is the analysis of the quantitative impact of energy efficiency policies. For this purpose, the quantitative measure impact is systematically compiled in the database if this information is available from impact evaluation studies or from the National Energy Efficiency Action Plans, which are in many Member States the most comprehensive data source for this kind of quantitative information (Figure 6) [Eichhammer W. et. al. 2012].

The screenshot displays the ODYSSEE-MURE database interface. At the top, there is a navigation bar with the logo 'ODYSSEE-MURE' and several menu items: 'Mure Home', 'Query', 'Radar Graphs', 'Summary Tables', 'Topics Areas', 'Successful Measures', 'Policies Interaction', 'Policy Mapper', and 'Policy Sc'. Below the navigation bar, there is a green header with five buttons: 'HOUSEHOLD' (highlighted in red), 'TERTIARY', 'INDUSTRY', 'TRANSPORT', and 'GENERAL CROSS-CUTTING'. The main content area is titled 'Mure II Database - Radar Graphs - Household'. It features a 'Country' selection box with a globe icon and a tree view showing 'Countries' and 'European Union'. Below this, there are several filter options with checkboxes: 'EU related measures:', 'NEEAP 1 measures:', 'NEEAP 2 measures:', 'NEEAP 3 measures:', 'Article 7 measures:', and 'Impact evaluation:'. There are also dropdown menus for 'Semi-quantitative impact' (set to 'All'), 'Status' (set to 'All'), 'Starting year from' (set to '1974'), and 'Number of periods' (set to '1'). At the bottom, there is an 'OUTPUT BY:' section with three buttons: 'Period', 'Period Weighted by Semi-quantitative Impact', and 'Semi-quantitative Impact'.

Figure 6. Odyssee – MURE (Mesures d'Utilisation Rationnelle de l'Energie) database.

Source: <http://www.measures-odyssee-mure.eu/radar-graph-energy-efficiency-policy-household.asp>, June 2015

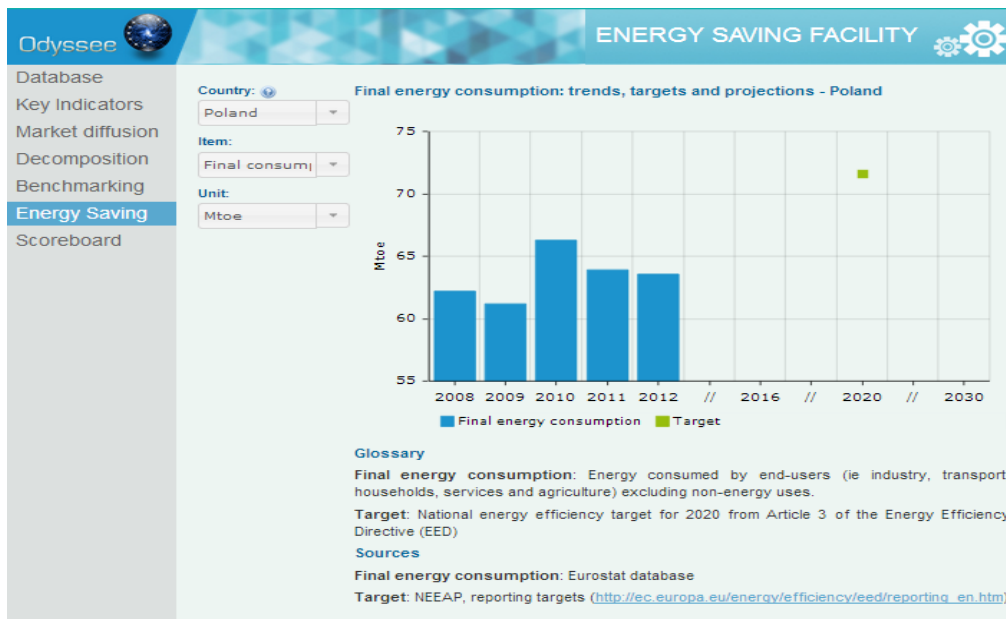


Figure 7. Research results analysis on final energy consumption in Poland in period 2008 – 2012 in accordance to Odyssee – MURE database.

Source: <http://www.indicators.odyssee-mure.eu/energy-saving.html>. June 2015.



Figure 8. Research results analysis on energy efficiency (one of the key indicator) in accordance to Odyssee – MURE database.

Source: <http://www.indicators.odyssee-mure.eu/online-indicators.html>. June 2015.

Data presented in Figure 7 and Figure 8 show examples of applying Odysee – Mure database tool that is aimed to compile trends, targets and projections for the primary and final energy consumption and energy savings. Energy savings are shown as calculated from ODYSSEE indicators. Savings as reported in the NEEAPs can be compared with ODYSSEE savings by clicking on the button “NEEAP savings”. The source specifies the method used to calculate NEEAP savings (i.e. TD, BU or combined). The targets are given to 2016 for energy savings and 2020 for the primary and final energy consumption. The projections are provided for 2030.

Energy efficiency is identified as the EU’s biggest energy resource and one of the most cost effective ways to enhance the security of its energy supply and decrease the emissions of greenhouse gases and other pollutants. This is why the EU has primary energy consumption saving targets for 2020, 2030 and further legislation in the field looking to a 2050 horizon. In 2012, global energy efficiency investments across all sectors totalled \$310 billion representing a very significant and growing market opportunity for investors and businesses. This analysis coincides with Ceres’ 2014 global work projecting a global increased annual investment need (2010-2020) of \$300 billion in buildings' energy systems and \$30 billion in industry, to limit global temperature rises to a 2⁰C scenario. The value added of these energy efficiency investments in buildings and industry is in energy saved and the impact on buildings’ and industries’ financial performance and competitiveness [Energy Efficiency 2-15].

4. CONCLUSION

Energy efficiency has now become a desirable feature of the building and an important criterion of good design and quality workmanship in the construction industry.

Over the last 20 years significant progress has been recorded in terms of energy efficiency. At world level, the energy required per unit of GDP (the energy intensity) has been decreasing by 1.3% per year since 1990. Improvements were achieved in all regions, with the largest reductions found in the regions with the highest energy intensities (China, CIS and India). Industry and power generation accounted for almost half of that reduction (about 30% and 15% respectively).

The aim of European Directives on Energy efficiency improvement is among others providing valuable and detailed energy efficiency indicators that allow monitoring the energy consumption and assessing the energy-efficiency performance of European Union member countries. Odysee’s unique collection of historical-based data enables a review and benchmark of each EU member’s progress in energy efficiency improvement.

REFERENCES

1. Directive 2012/27/EU of the European Parliament and of the Council of 25 October 2012 on energy efficiency, amending Directives 2009/125/EC and 2010/30/EU and repealing Directives 2004/8/EC and 2006/32/EC Text with EEA relevance
2. Directive 2010/31/EU of the European Parliament and of the Council of 19 May 2010 on the energy performance of buildings
3. Eichhammer W., Schломann B., Rohde C. (2012) Financing the Energy Efficient Transformation of the Building Sector in the EU. Fraunhofer Institute for Systems and Innovation Research ISI (Germany)
4. Energy Efficiency – the first fuel for the EU Economy How to drive new finance for energy efficiency investments. Energy Efficiency. Final Report covering Buildings, Industry and SME's. (2015) Financial Institution Group.
5. Energy Efficiency Indicators: Essentials for Policy Making (2014) International Energy Agency, OECD/IEA.
6. Europe's energy position - markets and supply (2010) European Commission's Market Observatory for Energy, European Commission's Market Observatory for Energy, Luxembourg: Publications Office of the European Union,.
7. Global energy balance 2013 « BRICS and the USA draw the world energy consumption » Based on its 2013 data for G20 countries, Enerdata analyses the trends of the world energy demand. June 2, 2014 – Paris.
8. International Energy Agency (IEA Statistics © OECD/IEA, <http://www.iea.org/stats/index.asp>), and World Bank PPP data
9. Lapillonne B., Sebi C., Pollier K., Mairet N. (2012) Energy Efficiency Trends in Buildings in the EU Lessons from the ODYSSEE MURE project, Enerdata
10. The state of global energy efficiency. Global and sectoral energy efficiency trends (2014). ENERDATA. ABB Ltd.
11. The Shift Data Project Portal. Browse Energy and Climate Data. The World Bank – World Development Indicators. US EIA Historical Statistics.
12. Trends in global energy efficiency 2011. An analysis of industry and utilities (2014). ENERDATA. ABB Ltd.
13. Worldwide Trends in Energy Use and Efficiency Key Insights from IEA Indicator Analysis (2008) INTERNATIONAL ENERGY AGENCY, OECD/IEA.

SUCCESS AND FAILURE OF ENTREPRENEURIAL VENTURE IN SERBIA THROUGH SKILLS AND COMPETENCE OF ENTREPRENEURS

Nikola Radić, Jovanka Popović, Vlado Radić, Saveta Vukadinović

Visoka škola za poslovnu ekonomiju i preduzetništvo, Serbia

Abstract: During the last decade entrepreneurs became important and visible "players" on the global market. Liberalization and privatization programs and economic reforms in many countries of the world have made suitable environment for developing new business ventures, one of them is entrepreneurship. In order for entrepreneurial business to function efficiently, it is necessary for it to be led well. Successful entrepreneur must have abilities and knowledge greater than the others and must also maintain domination in every way. In entrepreneurial industry, abilities and leading skills are of invaluable means, and in competitive environment, perseverance is relevant prerequisite for success. The goal of work is to explore the potential success or failure of entrepreneur, whereby it is important to understand external, internal and motivational factors related to the abilities and skills of entrepreneur.

Keywords: entrepreneurial venture, entrepreneur, leadership skills, competencies.

1. UVOD

Preduzetništvu i njegovoj važnosti u ekonomskom razvoju pridaje se sve veći značaj i u Srbiji. Nedoumice koje se pojavljuju u vezi preduzetništva proizlaze iz nedovoljnog razumevanja pojma i značaja koji preduzetništvo može da ima u stvaranju novih radnih mesta i podsticanju inovacija. Nerazumevanju doprinosi i činjenica da ne postoji standardno i opšteprihvaćeno objašnjenje preduzetništva. Često se ono izjednačava sa otvaranjem novog preduzeća, ali nisu svi vlasnici preduzetnici kao što ni sva mala preduzeća nisu preduzetnička. Mnoga velika preduzeća i organizacije su preduzetničke jer primenjuju preduzetničku kulturu i poslovanje zasnivaju na stalnim inovacijama. Preduzetništvo nije samo inoviranje činilaca proizvodnje, nego i stvaranje novih ideja u organizaciji i ukupnom procesu proizvodnje. Zato se sve češća mišljenja da se preduzetništvo može smatrati četvrtim činiocem proizvodnje – pored rada, kapitala i zemljišta.

Jedna od najvećih zabluda potencijalnih preduzetnika jeste da ideja za pokretanje posla mora da bude jedinstvena, mada ideja, sama po sebi, nije presudna. Razvoj ideje, primena i izgradnja uspešnog poslovanja su važni aspekti preduzetništva [9], ali ono što preduzetnike čini jedinstvenim jesu njihove kompetencije i veštine vođenja. To podrazumeva nivo obrazovanja i stručno usavršavanje.

Preduzetništvo je, jednostavno rečeno, svako preduzimanje nekog poduhvata – a preduzetnik je onaj ko preduzima taj poduhvat, najčešće poslovni. Ono što izdvaja uspešne preduzetnike je upravo prepoznavanje onoga na šta ne treba trošiti vreme i sredstva, odnosno,

sposobnost da se odrede prioriteti i ponekad donose teške odluke, kao što su odustajanje od posla, raskidanje saradnje ili otpuštanje zaposlenih.

2. PREDUZETNIŠTVO I PREDUZETNICI

Pod preduzetništvom se podrazumeva opažanje poslovnih prilika i ulaženje u novi poslovni poduhvat, a preduzetnik je nosilac preduzetničke delatnosti, tj. pokretač novog poslovnog poduhvata [9]. U SAD se, na primer, pod preduzetnikom podrazumeva osoba koja počinje svoj mali i novi biznis (*start – up*), a u Nemačkoj se preduzetnik poistovećuje sa vlasnikom biznisa i označava osobu koja je vlasnik i vodi firmu. Adižes [13] ulogu preduzetnika vezuje za početak biznisa, u okviru priče o životnom ciklusu preduzeća, pa sve do tzv. adolescencije u životu organizacije, kada je neophodno angažovanje profesionalnih menadžera.

Preduzetništvo je moćan pokretač ekonomskog rasta i kreiranja radnih mesta: ono stvara nova preduzeća i poslove, otvara nova tržišta i neguje nove veštine i sposobnosti. Preduzetništvo čini ekonomiju konkurentnijom i inovativnijom. Bez posla iz novih firmi, prosečan neto rast zaposlenosti biće negativan. Nove kompanije, posebno mala i srednja preduzeća, predstavljaju najvažniji izvor novog zapošljavanja: u Evropi, one svake godine generišu više od 4 miliona novih radnih mesta.

Ipak, od 2004. godine, udeo ljudi koji preferiraju samozapošljavanje opao je u 23 od 27 zemalja članica EU. Dok je 2010. godine za 45% Evropljana samozapošljavanje bilo njihov prvi izbor, u 2013. godini taj procenat je pao na 37%. Nasuprot tome, u SAD i Kini ovaj odnos je mnogo veći: 51%, odnosno 56%. Štaviše, kada se osnivaju nova preduzeća, u EU ona rastu mnogo sporije nego u SAD ili zemljama u razvoju i samo manji broj njih se pridružuje rangu najvećih svetskih firmi.

U EU, na primer, nivoi preduzetništva veoma se razlikuju između država članica, pa su i razlozi niskog entuzijazma za preduzetničke karijere raznoliki. Generalno, potencijalni preduzetnici u Evropi nalaze se u teškom okruženju: obrazovanje ne pruža pravu osnovu za preduzetničke karijere, otežan je pristup kreditima i tržištu, prisutne su teškoće u prenosu poslovanja, postoji strah od kaznenih sankcija u slučaju neuspeha i glomazne administrativne procedure.

Godišnji prikaz rasta u 2013. godini je istakao potrebu poboljšanja poslovnog okruženja da bi se povećala konkurentnosti privrede EU. Osim toga, mere podrške za MSP i dalje su neuravnotežene, sa značajnim brojem članica EU koje prilikom izrade zakona i dalje zanemaruju i ne uzimaju u obzir karakteristike malih, posebno mikro-preduzeća, ili ne omogućavaju drugu šansu. Ne samo da je okruženje izazovno, nego postoji raširena kultura da se ne priznaju i ne nagrađuju dovoljno preduzetnički poduhvati i ne ističu uspešni privrednici. Stoga je očigledno – da bi preduzetništvo postalo motor evropske privrede, potrebne su temeljne, dalekosežne kulturne promene.

Od 2008. godine Evropa trpi posledice najtežeg ekonomske krize u poslednjih 50 godina: po prvi put u Evropi ima više od 25 miliona nezaposlenih i u većini država članica mala i srednja preduzeća još nisu u stanju da se oporave i dođu na nivo pre krize. Pre tekuće ekonomske i finansijske krize, evropska ekonomija suočavala se sa strukturnim izazovima po njenu konkurentnost i rast i preprekama preduzetništvu. Mnogi od njih i dalje postoje, ali kriza je, takođe, bila katalizator dubokih promena i restrukturiranja. Svetska ekonomija je,

takođe, transformisana u poslednjoj deceniji: dramatičan rast tražnje i proizvodnje izvršio je pritisak na resurse i energente, što je dovelo do promene strukture troškova u evropskim kompanijama, od kojih su mnoge zavisne od uvoza.

Strategija "Evropa 2020" odgovorila je na ovo postavljanjem temelja za budući rast i konkurentnost koji će biti pametan, održiv i inkluzivan i koji će odgovoriti na glavne društvene izazove. Ispravljanje problema iz prošlosti i postavljanje EU na održiv razvojni put u budućnosti je zajednička odgovornost članica i institucija EU. Polazeći od činjenice da su privrede EU tesno povezane, EU preoblikuje svoje ekonomsko upravljanje kako bi se obezbedile bolje politike za odgovor na sadašnje i buduće izazove.

3. USPEH I NEUSPEH PREDUZETNIKA

U literaturi se navode karakteristike koje treba da poseduje preduzetnik [12]:

- vizionarstvo,
- preduzimljivost,
- posvećenost,
- odlučnost,
- privrženost.

Međutim, uočavaju se različiti pristupi i pokušaji koji ukazuju da mnoga istraživanja vezana za ovu oblast nisu teorijski utemeljena. U socijalnoj psihologiji, na primer, akcent se svesno stavlja na osobine, motive i inicijative pojedinaca, a glavna pažnja poklanja crtama ličnosti, kao indirektnim faktorima za preduzetničke težnje i namere.

Većina uspešnih preduzetničkih organizacija (kompanija, preduzeća, firmi) zavisi od kombinacije veština zaposlenih i "dobre sreće", pa i mnogi preduzetnici uspeh vide u sopstvenim mogućnostima, odnosno veštinama. Međutim, to zahteva istrajnost i upornost u prevaziženju prepreka koje stoje na putu uspeha.

Preduzetnik mora da zna:

- da stvori efikasan tim,
- da sasluša druge,
- da samostalno donosi odluke,
- da zadrži najbolje,
- da bude energičan, inovativan, vizionar, pošten i etičan [4].

Postati preduzetnik znači više nego dobiti ideju i pronaći finansijska sredstva za njeno ostvarenje. Pokretanje sopstvenog posla zahteva veštine i znanja. Pitanje je koje veštine i koja znanja? Da li je zaista potrebna fakultetstka i master diploma? Mnogo je priča o preduzetnicima koji su pokrenuli sopstveno preduzeće bez diplome, neki čak i bez završene srednje škole. Da li su oni izuzetak ili je biti preduzetnik zapravo umetnost koju imate ili nemate? Iako ne postoji konačan odgovor na bilo koje od ovih pitanja, postojanje velikog broja obrazovnih programa ukazuju na to da značajan broj ljudi veruje da uspostavljanje uspešnog poslovanja zahteva čitavu lepezu znanja i veština. U tom smislu, može da se neguje i krea-

tivnost. Nemoguće je biti preduzetnik bez određenih sklonosti, kao što se ne može biti uspešan bez odgovarajućih veština i znanja.

Veoma je stara dilema da li se preduzetnici rađaju ili stvaraju, a mnogi primeri iz prakse govore u prilog jednog i drugog stava [14]. Tako je, na primer, Mark Cukerberg stvorio Fejsbuk kao student na Harvardu. Tek nakon velikog uspeha i ogromne popularnosti nove društvene mreže, Cukerberg je napustio fakultet i postao preduzetnik. Nezvanična lista izvršnih direktora vodećih preduzeća (*Fortune500*), koji su napustili srednju školu ili fakultet, počeli da se bave preduzetništvom i postali milijarderi, uključuje Bila Gejtsa (*Microsoft*), Leri Pejdža (*Google*), Majkla Dela (*Dell*), Stiva Džobsa (*Apple*), Ričarda Brensona (*Virgin*), Ralfa Lorena (*Ralph Lauren*), Džeri Janga (*Yahoo*) itd.

Svedoci smo da su preduzetničke organizacije u procesu stalnih promena. Pored prilagođavanja tržištu i usklađivanja sa novim ciljevima, ove promene imaju i druga dejstva. Strah od promena, odnosno neuspeha, često uzrokuje pojačan preduzetnički napor na uvođenju inovacija, koje su važan segment uspeha. Inovacije kao izvor socijalnog i ekonomskog napretka proizlaze iz slobodne razmene ideja. One se uvode u poslovni proces i garantuju ubrzani razvoj i svakodnevne promene preduzetničkog poslovanja.

Preduzetnici bi trebali dobro da poznaju svoj posao i okruženje i da "hladne glave" donose odluke. Uspeh i neuspeh preduzetnika treba posmatrati kao strategiju, odnosno kao racionalan proces, s obzirom da se kroz racionalnost vrednuju dokazi i traže najbolja moguća rešenja. Naravno da se ovakva slika u praksi retko sreće. Česte su situacije da preduzetnici moraju odluke donositi trenutno, bez dovoljno podataka i analiza. Od njih se očekuje da budu "dostupni" u svakom trenutku, utoliko pre što moraju da iskoriste prilike dok su prisutne (pre nego što to uradi neko drugi). Samo mali broj preduzetnika, zapravo, pravi strategiju na formalan i racionalan način. Umesto toga, strategija nastaje na neformalan način, a odluke se donose u trenutku, od čega zavisi uspeh i neuspeh preduzetnika. Ovakav stav predstavlja važno ograničenje uspeha kada se govori o samom preduzetniku. Međutim, i to se može prevazići ako preduzetnik ima rezervno rešenje, zasnovano na kombinaciji stečenog znanja i iskustva.

Ono što predstavlja još jedno ograničenje preduzetničkog uspeha jeste zadovoljavanje preduzetnika u smislu "ispunio sam osnovna očekivanja". Većinu preduzetnika ispunjavaju praktično minimalistička očekivanja dobrog odlučivanja, pre nego što se traže najbolji mogući rezultati.

Uspeh i neuspeh preduzetnika može se sagledati kroz sledeća pitanja:

- Kakve su im veštine vođenja?
- Kakve su im finansijske mogućnosti?
- Kakve su im kompetencije?
- Kakvo im je obrazovanje?

Preduzetnik treba da ima odgovornost, pre svega, prema samom sebi. On mora da poznaje propise i prepozna ono što je najbolje za njegovo poslovanje. Zakon treba da bude poštovan, ali nije dovoljan da bi služio kao smernica za uspeh preduzetničkog poslovanja.

U poslednje vreme dosta se govori o dobroj poslovnoj praksi, zato preduzetnik mora svoj privatni život da "ostavi kod kuće", zaboravi na ponos, gordost i bes i ima samo jednu misao kada se prihvati posla – svoj poslovni cilj.

Neuspeh preduzetnika je obično posledica sledećih činilaca [4]:

- nedostatka iskustva,
- nedovoljnih tehničkih znanja,
- slabo sporovedenog istraživanja tržišta,
- nesposobnosti vođenja administrativnih poslova,
- neujednačenog toka poslovanja,
- lošeg predviđanja finansijskih tokova,
- potcenjivanja troškova i vremena potrebnog za stavljanje preduzeća na noge,
- preoptimističkih procena tražnje na tržištu,
- nemogućnosti dobijanja kratkoročnih kredita od banaka ili iz drugih izvora (zbog nemogućnosti pripreme ili neuverljive prezentacije poslovnog plana),
- neprihvatanja činjenice da odgađanje plaćanja može značiti i nemogućnost ubiranja tih sredstava.

4. BITI PREDUZETNIK U SRBIJI

U Srbiji, dve tećine vlasnika MSP (66%) ima između 36 i 55 godina. Na rukovodećim pozicijama i u ulozi vlasnika i osnivača preduzeća, i dalje su najčešće muškarci (67%). Kada se radi o obrazovanju vlasnika preduzeća i preduzetnika, najveći broj ima završenu srednju četvorogodišnju školu (41%), a slede ih visokoobrazovani ili sa višom školskom spremom (19%) [8].

Preduzetnici i vlasnici mikro-preduzeća su najčešće sa srednjom stručnom spremom, a svaki šesti preduzetnik ima završenu srednju trogodišnju školu. Vlasnici, direktori i preduzetnici u proseku rade 6 dana nedeljno po 9 sati, sopstveni biznis imaju 12 godina, a 84% njih nikada ranije nije imalo svoje preduzeće ili firmu. Većina njih sopstveni biznis započeli su kada se ukazala poslovna šansa u oblasti u kojoj su prepoznali sebe [8]. Ako se osvrnemo na statističke podatke, neminovno je zapitati se: da li je obrazovanje ključan faktor uspeha preduzetnika?

Na osnovu podataka Republičkog zavoda za statistiku [10] može se konstatovati da je obračunom makroekonomskih agregata obuhvaćeno 222.152 preduzetnika koji su poslovali u toku 2013. godine. Od ukupnog broja preduzetnika, na severu Srbije poslovalo je 118.179 preduzetnika (što čini 53,2%), a na jugu Srbije 103.973 (što čini 46,8%).

Posmatreno po sektorima, najčešće učešće u ukupnom broju preduzetnika imale su [10]:

- trgovina na veliko i malo,
- popravka motornih vozila i motocikala,
- prerađivačka industrija,
- saobraćaj i skladištenje,
- stručne, naučne, inovacione i tehničke delatnosti,
- usluge smeštaja i ishrane i
- ostale uslužne delatnosti.

Sušтина ekonomskog oporavka Srbije je dublja od same statistike. Ona je u odnosu koji svako od nas ima prema sebi, sopstvenom radu, stvaranju vrednosti i ponajviše prema ličnoj i društvenoj korisnosti [7]. Predrasude o Srbima kao preduzetnicima nisu se naučno istraživale, ali postoje istraživanja karakteristika nacionalne kulture. Neki autori ukazuju na istorijske korene srpskih kulturnih dimenzija, povezujući ih sa načinom života u Srbiji (u okviru proširene porodice, odnosno srpske seljačke zadruge), pa je tipična organizaciona struktura u Srbiji centralizovana i nisko formalizovana, sa izraženom upotrebom mehanizma socijalne kontrole [7].

Veliki broj dobrih poslovnih šansi ne nastaje iznenada, već kao rezultat budnosti preduzetnika. Nezavisno od toga kako je nastala, poslovna šansa mora biti pažljivo procenjena, analizirana i vrednovana. Procena šansi predstavlja najkritičniji korak preduzetničkog procesa. Takođe, šansa mora odgovarati i ličnim veštinama i ciljevima preduzetnika [9].

Premda većina preduzetnika u Srbiji nema formalne mehanizme za identifikaciju poslovnih šansi, ipak postoje izvori informacija koje često koriste: potrošači, članovi distributivnog kanala, poslovni saradnici i dr. [9].

5. VEŠTINE I KOMPETENCIJE PREDUZETNIKA KAO KLJUČNI FAKTORI USPEHA

Posao preduzetnika je veoma složen i zahtevan. Svakodnevno se javljaju problemi i izazovi različite prirode. Da bi se oni prevazišli i ostvarili poslovni ciljevi, preduzetnici moraju posedovati specifične veštine.

Ljudi su milionima godina razvijali veštine koje su omogućavale, najpre preživljavanje, zatim izdvojenost od ostalih životinjskih vrsta i, na kraju, konkurentnost i različite vrste životnih i poslovnih trka. Od pravljenja i upotrebe alatki, učenja jezika i društvenih sposobnosti, ljudi su se adaptirali kako bi bili što uspešniji u različitim okruženjima. Adaptacija prema različitim okruženjima u današnjem svetu, gde konkurentnost predstavlja "utakmicu bez kraja", predstavlja jednu od osnovnih potreba preduzetnika. Prilagođavati se sporo ili brzo, jedno je jasno: u današnjem svetu, ukoliko želite da budete uspešan preduzetnik, morate preći određeni put i razviti važne osobine i znanja [2].

Da li se preduzetnik rađa ili stvara i da li se unapred može prepoznati potencijalno uspešan preduzetnik?; Zašto neke osobe lakše dolaze do poslovnih ideja i uspešnije su u njihovoj realizaciji? – uobičajena su pitanja. Dobiti ili tražiti odgovore je nemoguće, jer saglasnost leži u sledećem: potencijal preduzetnika podrazumeva adekvatnu kombinaciju talenta, sposobnosti, znanja i iskustava osobe koja pretenduje na uspešno pokretanje, razvoj i upravljanje konkretnim biznisom [11].

Neki autori ličnost preduzetnika dele u četiri grupe [1]:

- gojazno-flegmatične,
- mršavo-impulsivne,
- dezorijentisano-nerealne,
- nervozno-zabrinute.

Na osnovu poseta i razgovora sa desetinama preduzetnika u preduzećima, kao i poređenja ličnih karakteristika i rezultata istraživanja pojedinih slučajeva iz medija, može se zaključiti da najuspešniji preduzetnici u Srbiji najčešće pripadaju mršavo-impulsivnom tipu [1]:

- takav tip je vatrenog temperamenta, ispoljava emocije, reaguje i na potpuno nevinu izjavu, ili je zlonameran i razdražljiv kada ispoljava ljutnju i bes,
- mrzi suprotstavljanje i tome se opire ne birajući reči,
- na poslu ovaj tip preduzetnika ispoljava preciznost i efikasnost,
- takav tip je često i izuzetan strateg i ima veliku sposobnost organizacije,
- vrlo je uspešan kao lider.

Najsnažniji resurs i pokretač preduzetničkog poduhvata jeste upravo iskustvo sticano u oblasti koja je potpuno poznata. U takvim situacijama, rizik, kao važan faktor koji utiče na uspeh budućeg biznisa, mora biti kontrolisan ili sveden na najmanju moguću meru [3]. Biti uspešan preduzetnik znači imati dobru viziju, u svakom trenutku znati šta se hoće i kako treba da izgleda organizacija u budućnosti. Vizija treba da podstakne pokretačku snagu preduzetnika, jer bez jasne predstave zbog čega se nešto radi, svaki napor je uzaludan. Raznovrsni problemi za koje je potrebno naći rešenja (koja nisu uvek idealna) dovode do ishitrenih odluka, koje se uglavnom uspostave kao loše. Zato kao optimista koji voli izazove, preduzetnik treba racionalno da razmišlja i ima adekvatan odgovor za svaku situaciju.

Mnogi "sanjaju" da postanu preduzetnici, jer sam termin preduzetnik asocira na uspeh, a preduzetništvo zahteva natprosečnu energiju za postizanje uspeha. Onaj koji počne sa malim planovima – minimizira rizik. Tako na startu, preduzetnik ima mogućnost eksperimentisanja kroz prevazilaženja nedostataka u procesu poslovanja i potvrđivanje ideje. Neophodno je preceniti troškove, a profit ostaviti postrani, kao i nuditi ono što se traži na tržištu. Ako se detaljno razmotre svi aspekti odluka, pogrešni postupci koji bi mogli da dovedu do gašenja preduzetničkog poduhvata biće izbegnuti.

Biti lider sinonim je za preduzetnika. Lideri su inovatori, ljudi sa idejama, vizijom, sami sebe motivišu i za svaku situaciju pronalaze rešenja. Godinama unazad, u periodu stroge hijerarhije, smatralo se da je ovaj kvalitet liderstva potreban samo kod menadžera u samom vrhu organizacije. Danas je liderstvo neophodno svuda i uspešne su one organizacije koje imaju dobrog lidera. Liderstvo više nije ograničeno, tako da se svaki preduzetnik smatran liderom, smatra i osobom sa najvećim sposobnostima [5].

Uspešan preduzetnik zna da bude najbolji onda kada je najteže. On se najbolje snalazi u kriznim situacijama, kada odluke treba donositi trenutno i kada ima malo vremena za konsultacije ili razmišljanje. Ovakvih situacija u preduzetničkom poslovanju ima na pretek. Često je potrebno rasklopiti "kulu od karata", pa složiti novu. Posledično, onda kada preduzeću ide najbolje i ima odlične rezultate, treba razmišljati o promenama, inovacijama, jer takvo stanje sigurno neće dugo potrajati.

Henry Mintzberg, koji je proučavao menadžere na poslu, ukazuje da troše dosta vremena na "gašenje požara" ili se bave iznenadnim i neplaniranim promenama. Međutim, preduzetnik nema vremena za gubljenje [5]. On mora kontrolisati mnoge stvari, ali ne može baš sve. Bilo kakav plan ili prognoza mora uzeti u obzir mogućnost da neće sve ići po planu.

Kada nastupe promene i krizne situacije, potrebno je držati pod kontrolom svoje osnovne, svakodnevne tehnike i mehanizme vođenja. Kao što je bitno znati šta treba

promeniti, bitno je znati i šta ne treba promeniti. Svakom biznisu je neophodan cilj, a da bi se do njega stiglo, potrebne su adekvatne kompetencije preduzetnika.

6. ZAKLJUČAK

Veliki broj činilaca utiče na preduzetnički posao, odnosno na njegov uspeh i neuspeh. Sve je u konstantnom procesu promena, pa nekada ni najbolja odluka ne daje očekivani rezultat. Menjaju se tržišni uslovi, konkurencija, inovacije, nove tehnologije, državna politika itd. Sve ove stvari praktično je nemoguće predvideti u procesu preduzetničkog poslovanja. Neke je moguće naslutiti, ali veliki broj dolazi iznenada i bez najave.

Postoje dva načina kako bi se preduzetnik mogao izboriti sa rizicima koje ove promene donose:

- prvi: pokušati da se mogući problemi predvide i razrade alternativna rešenja koja bi se implementirala onda kada (ili ako) se ti problemi pojave,
- drugi: pronaći fleksibilna rešenja u skladu sa okolnostima.

Neophodno je da preduzetnici budu slobodni, motivisani, samostalni kako bi preuzeli kontrolu nad preduzetničkim poduhvatom, tražeći strategijske mogućnosti koje će iskoristiti. Efikasni preduzetnički biznis u Srbiji neće izostati ako se savremeno preduzetničko poslovanje sagleda kao prilika za stvaranje profita i održive konkurentske prednosti, kako na individualnom i organizacionom planu, tako i sa aspekta društva u celini.

Preduzetnik je nosilac prefiksa "uspešan" – to je osoba koja ima izgrađenu odgovornost, kreativnost, inovativnost, sposobnost brzog uočavanja problema i realnih pogleda na preduzetničke poduhvate. Zna postaviti prave ciljeve u pravo vreme i sposoban je da razume signale iz okruženja, jer je motivisan željom za uspehom.

Uspeh ili neuspeh preduzetnika je jednačina sa više nepoznatih, a rešenje takvih jednačina matematički nije jednostavno. Stoga se moraju nalaziti načini za uprošćavanje ambijenta (okruženja), pojednostavljenje procedura i primenu odluka koje su svojstvene "najboljim praksama". Sve to zahteva određena znanja i veštine, posebno komunikacione. Ukoliko preduzetnik zna kako da uspostavi kontakte, liderski deluje u realizaciji određenih poslova (zadataka, projekata) i zainteresuje zaposlene da rade na najbolji način, uspeh nije zagarantovan, ali je blizu izvesnog i očekivanog. Nasuprot tome, ukoliko znanja i veštine nisu dovoljni za realizaciju određenog projekta (zadatka, cilja), preduzetnik je u problemu iz koga nije jednostavno izaći bez posledica – poslovnih ili moralnih.

REFERENCE:

1. Vujadinović, B., Analiza homeopatskih tipova ljudi, rad objavljen u nastavcima u listu "Politika" od 12.10. i 20.11.1994. god.
2. <http://www.economy.rs/biznis-mali/52/saveti/izgradnja-razvoj-biznisa/Najvaznije-vestine-za-prezivljavanje-u-dzungli-preduzetnistva.html>

3. Deželjin, J., Menadžment u malim i novoosnovanim poduzećima, Računovodstvo, revizija i financije, Vol. 9, No. 4, 1999, str. 106-112
4. Ožegović, L., Sajfert, Z., Preduzetništvo, Fakultet za ekonomiju i inženjerski menadžment, Novi Sad, 2009.
5. Witzel, M., Management, Taylor & Francis Group e-Library, New York, 2004, pp. 23-24
6. Scott, M., Andrew, P., de Ven, H., Handbook of Organizational Change and Innovation, Editors, Oxford University Press, Inc., New York, 2010, pp. 13
7. Jančićević, N., Uticaj nacionalne kulture na organizacionu strukturu preduzeća u Srbiji, Ekonomski anali, 44(156), 2003, str. 45-66.
8. Nacionalna agencija za regionalni razvoj: Stanje, potrebe i problemi preduzetnika u Srbiji u 2012. godini, Beograd, 2011.
9. Avlijaš, R., Model preduzetničkog procesa pokretanja novog poslovnog poduhvata, Singidunum revija 8(2), 2011, str. 152-156
10. Republički zavod za statistiku, Preduzetnici u Republici Srbiji u 2013. godini, broj 86, Beograd, 2014.
11. Karavidić, S., Ivković, D. Preduzetništvo, Visoka škola za poslovnu ekonomiju i preduzetništvo, Beograd, 2011.
12. Bygrave, W. D., The portable MBA in entrepreneurship, John Wiley & Sons, New York, 1994.
13. Adžes, I., Upravljanje životnim ciklusima preduzeća, Asee, Novi Sad, 1999.
14. Cook, J., (2010), Do entrepreneurs need education?, <http://blogs.reuters.com/small-business/2010/02/03/do-entrepreneurs-need-education/>

HEALTH ECONOMICS WITH REFERENCE TO THE LIBYAN ECONOMY

Khaled Emhemed Ennajar, Layth Alhamdani

Libya

Abstract: Health economics is the learning how limited capital are allocated among alternative uses for the treatment of sick people and the promotion, maintenance and improvement of health standards in the economy, including how healthcare and health-related services, their costs and benefits, and health itself are distributed among the various segments of a society. It can be defined as the application of the theories, concepts and techniques of economics to the health sector. The inter-connection between the health status of an individual (or the entire population) and usage of medical services builds the link between “Economics of Health” and “Economics of Healthcare”. Healthcare system is a formal structure of health service providing agencies, whose finance, management, scope and content is defined by laws and regulations. Good health contributes to the nation’s economy, but there is strong link between poverty and ill health. Health is not only an important element of well being, it is also an important component of human capital, and is of major importance for economic growth and development. In poor countries, where physical jobs tend to be in abundance, health is more important than education in determining labor productivity. More than 80 developing countries of the world face problem of malnutrition, south of Libya also.

Keywords: Libya, health economics, development, management

1. INTRODUCTION

Need and Demand for Health Care System attempts to meet the population’s need for health and health care. [1] A complex issue is to what extent the demand for health care appropriately reflects the actual population health need and to what extent it is met by health care service provision and utilization. Population health can be translated into "justified" demand and appropriate use of health services, but some health care need might be neglected due to lack of demand and utilization. Thus, a particular challenge for health care systems is to move closer to the identification of the real need for health care, satisfying justified demand and promoting demand where appropriate. The quantification and qualification of health is a prerequisite for the identification of population health need and translation into health care provision. Health Care Systems intensive medical technologies, for example diagnostic equipment such as Magnetic Resonance Imaging 1 Scanners (MRI) and Computed Tomography Scanners (CT) as well as therapeutic technologies, for example Radiotherapy Units (RU) have recently become one indicator for resources allocated to health care. [2]

Health cannot be measured directly. Useful indicators for the size and nature of health need include population characteristics and so-called "indicators" of health such as life

expectancy, morbidity and mortality. [3] However, many determinants of health fall beyond the impact of the health care sector. Among these are, for example, socio-economic conditions and education. A particular challenge is to balance inequities in health caused by such factors. Finally, advances in medical science will give rise to new demand for health care by increasing the capacity to prevent, diagnose, treat, cure and rehabilitate diseases. This often translates into a higher volume of service provision and utilization in spite of the many direct cost-reducing effects of medical technological innovation. In effect, public expectations and health care demand will rise as those who use health services get accustomed to higher standards of care.

2. SCOPE OF HEALTH ECONOMICS

Health economics offers considerable flexibility and diversity in the application of economic tools to health and healthcare, which can help in better comprehension and planning of related issues. In the context of deteriorating public health system in Libya, the discipline of economics is critically important for measuring health impact of diseases and interventions; evaluating the cause-effect relationships between care-seeking behavior and the specific attributes of individuals and health systems; estimating the statistical association between patient compliance and personal as well as intervention-specific attributes. Health economics can also: measure inefficient resource use by governments or individual health institutions; guide the choices in public health interventions; assess the macroeconomic relationship between disease, development, poverty, and globalization; and assess health systems' performance and advise governments and policy makers accordingly.

The scope of Health Economics is considerably large, ranging from the study of the functioning of healthcare systems to individual and social causes of health affecting behaviors. [4] However, some specific topics are currently arising as particularly important, capturing not only the interest of many researchers, but also policy makers and actors of the healthcare sector. One of such topics concerns hospital performance in terms of cost containment and compliance with regulatory norms regarding the legal rights and legitimate interests of patients, especially when such hospitals are undergoing important reforms in terms of payment systems or management objectives. In fact, since the 1980s, several countries have been introducing financial incentives and management performance objectives in the relationship between founders and providers of healthcare (public and private). Such mechanisms, were thought to induce efficient management behaviors, in order to achieve better resource allocation, and in most cases, to contain the escalation of costs with the health system.

Another important topic of Health Economics, with growing relevance, is the study of access to healthcare. [5] Because access to healthcare is a central policy objective in most health systems, there is the need to adopt a conceptual definition of access, which allows the formulation of policies to promote access to healthcare and the monitoring of the results of these policies. In many health systems access is a concept more political than operational, lacking a comprehensive definition that comprises all components of access.

3. LIBYAN ECONOMY

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-sulfur 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 neighbors. [6]

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 percentage of Libya's gross domestic product (GDP) derived from oil has remained fairly constant since the early 1970s, fluctuating between 50 and 60 percent until 1982, when declining oil revenues caused it to drop below 50 percent. Diversification is an important issue because at current rates of production, Libyan oil reserves are not expected to last beyond the second decade of the next century. Thus, the long-term health of the Libyan economy hinges on developing a self-sustaining non-petroleum sector. Otherwise, once oil reserves are depleted, Libya will become as poor as it was before its current oil boom.

Libya's economy is structured primarily around the nation's energy sector, which generates about 95% of export earnings, 80% of GDP, and 99% of government income. [7] Substantial revenue from the energy sector coupled with a small population give Libya one of the highest per capita GDPs in Africa, but Tripoli largely has not used its significant financial resources to develop national infrastructure or the economy, leaving many citizens poor. In the final five years of Qadhafi's rule, Libya made some progress on economic reform as part of a broader campaign to reintegrate the country into the international fold. This effort picked up steam after UN sanctions were lifted in September 2003 and after Libya announced in December 2003 that it would abandon programs to build weapons of mass destruction. The process of lifting US unilateral sanctions began in the spring of 2004; all sanctions were removed by June 2006, helping Libya attract greater foreign direct investment, especially in the energy and banking sectors. [8] Climatic conditions and poor soils severely limit agricultural output, and Libya imports about 80% of its food. Libya's primary agricultural water source is the Great Manmade River Project.

4. REFORM OF LIBYA'S ECONOMY

In many respects, Libya's economy requires reform to start from scratch. Gaddafi's regime was able to rely on oil as its main source of income, but the oil sector is not labor-intensive and is poorly linked to the broader economy. In order to foster growth and create jobs, new ways of generating revenue must now be devised. The transition towards a modern and efficient economy will require Libya's oil revenues to be invested in long-term projects and infrastructure. In order to do this, however, the first step must be the adoption of a comprehensive roadmap for economic reform. While Libya's energy infrastructure requires

improvement, it nevertheless already performs well and guarantees substantial revenue. Relying on this alone and becoming a retire state, however, would be a fatal mistake. The Libyan population has contributed its part to bringing about a radical political change in 2011. Now it is waiting for concrete initiatives and projects by the government to indicate a positive path towards the future. The absence of any industrial activity, the limited number of private businesses, the high rates of unemployment and the lack of employment opportunities all threaten the country's cohesion and stability. The international community may have helped Libyans overthrow the Gaddafi regime, but it cannot now rest on its laurels. Libya's foreign partners all have an interest in ensuring the country achieves stability as quickly and efficiently as possible. Therefore, respecting the need not to interfere in domestic Libyan affairs should not stop the international community from putting pressure on the Libyan government. At the same time, it should provide Libya with technological expertise, training for the security forces, political elite and workforce and an injection of financial and intellectual resources into priority areas (health, education, the media and technology). Libya's foreign partners should also facilitate the government's design of a clear and systematic political agenda which should encompass representation, stability (including institutional stability) and a special focus on fulfilling Libya's economic potential. On their side, Libyans should also turn to their Arab, African, Asian and Russian partners to develop commercial partnerships. The Libyan example could then not only serve as a potential success story for the rest of the region, but also prove that the diversity among the Libyan population, their different ideological and sociopolitical orientations and their tribal and racial diversity, need not stand in the way of the successful construction of a new democratic state.

5. FUNCTIONING OF LIBYAN HEALTHCARE SYSTEM

Health systems in different countries vary widely in performance and their ability to attain key health goals [8]. In many countries, despite expansion of medical knowledge and the use of increasingly sophisticated technology and training, the quality of care as a return on expenses reveals under-performing systems. Health care delivery in these circumstances is considered to be in crisis [9]. To achieve higher standards of health care, both wealthy and poor health systems should continually strive to improve efficiency, equity and effectiveness of their programs [10]. There is no simple stereotyped formula for the organization of health services. Appropriate policies may differ widely across settings, but no country has discovered an ideal model [11]. Much remains to be learned about what makes a good health system, what makes it fair, and how do we evaluate the performance of existing systems in different settings. The most important health legislation in Libya was the Public Health Code No 106 (1973), further detailed in the decree 654/1975 issued by the General People's Committee. The code defined the responsibility of the state to provide free health services to all citizens.

From a long-term perspective, the Libyan conflict in 2011 had a minimal impact on health system compared to the effects of years of poor management. However, significant investments in health were made related to the crisis that could have potentially given the Libyan health system the boost it required. Reliable information about the financing of the

health system was limited. As a percentage of GDP, total expenditure on health was reportedly low (3.9%) but spending in absolute terms was greater than in neighboring countries. Private spending—largely out-of pocket and spent abroad—was growing rapidly due to mistrust of the Libyan system, and reached 34% of the total expenditure on health in 2009.

Table 1. Libya Health Services [12]

	1990	2000	2010
Hospital beds (per 1;000 people) in Libya	4.2		
Nurses and midwives (per 1;000 people) in Libya			
Physicians (per 1;000 people) in Libya	1.1		
External resources for health (% of total expenditure on health) in Libya			0.6
Out-of-pocket health expenditure (% of private expenditure on health) in Libya		100.0	100.0
Health expenditure per capita (US dollar) in Libya		211.7	483.7
Health expenditure per capita; PPP (constant 2005 international dollar) in Libya		358.9	712.7
Health expenditure; private (% of GDP) in Libya		1.4	
Health expenditure; public (% of total health expenditure) in Libya		57.2	68.8
Health expenditure; public (% of government expenditure) in Libya		6.0	5.5

Libya's basic policy for healthcare delivery was founded on primary healthcare services, which were well developed (one centre per 5,000–10,000 citizens and a network of 45 polyclinics). However, in practice, primary healthcare suffered from poor maintenance and manning. Almost all primary healthcare centers were reportedly "under maintenance" for years prior to the revolution. The burden for primary healthcare fell on secondary and tertiary healthcare centers, which were overloaded and also often under maintenance. Secondary and tertiary healthcare officially had an adequate number of beds (more than 37 per 10,000 citizens), but not all the beds were functional. Public facilities also lacked the equipment necessary to service many basic were usable in practice. The private sector contributed 103 hospitals and clinics (2,088 beds) mostly located in urban areas. Health services were weak and did not meet the needs of the population, resulting in distrust of the system despite some

achievements. Many Libyans sought treatment abroad, mainly in Tunisia. In 2007, the total amount of money Libyans spent on medical tourism was estimated to be US\$100–200 million per year, although exact figures are unknown.

The Libyan health care workforce in 2010 was approximately 110,000 strong, with about 13 physicians, 2.5 dentists, 2 pharmacists, 48 nurses and 23 paramedical staff per 10,000 population, but was characterized by poor human resource management, severe attrition, outdated education and training programs, misapplied skills, absenteeism, poor support and lack of supervision. [13] Libya had trained too many health care workers, whom the country was then obligated to hire and had instituted a practice by which some workers held multiple positions, and were thus paid twice. Both of these phenomena drained financial resources. The health workforce, especially nursing, was heavily reliant on expatriate staff; most of the qualified nurses were not Libyan. Quality control and continuing education programs were limited and morale was reportedly poor.

6. HEALTH EXPENDITURE - PUBLIC (% OF GDP) IN LIBYA

Health expenditure; public (% of GDP) in Libya was last measured in 2011, according to the World Bank. Public health expenditure consists of recurrent and capital spending from government (central and local) budgets, external borrowings and grants (including donations from international agencies and nongovernmental organizations), and social (or compulsory) health insurance funds.

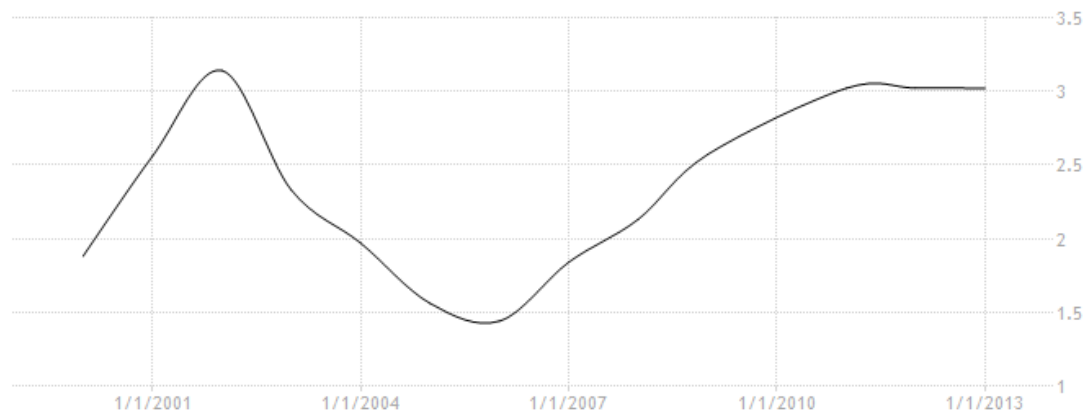


Figure 1. Health expenditure - public (% of GDP) in Libya [14]

7. HEALTH SYSTEM STRENGTHENING

Health System Strengthening as part of an all systems approach. The majority agree that a pre-condition for providing a robust health system is a safe and secure environment. In

Libya, the level of violence continues to impact not only public health but also the health system in a direct or indirect manner. Insecurity is eroding the trust of the population in the government, preventing the Libyan Diaspora and the foreign health workforce from entering Libya, and hampering reconstruction and cooperation programs. With a deteriorating security situation in Libya, access to health care is becoming a concern.

By training Libyan security officials and forces, the security community could contribute in an indirect manner to the establishment of the safe and secure environment needed for the development of an effective health system. Libya is in the process of reconsidering the management of its administration and economy. The security community could contribute to nation building by supporting the Libyan government in its efforts to weaken the hold of patronage networks, to fight corruption and fraud, and to establish, promote, and uphold the rule of law.

8. ECONOMIC MANAGEMENT IN LIBYAN HEALTH SECTOR

Proper planning and management are needed for primary, secondary or tertiary level establishments as well as for public, private or non-profitable organizations. For years, the mission of projects and planning department in health was limited to building and construction. Unless planning is provided, required achievements would become more and more difficult by just spontaneous improvement in overall socioeconomic conditions. Health planning is a cycle, and a check on our abilities to achieve our objectives/targets should be made. Many vertical programs endorsed by international and/or regional organizations as the WHO or the UNICEF were accepted and adopted by health authorities in Libya. Examples are health for all program, national programs for accidents; national immunization; maternal and child health; drug policy; breastfeeding and the baby friendly hospital initiative; diarrhea diseases; and respiratory infections control programs. However, there is obvious failure to institutionalize most of these programs. No objectives are stated and no proper assessment or formal follow-up is performed so that achievements can be evaluated. Good objectives should be SMART and related programs must be closely integrated with these objectives.

The predominant form of management in the Libyan health sector is crisis - management. An example of this type of management is the Cholera outbreak that occurred in 1995. In this event, both owners and inhabitants of an old part of the city refused to pay a small fee to be connected to a new water pipeline system to the city. Inhabitants (all are immigrants) thought that it was cheaper for them to dig individual wells for themselves inside their houses. More than 290 of the unauthorized 300 wells were unsuitable for human use due to fecal contamination. The problem with crisis management is that when a crisis occurs, damages are inevitable. These would include for example; mortality and morbidity; material damage; allocation of human and financial resources; public in satisfaction; loss of confidence in the system; and other intangible losses. This outbreak should have been anticipated by setting appropriate objectives. The objective should have been safe water supply to all residents. The occurrence of the outbreak in the city cost more losses than actions that were needed to insure the aforementioned objective. There are other lessons that could be drawn from this outbreak. Examples include the value of inter-sectoral cooperation and advocacy, equity, and the concept of global approach to development [15]. In fact, the next change in the

government was to combine health, education, environment, facilities and construction sectors in one secretariat for public services. This approach also failed due to absence of strategic global thinking in health and other executive authorities. Risks should be managed, picked-up, and dealt with before the occurrence of crises. This is the risk management. Still better, a more comprehensive approach of management is the Performance management. This is a mixture of policy instruments that embraces elements of planning and competition, directives and incentives, and centralization and devolution [16].

9. CONCLUSION

Health economics is a rapidly developing field which has acquired much importance among the public health practitioners, governments, physicians, and pharmaceutical industry worldwide but it remains a much neglected area in Libya. There is a pressing need to develop the discipline in the country and train professionals who can deal with these issues skillfully. Healthcare system is a formal structure of health service providing agencies, whose finance, management, scope and content is defined by laws and regulations. Good health contributes to the nation's economy, but there is strong link between poverty and ill health. Health is not only an important element of well being, it is also an important component of human capital, and is of major importance for economic growth and development. In poor countries, where physical jobs tend to be in abundance, health is more important than education in determining labor productivity. Health services in Libya are provided free of charge to every citizen. However, years of mismanagement have rendered Libyan governance structures ineffective. Disputes and corruption represent also a major cause of disruption. Therefore, the population distrusts the Libyan health system. From a long term perspective, the Libyan conflict in 2011 did not significantly impact the health system compared to the effects of years of poor management. One of the more significant impacts has been that most expatriate staff fled the country, and only a few have returned. The health toll of the conflict is difficult to assess accurately, and it took time for the Libyan government to assess what the real needs are. The political transition is not easy, and Libya is still struggling to form a centralized state. It faces many structural problems including a lack of institutions, weak governance and a high level of corruption, which is affecting the development of the health system. Libya is able to fund its recovery with little economic support from the international community and does not rely on donors. The major risk for Libya is a continued low intensity conflict that would slowly erode the existing national architecture.

REFERENCES

1. <http://www.europarl.europa.eu/>
2. Lázaro P, Fitch K (1995), The distribution of "big ticket" medical technologies in OECD countries, *International Journal of Technology Assessment in Health Care* 11(3)
3. <http://www.europarl.europa.eu/>

4. <http://www.who.int/healthpromotion>
5. <http://www.euro.centre.org/>
6. <http://countrystudies.us/libya>
7. <http://www.economywatch.com/economic-statistics/country/Libya/>
8. Vandewalle, D., (2006), A history of modern Libya, Cambridge University Press, the UK, the United States of America. I.B. Tauris and Co Ltd, London, England
9. <http://www.ncbi.nlm.nih.gov/pmc/articles/PMC3074293/>
10. WHO; Country Cooperation Strategy for WHO and the Libyan Arab Jamahiriya (2010–2015)
11. Chivvis, Christopher S. et al; Libya's Post-Qaddafi Transition, The Nation-Building Challenge; RAND; 2012 <http://www.tradingeconomics.com/>
12. <http://www.tradingeconomics.com/>
13. WHO; Country Cooperation Strategy for WHO and the Libyan Arab Jamahiriya (2010–2015)
14. <http://www.tradingeconomics.com/>
15. Mulholland, R. et al; 03 October 2011; <http://news.smh.com.au/breaking-news-world/residents-flee-gaddafi-hometown-20111003-1149x.html>;
16. Reilly, Catherine; A life less ordinary; Irish Medical Times; 03 January 2013; <http://www.imt.ie/features-opinion/2013/01/to-hell-and-back-%E2%80%94a-toughassignment.html>

QUALITY MANAGEMENT OF PUBLIC LIGHTING

Žarko Vranjanac

University of Nish, Faculty of Occupational Safety in Nish, Serbia

Abstract: The development of cities, urban transport network is increasingly compounded by, so the traffic and became the backbone of the human need for mobility. These needs for mobility have become every day, so there was also a non-traffic requirements regarding safety during movement. Mostly at night there are special requirements for traffic safety posed by all participants. Well built and properly connected to public lighting, in modern conditions corresponding to all the requirements. Dimensioning devices for public lighting is a complex, multidisciplinary mission, and so it should be treated as such.

Keywords: management, quality, public lighting, traffic, cities.

1. UVOD

Kako je čoveku rastao kvalitet života, koji je pre svega bio uslovljen razvojem njegove svesti, ali i tehničko-tehološkim i naučnim razvojem⁴³, tako je usled svega toga i dolazilo do usavršavanja onih oblasti koje su u najranijim periodima ljudskog življenja bile sasvim neprimetne. Naime, onda kada je zadovoljena sopstvena egzistencija, koja je bila i ostala, centar ljudskog interesovanja, prirodno je da čovek teži ka tome da svoju pažnju sve više pokloni estetici sopstvenog života.

Javna rasveta, pri tome, jeste jedan mali segment estetike kojim se čovek, na putu svoga usavršavanja bavio, ostao je kao simbol određenih arhitekstonskih epoha a u isto vreme i ostvarivao svoju funkcionalnu ulogu. S toga, se javna rasveta mora posmatrati kroz svoje tri osnovne funkcionalne karakteristike. To su funkcionalno osvetljenje koje je u funkciji orijentacije u nepoznatom ili poznatom prostoru, zatim arhitekstonsko osvetljenje čija je funkcija zadovoljenje određenih arhitekstonskih karakteristika, koje se nameću gradskim arhitekstonskim uređenjem i na kraju ambijentalno osvetljenje koje ima funkciju da ukaže na hijerarhiju objekata pri prikazivanju gradskog sadržaja tokom noći.

U tom smislu, može se reći da je kao ogledalo sveopšteg razvoja u određenim periodima istorije, na red došlo i "ukrašavanje" javnih površina, mada se kao primarni razlog za to moraju prvenstveno navesti funkcionalne karakteristike javne rasvete.

⁴³ Termin tehnologija potiče od grčke reči "τεχνολογία"-tehne, što znači veština, i "λογία"-logija, što znači nauka. Ljudska vrsta je počela da stvara tehnologiju, pretvaranjem prirodnih resursa u jednostavne alate, a kasnije se ova praksa proširila i na ostale oblasti čovekovog interesovanja, života i rada.

2. ISTORIJSKI RAZVOJ JAVNE RASVETE

Javna rasveta ili javno osvetljenje, datira još iz perioda grčke i rimske civilizacije, kada su osnovni razlozi za upotrebu svetiljki bili pre svega zaštita od pljački i skitnica na ulicama, što je tada bilo vrlo česta pojava. U to doba, bile su u upotrebi uljane lampe koje su obezbeđivale konstantni plamen tokom čitave noći.[3] Takođe, postojali su tzv. "laternariusi", što je bio naziv za roba, koji je bio zadužen da u određeno doba pali odnosno gasi lampe u pojedinim delovima gradova. Ta se praksa održala i kroz srednji vek kada su se ljudi sa stražom kretali ulicama u cilju paljenja i gašenja uličnih svetiljki.

Kasnije se javlja tzv. "gasno osvetljenje" odnosno lampe koje su koristile tečni gas za sagorevanje. U početku je takođe bilo potrebno da svaku od lampi obide lice zaduženo da je upali i ugasi ali je kasnije pronađen sistem koji je aktivirao plamen automatski kada je uključeno snabdevanje gasom. Prvi takvi sistemi zabeleženi su u arapskom carstvu u Kordobi a kasnije su još modernije lampe sa upotrebom herozima upotrebljavane u austrijskom carstvu počevši od 1853. godine.[3]



Slika 1. Stari Rim i "laternarius"

Nakon toga, došlo je do upotrebe električnih "lučnih lampi" ili kako su ih zvali "električna sveća" koje su inicijalno razvijene i usavršene od strane rusa Pavla Jabločkova⁴⁴ 1875. godine. Prvi put ove lampe su upotrebljene u Parizu⁴⁵ na osnovu čega je Pariz i nazvan "Gradom svetlosti". Kasnije je isti sistem našao primenu i u Velikoj Britaniji i u Sjedinjenim Američkim Državama, a po usavršavanju od strane kompanije "Simens" u upotrebi je bilo više od 130.000 svetiljki.

U Velikoj Britaniji prvi grad sa uličnim osvetljenjem bio je Njukasl (1879), u SAD u gradu Klivlendu je 29.4.1879. godine, prvi put upotrebljena javna rasveta na teritoriji Američkog kontinenta, dok je u Evropi to bilo prvi put učinjeno u Rumuniji u gradu Temišvaru.[3]

⁴⁴ **Pavel Nikolaevič Jabločkov (1847-1894)** je promenio relativni položaj ugljenika na revolucionaran način, stvarajući lampu. Ova lampa se zove Jabločkovova sveća. Ali trajnost joj je samo oko 45 minuta.

⁴⁵ **Pariz** je glavni i najveći grad Francuske. Smešten je na obalama reke Sene. Značajan je po tome što prvi grad sa savremenom javnom rasvetom, po čemu je i dobio naziv „Grad svetlosti“.



Slika 2. Pariz "grad svetlosti"

3. POJAM JAVNE RASVETE

Održavanje javnog osvetljenja ili javna rasveta je jedna od petnaest osnovnih komunalnih delatnosti, pa se kao takva definiše zakonom. Prema Zakonu o komunalnim delatnostima "Sl. Glasnik RS br 88/2011" održavanje javnog osvetljenja obuhvata održavanje objekata i instalacija javne rasvete kojima se osvetljavaju saobraćajne i druge javne površine.[6]

Javna rasveta obuhvata osvetljavanje sledećih javnih površina:

- autoputevi,
- ulice,
- trgovi,
- mostovi,
- podzemni pešački prolazi i stepeništa,
- pešačke površine pored stambenih i drugih objekata,
- parkovi,
- spomen parkovi,
- površine u stambenim naseljima i blokovima,
- groblja,
- spomen groblja,
- uređene rečne obale i
- druge površine na kojima je predviđena izgradnja javne rasvete.

Izgradnja i rekonstrukcija objekata i instalacija javne rasvete vrši se po programima uređivanja građevinskog zemljišta koje donosi Direkcija za građevinsko zemljište i izgradnju grada.

Održavanje objekata i instalacija javne rasvete obuhvata redovnu zamenu svetlećih tela, redovno čišćenje, bojenje i pranje stubova i svetlećih tela, kao i zamenu postojećih svetlećih tela savremenijima.

Zabranjeno je: neovlašćeno uklanjanje, rušenje, prljanje i oštećivanje na bilo koji način objekata i instalacija javne rasvete kao i priključivanje na objekte i instalacije javne rasvete i postavljanje reklamnih panoa, pričvršćivanje predmeta i lepljenje plakata na objekte i instalacije javne rasvete.

Svrha javne rasvete:

- Prevencija saobraćajnih nezgoda - saobraćajna navigacija bez straha od naleta na prepreku,
- Sigurnost- sprečavanje kriminala ili osiguravanje dovoljno svetla za bezbedan život i rad,
- Navigacija- orijentacija u nepoznatom prostoru,
- Ukrašavanje- rasveta fasada, rastinja, spomenika i znamenitosti,
- Reklamiranje- svetleće reklame, oznake na velikim tržišnim centrima itd.

3. OPTIMIZACIJA POTROŠNJE ELEKTRIČNE ENERGIJE

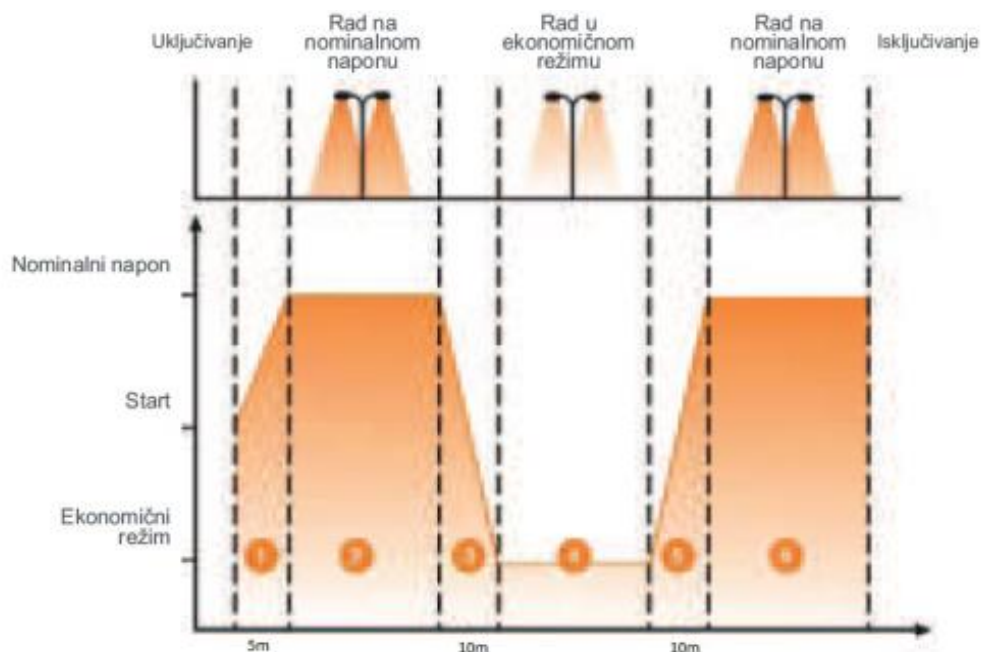
Potrošnja sistema javnog osvetljenja i troškovi održavanja istog svakako čine bitnu stavku u upravljanju kvalitetom javne rasvete. Retki su primeri u Republici Srbiji, gde su sprovedeni ozbiljniji pokušaji optimizacije sistema javne rasvete koji bi otišli dalje od promene tipa izvora električnog osvetljenja ili tipa svetiljki. Činjenica je da su domaći sistemi javne rasvete mahom neefikasni i neoptimizovani i da, shodno tome, predstavljaju ogroman potencijal kada je ostvarivanje ušteda u pitanju.

Tehnički gledano postoji nekoliko opcija kada je u pitanju optimizacija rada javnog osvetljenja ali je svakako najopravdanija centralna kontinualna regulacija napona (svetlosnog toka). "Schneider Electric" nudi kompletno rešenje za optimizaciju sistema javne rasvete. U osnovi ponude su "LUBIO" kontroleri koji otvaraju vrata energetske efikasnosti, pružajući tako mogućnost realizovanja optimizovanog sistema javne rasvete. Tip lampe ne predstavlja ograničenje, a rad na sniženom naponu, pored smanjenja potrošnje, značajno će uticati na produžetak životnog veka svetlosnog izvora.[5]

LUBIO sistem funkcioniše na principu impulsne širinske modulacije (PWM) gde se kontrolišu izlazni naponi na izvodima. Upotrebljeni su prekidački elementi koji rade sa visokom frekvencijom kako bi se izlazni napon modifikovao u skladu sa programiranim parametrima.[7]

Uštede u energiji se ostvaruju kroz šestostepeni ciklus rada:

- Progresivno uključivanje osvetljenja do nominalnog napona.
- Regulacija nominalnog napona i vremenskog trajanja ovog režima.
- Kontinualni prelazak sa nominalnog na ekonomični režim rada (trajanje 10 minuta).
- Ekonomični režim, regulacija ekonomičnog napona i vremenskog trajanja ovog režima.
- Kontinualni povratak sa ekonomičnog na nominalni režim rada (trajanje 10 minuta).
- Regulacija nominalnog napona i vremenskog trajanja ovog režima.
- Isključivanje.



Slika 3. LUBIO sistem

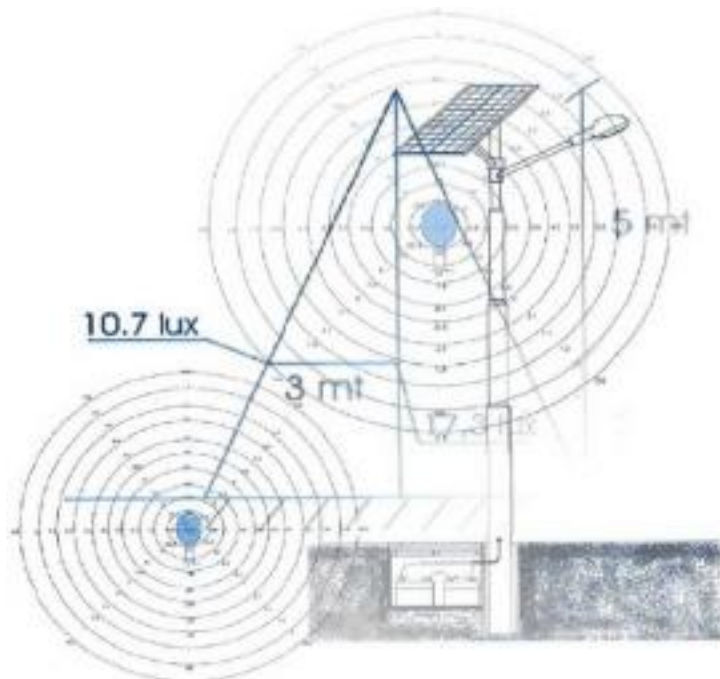
U zavisnosti od tipa izvora i režima rada uštede u potrošnji električne energije dostižu 40%. Pored navedenih prednosti nije zanemarljivo ni smanjenje troškova održavanja regulisanog sistema: životni vek svetlosnih izvora koji rade na sniženom i regulisanom naponu se značajno produžava (do 30%). LUBIO sistem smanjuje uticaj harmonijskog izobličenja koje stvaraju svetiljke.

4. SOLARNA JAVNA RASVETA

Solarna javna rasveta je trajno i isplativo rešenje u mnogim situacijama gde je dovođenje električne mreže preskupo ili je teren takav da ne dozvoljava postavljanje kablova. Osvetljenje saobraćajnica (od auto puteva do lokalnih puteva), parkirališta, autobuskih stajališta, šetališta, parkova i drugih javnih površina predstavljaju neke od mogućih primena solarne javne rasvete.[7] Fotonaponska ulična rasveta je revolucionarni sistem koji se sastoji od fotonaponskih modula koji pretvaraju sunčevu radijaciju u električnu energiju, koja se akumulira u akumulatorima preko dana da bi noću napajala sijalice. Funkcioniše tako da se automatski upali posle zalaska sunca i ugasi u zoru sledećeg dana. Okolina će biti osvetljena sa intenzitetom svetlosti većem od 3700 lumena sa prioritetom u večernjim i jutarnim satima. Ulična rasveta je autonomna, ekološka i nema troškova održavanja osim zamene sijalica kojima je vek trajanja preko 8000 sati rada. Posebna proizvodna tehnika čini je sigurnom od vandalskih činova, pokušaja krađe i atmosferskih prilika kao sto su jaki udari vetra, grad itd. Glavne prednosti solarne javne rasvete:

- nema kopanja i polaganja kablova,
- laka instalacija,

- nema uništavanja životne sredine,
- nema kašnjenja,
- prenosivost,
- nema računa za struju,
- nema potrebe za skupim projektima,
- ekološko rešenje koje smanjuje upotrebu fosilnih goriva⁴⁶.



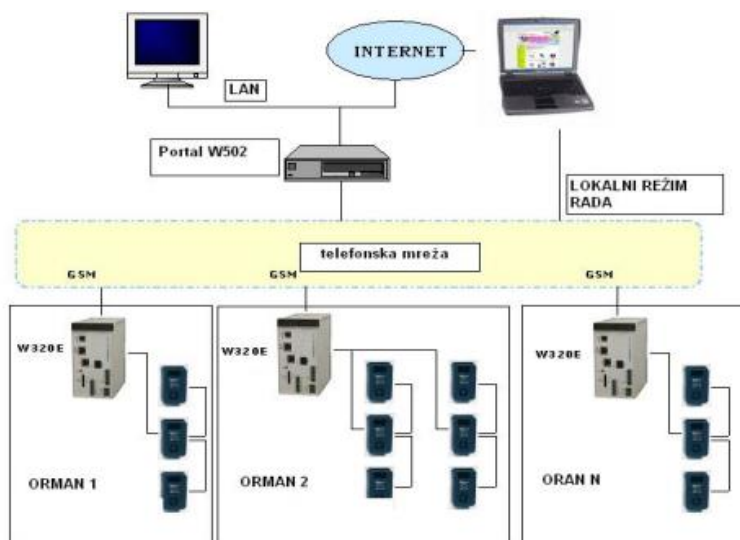
Slika 4. Tehničke informacije solarne javne rasvete

5. UPRAVLJANJE SISTEMOM JAVNE RASVETE

Ugrađena komunikacija (MODBUS RS485) daje mogućnost kreiranja nadzorno-upravljačkog sistema, sa akvizicijom merenih veličina, prikazom statusa, alarma, i brojnim opcijama izveštavanja.[8]

Kao deo rešenja ovaj sistem nudi ROI analizu (proračun perioda otplate investicije) u smeru pronalaženja najboljeg modela finansiranja projekata energetske efikasnosti kroz saradnju sa odgovarajućim fondovima i bankama. Sa 21.000 svetlosnih izvora, javna rasveta grada Amiens u Francuskoj predstavlja, do sada, najveću aplikaciju LUBIO sistema.

⁴⁶ **Fosilna goriva** su goriva koja su nastala od fosilnih ostataka biljaka i životinja. Trenutno su osnovni izvor energije na Zemlji. Energija iz fosilnih goriva obično se oslobađa sagorevanjem, pa se prilikom tog sagorevanja također oslobađaju otrovni gasovi, koji utiču na životnu sredinu.



Slika 5. Sistem javne rasvete, Amiens, Francuska

6. TIPSKA REŠENJA ZA OSVETLJENJE SAOBRAĆAJNICA

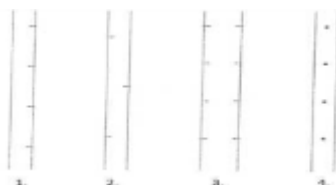
Javna rasveta saobraćajnica ima zadatak da omogući vozaču da jasno vidi, locira i pravovremeno uoči prepreke kako bi pravovremeno reagovao.[9]

Dimenzionisanje uređaja za javnu rasvetu je složen, multidisciplinarni zadatak, te ga tako treba i tretirati. U skladu sa iznetim postavkama, kriterijumima i standardima moguće je sistematizovati tipska rešenja osvetljenja saobraćajnica.

Tipska rešenja javljaju se kao standardi koji su nametnuti praktično. Što znači da se prilikom projektovanja i izgradnje elemenata javne rasvete često susreću slični zadaci, te se određena tipska rešenja javljaju kao standardi. Ovi standardi koriste se pri projektovanju, proračunu i instaliranju sistema javne rasvete, kada su u pitanju saobraćajnice.[1]

Osnovni standardi pri postavljanju javne rasvete, tipska rešenja, odnose se na raspored svetiljki, koji može biti:[6]

- jednostrani,
- dvostrani cik cak,
- dvostrani naspramni,
- aksijalni.



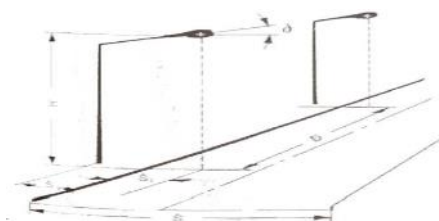
Slika 6. Tipska rešenja za osvetljenje saobraćajnica

6.1. JEDNOSTRANI RASPORED SVETILJKI

Kod jednostranog rasporeda svetiljki, stubovi se nalaze pored iste ivice saobraćajnice. Zahtev koji saobraćajnica treba da ispuni da bi se postavio jednostrani raspored svetiljki je da je širina saobraćajnice manja ili jednaka od visine postavljanja svetiljke.

Ukoliko se radi o ulici sa jednosmernim saobraćajem, svetiljke se postavljaju sa desne ivice saobraćajnice. A ukoliko se radi o ulici u kojoj se saobraćaj odvija u dva smera, potrebno je svetiljke postaviti uz frekventniju ivicu saobraćajnice. Kada se postavljaju svetiljke treba ispoštovati krivine, te svetiljke postaviti pored spoljašnjeg luka krivine.[4]

Nedostatak pri ovakvom rasporedu svetiljki je to što uvek ona druga (neosvetljena) strana saobraćajnice bude slabije osvetljena. To se može rešiti na dva načina, povećanjem prevesa (δ) ili povećanjem nagiba (φ), prikazano na slici 7.



Slika 7. Rešenja za ravnomerniju osvetljenost



Slika 8. Jednostrani raspored svetiljki, Sremski Karlovci

6.2. DVOSTRANI CIK CAK RASPORED

Dvostrani, pomereni ili tkz. cik cak raspored svetiljki, podrazumeva raspored svetiljki u dva paralelna međusobno pomerena niza, od kojih se svaki nalazi sa jedne od ivica kolovoza.

Uslov koji saobraćajnica treba da ispuni da bi se postavio dvostrani, pomereni ili cik cak raspored svetiljki je da je odnos širine saobraćajnice i visine postavljanja svetiljke manji ili jednak 1.5 [1]

Mana ovakvog rasporeda svetiljki je što vozač pri svom kretanju neprestano nailazi na svetlu a zatim na mračnu deonicu puta, što stvara takozvani cik cak efekat kod vozača, po čemu je ovaj raspored i dobio naziv.[2]



Slika 9. Dvostrani cik cak raspored svetiljki

6.3. DVOSTRANI NASPRAMNI RASPORED

Svetiljke se postavljaju jedna naspram druge, sa suprotnih strana saobraćajnice. Uslov koji saobraćajnica treba da ispuni da bi se svetiljke postavile jedna naspram druge je da je odnos širine saobraćajnice i visine postavljanja svetiljke veći od 1.5.[1] Praktično se može reći da je ovo rešenje najidealnije, imajući u vidu da se ovakvim postavljanjem svetiljki dobija odlična ravnomernost sjajnosti.[1]



Slika 10. Dvostrani naspramni raspored svetiljki

6.4. AKSIJALNI RASPORED SVETILJKI

Ovaj raspored se primenjuje, tamo gde su prisutne uske ulice koje su oivičene objektima, pa bi izgradnja stubova predstavljala dodatni problem. Zato se na ovaj način svetiljke postavljaju po podužnoj osi saobraćajnice. Vešaju se na čelične veze, koje se kače na okolnim objektima. Nedostatak ovakvog rasporeda svetiljki jeste to što se pri lošim vremenskim prilikama, a naročito pri udara vetra vidljivost na saobraćajnici znatno smanjuje.[8]



Slika 10. Aksijalni raspored svetiljki

7. ZAKLJUČAK

Pravilno projektovana, izgrađena i instalirana javna rasveta, u urbanim područjima u mnogome doprinosi utisku koje to područje ostavlja, pogotovo u noćnim uslovima, a što je još važnije, predstavlja uslov za bezbedno odvijanje svih vrsta saobraćajnih i drugih kretanja. Uvođenjem savremene tehnologije u rešavanju problema javne rasvete vrlo lako može se uštedeti i do 40% električne energije, a istovremeno s razmernom uštedom električne energije smanjuje se i emitovanje štetnih gasova što je jako važno za zaštitu životne sredine.[2]

Uvesti efikasnu rasvetu znači:

- sniziti troškove električne energije,
- urediti osvetljenost prostora u skladu sa radnim vremenom stanovništva,
- urediti javnu rasvetu u skladu sa najnovijim propisima i standardima,
- uredbom o dozvoljenim vrednostima svetlosnog zagađenja okoline,
- uvesti nadzor i automatizaciju rasvete,
- sniziti troškove održavanja rasvete.

Kao jedna od osnovnih komunalnih delatnosti, treba ispuniti tri najvažnije funkcije, arhitektonsko osvetljenje, ulično osvetljenje i funkcionalo-ambijentalno osvetljenje. Ovo, naravno, nije ni malo lak zadatak, imajući u vidu konfrontacije između ovih oblasti, međutim multidisciplinarni pristup pre svega u angažovanju stručnjaka iz pojedinih oblasti daje ključ za rešenje ove složenice.

REFERENCE

1. M. Maletin, Gradske saobraćajnice, Građevinski fakultet, Beograd, 1996., str. 355-367.
2. V. Zemljič, Tehnički normativi za projektiranje i opremu mestnih prometnih površina, FAGG, LJublana, 1979., str. 20-45.
3. E. Širola, Javna rasveta, Zagreb, 1979., str. 14-201.
4. N. Dobrović, Tehnika urbanizma 2- Saobraćaj, Arhitektonski fakultet, Beograd, 1958., str. 12-16.
5. J. Katanić, V. Anđus, M. Maletin, Projektovanje puteva, Građevinski fakultet, Beograd, 1984., str. 86-98.
6. Zakon o komunalnim delatnostima "Sl. Glasnik RS br 88/2011"
7. CIE, Recommendations for the lighting of roads for motorized traffic, Paris, 1975.
8. J. Antoniou, Environmental management – Planning for traffic, Maidenhead, 1971., page 18-26.
9. K. Dietrich, P. Spacek, Strassenprojektierung, ETH, Zurich, 1978., seite 97-134.

STRATEGIC MANAGEMENT IN LIBYA'S EDUCATION

Entesar Yahya Elmgadmi¹, Nada Živanović², Layth Alhamdani¹

¹Lybia; ²Serbia

Abstract: Strategic Management is identification and description of the strategies that managers can carry to achieve better performance and a competitive advantage for their organization. It can also be defined as a bundle of decisions and acts which a manager undertakes and which decides the result of the firm's performance. Strategic Management is a way in which strategists set the objectives and proceed about attaining them. It deals with making and implementing decisions about future direction of an organization. Mission of research is to determine the advantages and disadvantages of the current situation in the Libyan education and employment system. Also to determine ways of improving these two sectors. The objectives and goals are challenging but achievable. Education system in Libya is good, but not enough to perform many specialized services. There are not enough professional teachers, and this is obviously one of the directions towards improving education and employment. Education has an important role in employment. That education is necessary for creation of new jobs, modernization of work (such as the introduction of information technologies), as well as diversification and expansion of the local economy, and thus job creation, through fostering entrepreneurship and focusing on the generation of small and medium enterprises, and on sectors with yet unexploited potential such as the agro-food sector.

Keywords: Lybia, strategic management, education, employment

1. DEFINING THE IMPORTANCE OF STRATEGIC MANAGEMENT

Strategic Management is a way in which strategists set the objectives and proceed about attaining them. It deals with making and implementing decisions about future direction of an organization. It helps us to identify the direction in which an organization is moving. Strategic management is a continuous process that evaluates and controls the business and the industries in which an organization is involved; evaluates its competitors and sets goals and strategies to meet all existing and potential competitors; and then reevaluates strategies on a regular basis to determine how it has been implemented and whether it was successful or does it needs replacement.

One of the major role of strategic management is to incorporate various functional areas of the organization completely, as well as, to ensure these functional areas harmonize and get together well. Another role of strategic management is to keep a continuous eye on the goals and objectives of the organization. Mission of our research was to determine the advantages and disadvantages of the current situation in the Libyan education and employment system. Also to determine ways of improving these two sectors. The objectives

and goals are challenging but achievable. Current education system in Lybia is good, but not enough to perform many specialized services. There are not enough professional teachers, and this is obviously one of the directions towards improving education and employment. We assume that education has an important role in employment. That education is necessary for creation of new jobs, modernization of work (such as the introduction of information technologies), as well as diversification and expansion of the local economy, and thus job creation, through fostering entrepreneurship and focusing on the generation of small and medium enterprises, and on sectors with yet unexploited potential such as the agro-food sector.

Strategic management is a new scientific discipline, which occurs as a result of need to increase turbulence and complexity of the environment. It implies a continuous process of constant adaptation to a variable environment of enterprise, in which the environment is making a permanent impact on the company and the company itself, too, has some impact on the environment in which it exists and where it is adjusted. The beginnings of strategic management occur by 1950, when the Ford Foundation and the corporate Carnegie financed School of Business. Strategic management is a challenge, because it is much more than simply setting goals and demands for the employees to reach them. The mission and goals are determined in accordance with the external environment, i.e. opportunities and threats, and internal strengths and weaknesses. Goals are what you want to achieve, but it doesn't show the way "how". The answer to this question provides strategy. Strategic management can be defined as the process of directing the activities of the companies which, based on the anticipation of opportunities and threats, on the one hand, and the strengths and weaknesses of the company, on the other hand, identify critical factors for business success, and according to previous procedure set out the strategic vision, mission and chooses development goals and directions, methods and tools in the realization of their optimal dynamic business environment [1].

2. STRATEGIC MANAGEMENT PROCESS & PLANNING

The strategy formulation phase encompasses performing a primary situation analysis, an objective self-evaluation analysis, and a thorough competitor analysis which covers both internal and external. Concurrent with this assessment, organizational objectives are laid out and finalized. These objectives should be parallel to a timeline; some are in the short-term category whereas others fall into the long-term category. This involves crafting vision statements. These objectives should, in the light of the situation analysis, suggest a strategic plan. The plan in turn will provide the details of how to achieve these pre-set objectives. Once a set of strategies has been determined, the subsequent strategy implementation phase kicks off [2].

The top management team of the organization has to assign responsibilities concerned with specific tasks or processes to specific individuals or teams. This particular phase within strategic management also involves the process of managing itself. This aspect includes monitoring results, comparing to benchmarks and optimal practices, evaluating the efficacy and efficiency of the process, controlling of variances, and making proper adjustments

whenever necessary to the process as situations arise. When implementing specific programs, this involves acquiring the requisite resources, developing the process, conducting training regimes, process testing, documentation, and integration with, e.g. and/or conversion from, legacy processes. Thus, it becomes inevitable that problems are bound to occur during this phase of strategy implementation. Contingency plans should be put in place to back up any potential short-coming existing in the main plan [3].

The strategic planning can be complex, challenging, and even messy, but it is always defined by the basic ideas outlined above - and you can always return to these basics for insight into your own strategic planning process. Strategic planning is a management tool. As with any management tool, it is used for one purpose only: to help an organization do a better job - to focus its energy, to ensure that members of the organization are working toward the same goals, to assess and adjust the organization's direction in response to a changing environment. In short, strategic planning is a disciplined effort to produce fundamental decisions and actions that shape and guide what an organization is, what it does, and why it does it, with a focus on the future [4]. Effective strategic planning articulates not only where an organization is going and the actions needed to make progress, but also how it will know if it is successful [5].

3. LIBYA EDUCATION SYSTEM IN NUMBERS

Libya's population includes 1.7 million students, over 270,000 of who study at the tertiary level. The literacy rate is the highest in North Africa; over 82% of the population can read and write [6]. Primary education is both free and compulsory in Libya. Children between the ages of 6 and 15 attend primary school and then attend secondary school for three additional years (15- to 18-year-olds). According to figures reported for the year 2000, approximately 766,807 students attended primary school and had 97,334 teachers; approximately 717,000 students were enrolled in secondary, technical, and vocational schools; and about 287,172 students were enrolled in Libya's universities.

4. LIBYA'S NEED FOR REFORM'

At the September 2012 EAIE Conference in Dublin, ICEF Monitor attended a session entitled "The Arab Spring: implications for educational reform in Egypt and Libya." The session presenters noted that Qadhafi's educational legacy, as it stands today, includes:

- Deep frustrations with the status quo
- A lack of key human and physical resources in the country's higher education institutions
- High unemployment among graduates / some fields have an oversupply of graduates
- Not enough seats for many students
- Uneven access to education

They pointed to these areas of improvement if Libya is to achieve substantive education reform:

- Overall educational system
- Physical infrastructure
- Quality of education
- Teacher training and teacher quality
- Quality control at university level
- Curriculum redesign
- Perception and image – vocational studies are seen as something for the lower class
- Partnerships with private sector as well as institutions abroad

There is much to be done in Libya if it is to rehabilitate its educational system to the point where youth (60% of the country's nearly 6 million-person population – the median age in Libya is 24.5 years) can find meaningful employment (unemployment now stands at a staggering 30%). But there are hopeful signs.

Libya has the highest literacy rate in the Arab world, and the United Nation's Human Development Index, which ranks standard of living, social security, health care and other factors for development, keeps Libya at the top of all African countries. Libya has always been enthusiastic to ensure access to appropriate education for all members of the society, males and females. Government reform plans to improve and develop ICT infrastructure in Libya and it seeks to develop and renovate the entire educational process, including the development of curricula and updating its scientific content; adopting ICT in education including higher education is an essential factor in its overall development plans. Libya wants to play a leading role on the African continent by promoting and sponsoring major initiatives and projects, including those in the neighboring countries of Chad, Niger, and Rwanda. However, the challenges of poor and undeveloped existing infrastructure and a lack of skilled, qualified and ICT-savvy teachers pre-sent a great challenge to the current re-form process [7].

E-Learning is an ideal learning environment using modern means of information technology, through the effective integration of information technology and the curriculum to achieve, a new learning style which can fully reflect the main role of the students to thoroughly reform the traditional teaching structure and the essence of education, to train large numbers of high quality personnel. E-learning has started to emerge in many developing countries where it is likely to have a huge potential for governments in helping to meet an increasing demand for education and address the growing decline of trained teachers Higher education institutions throughout the world are in a period of rapid change, as "Changes occurring in the primary processes of higher education courses and degree granting are closely related to the contextual trends of virtualization, internationalization, lifelong learning and customer orientation that are part of society in general. In this context, traditional universities have no choice but to significantly alter their instructional methods to keep pace with developments spurred by the Internet. Thus, adopting and adapting to "the technology of the 21st century" is unavoidable for everyone in society and in particular in the educational context [8].

5. STRATEGY INVESTMENT IN SCIENCE AND HIGHER EDUCATION

There is motivation on the part of Libyan education leaders to reform the education system as a foundation of a society in which individual citizens are looked after. In the wake of the revolution in 2011, the country's education sector is facing immense challenges, largely as a result of lack of proper planning processes in the past. Libyans are eager to reform their education system. They expect education to play a major role in building A political system and a more equitable society [9].

In a bid to promote human and sustainable development, Libya - the second largest oil producer in Africa - is working to reform its higher education and scientific research systems through a US\$ 9 billion five-year national strategic plan and international cooperation - especially since its positive reengagement with the international community following renunciation of weapons of mass destruction. "The main aim of Libya's higher education strategy is to set up a knowledge-based Libyan society and promote science-based industrial development," Gibril Eljrushi, Dean of the engineering faculty at the 7 October University in Misurata, told University World News.

Among the strategy's numerous projects are the establishment of a National Authority for Scientific Research (NASR) and a Centre for Quality Assurance and Accreditation (CQAA), Eljrushi added. The NASR is intended to create and implement policies related to science, guiding and supporting research and preparing educational programs in specific scientific fields. To help build scientific capacity, the authority analyses the country's needs and advises government on ways to establish and maintain the necessary number of qualified scientists and the facilities needed to conduct research and teaching [10].

The project includes establishment of local area networks in 149 faculties on various university campuses and institutes, and of a wide area network forming the Libyan Higher Education and Research Network. Under the strategic plan, the number of students sent abroad for postgraduate studies will be increased in a bid to prepare the scientific workforce needed for development. Last month, Libya hosted French and British displays on higher education aimed at familiarizing students and teachers with opportunities to and requirements for attending French and British universities in their specialized fields [11].

6. FIGHT AGAINST UNEMPLOYMENT

"There is no justification for saying that we cannot plan since we are in a transitional period, because planning is the shortest way to reaching our goal. That is why we are focusing now on engraining the concept of planning in state institutions, away from the reactionary policies and the random initiatives that previously prevailed. This applies to our approach to finding solutions to existing problems such as how to provide medical treatment to injured people in foreign countries, which was aggravated by the lack of planning," as put by Al-Tuwayjr (minister of planning) [12].

Employing Libyans is also in the interest of a foreign company because it is less costly than bringing in foreign labor. At the same time, if a foreign investor has an economic activity or a project that needs to be done quickly and requires bringing in labor from abroad with

competencies or specializations that are not available in Libya, [the investor] will be given the necessary licenses to start with his project, based on our new policy toward the foreign investor or contractor, who we see as a partner in development. We have allowed foreign investors to enter our country to contribute in its reconstruction and development.

7. CONCLUSIONS AND RECOMMENDATIONS

Over the last few years, Libya has made a deliberate choice to develop its prosperity by reintegrating with the international community, while preserving its unique identity. This choice requires deep reflection and analysis of national priorities so that Libya can leverage its opportunities to generate and spread prosperity among all Libya. Characteristic of Middle Eastern states, Libya is no exception as an oil rich state. It is a member of OPEC and holds the largest proven oil reserves in Africa. The Libyan economy is centrally planned, and is dependent on revenues from the petroleum sector, which account for approximately 95% of export earnings, 25% of GDP, and 60% of public sector wages [13]. Despite favorable growth rates due to its primary commodity sector, it has been proven to be unsustainable as the country has reluctantly faced the consequences of economic recessions (falling oil prices) and international sanctions (export decline). To exacerbate potential economic instability, despite the government's recent market orient reforms to diversify sectors and privatize some government owned companies, the state's centrally planned tradition has resulted in three quarters of the workforce employed in the public sector, whereas a meager 2% investment in the private sector emphasizes the imbalance. The problem of unemployment would be exacerbated from this unsustainable economic system, which would be one of the underlying motivations for the Arab Spring to take root in Libya.

Education is the core of human capital formation and central to development of society, and that should be in Libya also. It is widely accepted that investment in education and quality research at various national institutions are vital in achieving higher economic growth. Quality education generates benefits to the society that go beyond the gains secured by the individuals involved. There is overwhelming evidence that education improves personal health, encourages stronger national identity and promotes peace and stability. The development literature has also drawn attention to the role of education in reducing inequalities that exist in many countries, particularly in developing societies with lower levels of income. The high correlation between the level of education and income or wealth is considered from the equity perspective as a justification for public intervention when the conventional market mechanisms do not function efficiently to ensure equality. Therefore, public intervention in the education sector, particularly in primary education, is universally acknowledged today.

The benefits from investing in human capital are not necessarily linked with attaining higher enrolment ratios, since poor quality may decrease returns of education and lead to high dropout rates. With a comprehensive approach to education, it is important that the education policy should provide people with learning opportunities that will assist them in developing skills to embark on new undertakings. To improve the teaching and learning processes in Libya, we need to make changes in the education market, and satisfy the needs of learners and the community. Higher educational institutions in Libya have no option but to move with the

times and adopt e-learning. Successful initiatives and experiences in neighboring countries can serve as a powerful example for Libyan institutions that may follow their strategies to fulfill the potential of ICT for teaching and learning and to achieve rapid technological development. The integration of e-learning in the education system is likely to gather speed thanks to recent decisions and commitment of the Libyan government. Access to ICT facilities is likely to be improved in the very near future in all Libyan institutions thanks to major infrastructure projects that are currently in progress. However, there is a need for provision of appropriate training at different levels, the development of expertise in e-learning use, and research to gather data and inform future developments; these are important factors that require substantial attention and great effort from the Libyan government to ensure the development of adequate awareness, attitude, and motivation towards e-learning as well as suitable responses. The main remedy for unemployment is ending "uncertainty" for private business. The changes on the budget, tax reform, immigration reform, and the environment may be an ending that uncertainty. Government can not actually create jobs, but instead that it can foster certainty in private business, which in turn creates jobs. The Libyan government must to be responsive and efficient in facilitating enterprise, fighting corruption on behalf of the people and driving out bureaucracy.

REFERENCES

1. Wahidabi Sulaiman, The basics of strategic management, Helium, 2010
2. Strategic Management Process. StudyMode.com, from <http://www.studymode.com/essays/Strategic-Management-Process-1137003.htm>
3. McKeown, Max, The Strategy Book, FT Prentice Hall, 2012
4. Bradford and Duncan, Simplified Strategic Planning, Chandler House, 2000
5. Education of Libya", Federal Research Division of the Library of Congress
6. Hamdy, A., ICT in education in Libya. Libya Country Report., 2007
7. Ali, A., Instructional design and online instruction: Practices and perception. TechTrends, 2003
8. Collis, B. A., & Moonen, J., An on-going journey: Technology as a learning workbench. Public address, University of Twente, Enschede, The Netherlands., 2005
9. <http://www.unesco.org>
10. Wagdy Sawahe, LIBYA: New era of higher education reform, 2009
11. El-Hawat, Ali , "Country Higher Education Profiles - Libya", International Network for Higher Education in Africa, 2013
12. Marwan al-Nimr, A New Vision for the Libyan Economy, Pan Arab, 2012
13. "Libya", International Monetary Fund. Retrieved 17 April 2012

COMPREHENSIVE ASSESSMENT OF MERGER & ACQUISITION (M&A) EFFECTIVENESS

Natalia Nesterenko, Alexander Kolyshkin

Saint-Petersburg State University, Russia

Abstract: There is currently no comprehensive approach for assessing M&A transaction effectiveness, apart from:

1. Stock profitability, during and post-transaction
2. Financial statement analysis, before and after integration
3. Surveys of managers responsible for transaction results
4. Case studies of factors affecting integration effectiveness

These are limited; (1) and (2): only apply to publicly traded companies, (3) and (4): subjective; none address transactional costs or timing. Integration effect is synergistic; evaluation depends on deal type. Creation of innovations is a common strategic synergistic effect. Integration effectiveness should be analyzed from multiple points of view:

- 1) Results or the level to which the established (or declared) goals have been met;
- 2) Innovational results or the level to which an innovative “good” has been created;
- 3) Effectiveness, narrow (stakeholder outcomes)
- 4) Effectiveness, broad (effects on overall economy)

The report analyzes the following key items:

- * Synergistic effect of mergers and acquisitions
- * Integration results as representation of set goal achievement
- * Relationship between short- and long-term M&A deal effectiveness

Keywords: Merger & acquisition effectiveness, integration effectiveness

1. INTRODUCTION

The processes of the business consolidation have become quite common. The goals of such deals at the time of the announcement, in most cases, are associated with the growth of business efficiency and some form of the synergistic effect. However, despite the optimistic plans, only a small part of M&A deals (according to various estimates are not more than a quarter) is successful. However, in recent years the number of mergers and acquisitions in the world constantly grows. [4]

During the periods of the financial crisis the decision on mergers and acquisitions requires the most careful analysis. Evaluation of the possible effects of such deals has received considerable attention from both consultants and the scientific community.

The article aims to systematize approaches to evaluating the effectiveness of mergers and acquisitions. The authors propose the algorithm of estimation of the effectiveness of M&A deal based on time horizons and functional areas of analysis.

2. APPROACHES TO THE EVALUATION OF THE SYNERGISTIC EFFECT OF THE MERGERS AND ACQUISITIONS

By the evaluation the effect of the integration processes concept of synergy is used most commonly. Traditionally the synergistic effect is divided into the following: the effect of revenue growth and the effect of cost reduction. P. Gohan [2, p. 153] adds the financial synergistic effect i.e. reducing the cost of capital.

The plenty researches are devoted to the problem of estimating the value of M&A synergistic effect. The common tools to the evaluating the synergistic effect are cost, income and comparative. [3]

The cost approach is based on determining the increasing value of the firm's assets as a result of deal [3, p. 51]. In other words, the value of synergistic effect is equal to capital gains due to the book value of the company goals. The problems of this approach lie in the fact that the increase in the property complex occurs mechanically by consolidating balance sheets of the two companies, and in this case the union of assets does not result in a synergistic effect.

Developing cost approach, A.E. Ivanov [1] proposes to evaluate the synergistic effect as the excess of the cost of the deal above the value of the assets of the target company. The difference between the cost of the deal and the value of the assets of the target company recognizes as goodwill. Ivanov writes that the buyer considers the value of goodwill as a result of synergies. However, it is obvious that this approach enables to evaluate the planning, but not the actual effect.

The income approach considers that the synergistic effect is displayed in the increase of the discounted cash flow as a result of the deal due to revenue growth, cost savings, investments, etc. At the first stage the value of the company is determined on planned cash flow before the consolidation, the second - the value of the merged company is calculated with a planned cash flows after the reorganization, the third - the consolidated value added is calculated as a difference between the value of consolidated company and the values of the firm before the merger. [3, p. 51]. However, it is quite difficult to identify whether the difference is result of the synergistic effect or just growth of market.

A comparative approach presumes the evaluation the difference between the share price of the consolidated company and the share price of the etalon firm. The problems in this approach lay in the choice difficulty of the object for comparing. Also it is difficult to understand whether the increasing of share price is the result of the deal or the growth of the market.

In practice, the value of synergistic effect is rarely measured. The focus is being made on its components. Thus, among the forms of synergistic effects, the most characteristic for the Russian market, are the following: [3, p. 219].

- Savings on the flexibility of product distribution is achieved in 80% of all mergers and acquisitions;
- Expanding the range of services provided (range of products) occurs in 40% of cases;
- Growth of market share and net revenue - 40%;
- Financial synergies and increase the investment attractiveness of the new structure - 30%;
- Expand the raw material base - 30%;
- Bypassing quotas and scale and access to the world market - 30%;
- Improving the efficiency of working with suppliers (reduction of the purchase price, to ensure regular supplies) - 30%.

3. EFFICIENCY INDICATORS M&A

Many researchers deal with the determination of indicators expressing the effect of mergers and acquisitions. On the basis of mergers in Europe, the United States, Asian countries mathematical models are set that reveal both resulting indicators and the factors influencing them.

For example, G. Tichy [12] systematized a large amount of European and American studies on this subject, and has formulated ten conclusions. Regarding the issues the most important are:

1. Business efficiency doesn't increase automatically as a result of mergers and acquisitions deals. According to various studies, only 40% of such deals leads to an profit increase and costs reduction.
2. There is no «typical» deal. The entire amount of M&A deals should be differentiated according to different classifications. The various studies identified the following conditions under which the purpose of the deal, as a rule, becomes more accessible:
 - horizontal integration deals are more efficient as a result of the growing market influence and prices;
 - financing the deals with cash reduces financial risks and the cost of capital, which has a positive effect on the efficiency of the integration;
 - strategic merger, *ceteris paribus*, is more effective due to the implementation of synergies in the integration process;

- "Glamorous company buyers" [9], whose market value is mostly generated by image than real assets, have lower efficiency of integration than actually evaluated firm.
3. The stock markets, as well as managers of the company-buyer, tend to overestimate the effectiveness of the future deal. This super-optimistic view also belongs to independent analysts.

G. Tichy's conclusions support the opinion that the deal initiator's super-optimistic view might be related not only on the personal ambitions [5], but also a broader understanding of the success of the deal. Therefore, performance of the deal should be considered in the broader context than simply the ratio of increase of profit to the cost of integration.

Basing on the analysis of empirical data on mergers and acquisitions M. Zollo and D. Meier [13] contributed two contexts efficiency analysis: depending on the subject and horizon. According to the first approach they release efficiency of deal at the level of integration tasks, the level of deal and the level of the firm. Temporal context analysis involves the study of long term (five years), medium-term (one year) and short-term (up to and after the announcement of the transaction) efficiency.

R. Larsson and S. Finkelstein [10] produced an approach to evaluating the effectiveness of mergers and acquisitions at the level of problem solving. The approach suggests that different problems of integrating the companies (the alignment of management systems, integration of information systems, and exchange of experience in sales and so on.) are solved with a deal.

In this context, efficiency of integration is a degree, in which the desired level of integration between the two companies is achieved.

At the level of deal the efficiency of the integration is expressed in the value created as a result of mergers. The degree of deal's efficiency can be defined as the value generated in the process of merging and associated as a result of reduction in costs and an increase in income.

Performance evaluation at the firm level is defined as the change in the efficiency of the company during the period of execution of the business plan associated with the merger. The efficacy of this level is considered wider than the two previous and includes the effects of merger affecting other business processes within the company during the integration process.

The time horizon of the analysis of efficiency can be short, medium and long-term. Short-term effectiveness of the deal is evaluated by comparing the share price of the company-buyer and the target company before and after the appearance of the announcement of the deal. This approach assumes that the market is efficient, and therefore changes in prices of shares of the company-buyer and company-goal show the magnitude of the expected economic impact of consolidation. The numerous tells that the announce of the deal, as a rule, has a positive impact on the dynamics of share price of the goal-company. Within a short period of announcement of the deal (several weeks), the share price of the target company is growing, and shareholders earn extra income.

The mid-term evaluation of the effectiveness concerns the procedure a business combination in the period up to two years after the deal. In this period company stock market

indicators before and after the deal are compared. G. Tichy offers to compare the financial performance of the combined company with the effectiveness of such firms or industry average efficiency [12]. At the same time A. Das and S. Kapil [8] determine some restrictions for the analysis of financial performance in the medium term. Firstly, the "analysis before and after" may be complicated by the fact that if the company-goal rather small compared with the buyer, the average efficiency of the combined firm cannot practically differ on the effectiveness of the buyer before the integration. Secondly, for the comparative analysis of the effectiveness of integrating the object of comparison might not be found due to the uniqueness of the deal.

Long-term effectiveness is studied in the period up to five years after the deal and assesses the results of the integration at the level of the whole company. One of the most important indicators of the efficiency of mergers and acquisitions is the quality and quantity of innovations resulting from the transaction.

In the long time period it is proposed to evaluate the financial performance as a kind of objective and accessible to the outside characteristics. It is necessary to take into account a number of limitations in their use.

M. Build [6] considers that financial ratios do not measure actual value created. This is due to the fact that these figures do not directly indicate whether the investment brings positive NPV. Another important limitation of the using financial indicators is that they characterize the performance of the company in the past and are based on published and audited data. These data are not good in predicting the future. This is most evident in a changing environment.

Indicators of financial markets display changes in the share price in the short and long term. The change shows only the market reaction to the information. The dynamics of the market value of the shares expresses the influence of various long-term and short-term factors, among which it is quite difficult to identify the impact of the effectiveness of the company as a result of M&A. However, empirical research by Richard P. [11] shows the link between indicators of the financial market and the actual results of the company. The strength of this relationship depends on the ownership structure and the informational efficiency of the market.

A. Das and S. Kapil [8] provide a number of performance measures of mergers and acquisitions, among which are financial indicators, stock market performance and other objective and subjective indicators. The indicators that can be proved by documents and records belong to the group of the objective ones.

Subjective indicators are derived from a survey of employees of the consolidated companies and analysts with respect to various aspects of the effectiveness of M&A. Similar subjective indicators significantly supplement figures of the effectiveness of the merger, since financial and stock performance are only a reflection of the real state of the united corporation and respond to a variety of information noises.

The most significant performance indicators M & A are presented in Table. 1.

Table 1. Performance indicators M & A

Objective measures			Subjective measures
stock indices	financial performance	other	
<ul style="list-style-type: none"> • extra income shares in the long term after the deal compared with a sample company (buy - and - hold abnormal return); • the amount of excess revenues in the short term compared with the model (cumulative abnormal return); • the amount of the annual dividend per share; 	<ul style="list-style-type: none"> • Trend of assets; • trend of net profit; • asset turnover; • return on sales; • return on equity; • ROI. 	<ul style="list-style-type: none"> • value of the deal; • market share; • the share of exports in revenue; • increase in the number of employees; • the number of patents registered in the 4 years after the deal; • the share of expenditure on research and development in revenue; • CAPM; • Tobin's ratio; 	<ul style="list-style-type: none"> • survey of managers about the expectations of the deal; • modeled long-term effectiveness of the corporation as a result of the deal; • assessment of the types and trends of innovation after the deal; • Evaluating the effectiveness of the merger on the basis of surveys of analysts using Likert scale.

4. ALGORITHM ASSESSMENT OF MERGERS AND ACQUISITIONS

Mergers and acquisitions can be considered as a special case of investment projects related to the extensive expansion of the business. However, these deals have their own specific features.

Firstly, it purchased, usually operating business (or part thereof), which means the ability to generate income without the direct involvement of the new owner. Often, a change of ownership does not lead to any significant changes in business processes. On the other hand, the ability to realize the expected synergistic effect and recover the cost of the deal requires carrying out big integration process that cost a large amount of money that can be hardly predicted.

Second, the cost of the deal includes not only the value of the assets and the value of goodwill, but value of the expected synergies from the merger. Actually in order to obtain access to intangible assets are often carried out such deals.

Third, the uniqueness of the deal leads to the fact that it can only be considered an alternative to a situation of "no action", whereas in the case of evaluation of an investment project can be an alternative to other investment opportunities.

Fourthly, as a result of the deal the buyer obtains complete control over the object of the deal. Hence there are limitations in making decisions regarding options for the development of the acquired business.

The proposed by the authors algorithm of evaluating the effectiveness of mergers and acquisitions is carried out in three phases and includes two aspects: temporal and functional. The temporal aspect means that at different stages of the integration (since the announcement of the deal and up to the period of five years after integration) the tasks of the evaluation of the effectiveness vary. This is due to the various problems that arise at each stage of the integration.

Developing the conclusion made by A. Zollo and D. Meyer [14] about the separation of levels of analysis on the level of effectiveness of the merger integration tasks and the level of the firm, we specify individual targets and indicators for their implementation. In our view, the implementation of the efficiency of mergers and acquisitions at the level of problems depends on the type of the deal. There is no average or typical deal. There are certain specific tasks depending on the type of integration. One distinguishes horizontal, vertical, conglomerate (diversification) mergers and acquisitions.

It is obvious that all types of integrations are characterized by the benefits associated with increased financial stability, optimizing the capital structure, the introduction of a single management style and corporate culture. At the same time each type of integration has its own features.

The purpose of *horizontal integration* is to gain access to the experience of the target company, the expansion of market share, combining joint efforts in the development of new products, increase profits by reducing costs and increasing revenues. The goals of such integration in medium period are reductions of overlapping functions, optimization of assortment policy, combining marketing activities, retention of key employees, retain business partners, increasing financial stability through redeployment of resources, optimization of capital structure. In the long term, we put technology transfer, joint development of innovation, consumer retention to the tasks of horizontal integration.

The main purpose of *vertical integration* is to minimize risks by taking control of the entire process chain, reduce logistics costs, improve the quality of the finished product, conducting innovative activity in the whole process of creating the finished product. In the medium term, the problems of vertical integration include reduced logistics costs and risks, the retention of key employees, optimization of service units, increasing financial stability through redeployment of resources, optimization of capital structure. The long-term problem of vertical integration is to improve the quality of the finished product by controlling the raw materials and components, the development of innovation.

The purpose of conglomerate *integration* is business diversification in order to minimize risk. Medium-term goals of such deals are increasing financial stability through the

reallocation of resources and optimization of the capital structure. The long-term goals are to ensure strategic stability of the combined business. Although many authors have noted the small effectiveness of such deals leading in a future to expulsion non-core assets, there are several examples of relatively successful strategy of diversification (eg., General Electric, which through a series of acquisitions and liquidations became a diversified conglomerate with a sphere of activity in the insurance business, broadcasting, plastics, medical equipment and so on. [2]).

System performance integration tasks (performance) are presented in Table. 2.

Table 2. The targets and indicators for various types of mergers and acquisitions

		The medium-term horizon of the analysis	The long-term horizon of the analysis
		indicators	indicators
Type of Integration	Horizontal	<ul style="list-style-type: none"> • staffing units trend, • Product range trend, • marketing costs trend, • the level and structure of turnover, • cost of capital trend, • the total amount of capital employed and its structure, 	<ul style="list-style-type: none"> • the number of patents registered after the deal, • the number of new products brought to the market after the merger, • market share trend,
	Vertical	<ul style="list-style-type: none"> • the value of transport costs, • logistics costs, • the level and structure of the staff turnover. • the cost of capital tend, • the total amount of capital employed and its structure, 	<ul style="list-style-type: none"> • the number of rejected products and other indicators of quality of finished goods, • the number of patents registered after the deal, • the number of new products brought to the market after the merger, • market share trend,
	Conglomerate	<ul style="list-style-type: none"> • the cost of capital tend, • the total amount of capital employed and its structure. 	<ul style="list-style-type: none"> • Profit trend.

Algorithm for evaluating the effectiveness of mergers and acquisitions, proposed by the authors, includes three stages: evaluation of the indicators at the time the deal was announced, further in the medium term up to two years stock indicators are evaluated as well as indicators of medium-term tasks of integration. In long-term analysis stock indicators are evaluated as well as indicators long-term goals of integration and the implementation of

performance indicators of business in general. Thus, at each stage the scope of analysis is expanding. Then, let us give a closer look at the implementation of each phase.

In *the first stage*, the perception of the deal by the stock market is evaluated. In the period before the announcement of the deal and after it (about two to three weeks) the trend of the share price is estimated. Such estimation might not be evidence the effectiveness of the deal; however, by presuming existing of an efficient securities market, a positive reaction of the market shows that there is basis to predict positive effects of integration.

In *the second stage* the analysis of the effectiveness and efficiency of M&A deal is divided into two functional aspects. Firstly, it is analyzed the trend of the share price of the merged company in the medium term. A second aspect of the analysis is achievement of the integration goals. In the period up to two years, the company implementing the strategy of the business integration gets some objective and subjective (for internal analysis) results.

In the medium term, the integration process is accompanied by the additional cost of implementing integration processes: integration of management systems, optimization of organizational structure, harmonization of corporate cultures, and so forth. In this regard, the financial performance of the combined firm could not show a positive trend. Therefore, in the medium term financial ratios for evaluation of the effectiveness of the merger are not used.

The third step in the analysis of the effectiveness of M&A deal is a long-term analysis of the impact and effectiveness in the period from two to five years. The analysis comprises three components: the stock market analysis, analysis of problems of integration and analysis of the effectiveness of the company as a whole. The different aspects of the analysis allow considering all sorts of effects.

Analysis of the trend of the stock price in the long term under the influence of the events of the deal is usually held by the index BHAR (buy-and-hold abnormal returns). The estimation of the implementation of integration tasks performed in accordance with the degree of implementation of the strategic plan. In the long term the task of the integration comprises the retention of customers and conducting joint research and development. Innovative tasks of mergers and acquisitions include technology transfer and joint development of innovation. A significant part of the integration aims precisely at the implementation of joint innovation capacity. The number of registered patents and quality of innovation are the most important indicators of the long-term effectiveness of mergers and acquisitions.

Analysis of the effectiveness of the deal in the long run is complemented by performance evaluation at the firm level. The merger is considered effective if during the period from two to five years the consolidated business is developing successfully. Some authors propose to compare the actual performance with the simulated trend that means calculated economic condition of the company, customer and company goals in a real environment, but without the implementation of the merger.

In our view, as an indicator of the effect on the level of the firm should use one of the value added ratio, and in particular, the economic value added (EVA®). Use of this indicator is expected justified because on the one hand it reflects profit growth, and on the other - changing the structure of the capital.

Finally, analysis of the effectiveness of the deal for the whole economy involves the measurement of the trend of taxes paid, number of employees and development of new products and services.

As a result of the above-described multilevel analysis there is an opportunity to identify better the successful deals. This analysis is retrospective mostly, that is based on a fait accompli and indicators of published accounts.

5. CONCLUSION

In this article, the approaches and indicators for evaluating the effectiveness of mergers and acquisitions are systemized. The analysis concluded that the term “efficiency” in relation to the integration process should not be used in the classic sense of the ratio of benefits to cost. Ambiguity of the period of analysis, as well as the specifics of the calculation of the cost of the deal and integration, in our opinion, make the use of the cost-based efficiency incorrect. The effectiveness of the merger should be defined in terms of efficiency and productivity. That is, it makes sense to evaluate the degree of achievement goals and trend of the economic ratios.

The analysis of the deal in the short, medium and long term reveals at what point it becomes a failed deal. Whether it is connected with the original wrong decision of choosing the object of the merger, or the problem lies in the field of the effective implementation of the integration process.

REFERENCES

1. Ivanov A.E. Synergistic optimism for what and how much overpaid buyers in major transactions involving the integration of Russian companies (in Russian). *Economy analysis: Theory and Practic.* 2014. №24 (375). P. 31-39
2. Gohan P.A. *Mergers, acquisitions and restructuring of companies* Moscow: Alpina Business Books, 2007. – 741 pp.
3. Chernova E.G., Pakhomova N.V. *Russian market of mergers and acquisitions: directions and perspectives of development* (in Russian) Saint-Petersburg: SPSU publ. 2011. 256 pp.
4. <http://www.kpmg.com/ru/ru/issuesandinsights/articlespublications/pages/ma-predictor-jan-2014.aspx>
5. Beitel, P., Schiereck, D., Wahrenburg, M. Explaining M&A Success in European Banks. *European Financial Management*, Vol. 10, No. 1, 2004, 109-139
6. Bild, M., Guest, P., Cosh, A. and Runsten (2002), “Do takeovers create value? A residual income approach on UK data”, Working Paper № 252, ESRC Center for Business Research, University of Cambridge, Cambridge.

7. Conn, R.L., Cosh, A.D., Guest, P.M., and Hughes, A., The long-run share performance of U.K. firms engaging in cross-border acquisitions, Centre for Business Research Working Paper No.214, Cambridge University, 2001
8. Das, A., Kapil, S., Explaining M&A performance: a review of empirical research, *Journal of Strategy and Management*, Vol. 5 Iss 3 pp. 284-330
9. Kohers, N.; Kohers, G.; Kohers, T. Glamour, value and the form of takeover. *Journal of Economics and Business* 59 (2007) 74-87
10. Larsson, R., Finkelstein, S. Integrating Strategic, organizational, and human resource perspectives on mergers and acquisitions: A case survey of synergy realization. *Organization Science*, 10(1), 1-26, 1999
11. Richard, P.J., Devinney T.M., Yip, G.S. and Johnson G. (2009), "Measuring organizational performance as a dependent variable: towards methodological best practice", *Journal of Management*, Vol. 35№3, pp.718-804
12. Tichy, G. What We Do Know about Success and Failure of Mergers? *Journal of Industry, Competition and Trade*, 1:4, 347-394, 2001
13. Zollo, M.; Meier, D. What is M&A Performance? *Academy of Management Perspectives*. Aug 2008, Vol. 22 Issue 3, p55-77

MULTI-CRITERIA ANALYSIS OF PROBLEMS OF IMPLEMENTATION OF PROJECT PORTFOLIO MANAGEMENT

Dejan Bogdanović, Ivan Jovanovic, Nenad Milijic

Univerzitet u Beogradu - Tehnicki Fakultet Bor, Serbia

Abstract: The problems of implementation the Portfolio Project Management (PPM) are a reality in highly developed market in the west. In our country, this concept has not been satisfactory applied in most companies, and it is not sufficiently developed. On the other hand, companies that have applied this concept realized the many benefits and a competitive advantage in the market. However, all of these companies have faced many problems during the implementation of the concept of PPM. Accordingly, this paper analyzes the most common problems that companies were encountered and defines the appropriate criteria for their ranking. The multicriteria analysis - AHP method is used for the ranking of problems of implementation the concept of PPM. The obtained result identifies the most serious problems that occur during the implementation of the concept of PPM, with the aim to help our companies which carry out this process in order to be better prepared to solve them and to be effectively able to apply this concept that can significantly improve their functioning.

Keywords: Portfolio Project Management, AHP, Problems of Implementation of PPM

1. UVOD

PPM koncept je metodologija koja služi za određivanje prioriteta, za analizu i upravljanje izabranim projektima u okviru kompanije kako bi ona mogla na taj način da ostvari svoje strateške ciljeve. Drugim rečima, glavni cilj koncepta PPM je usaglašavanje projekata sa strategijom i resursima organizacije. Koncept PPM-a obuhvata identifikovanje najboljih projekata, određivanje njihovih prioriteta i to na osnovu ograničenih troškova, korišćenja resursa i vremena radi postizanja profita i drugih poslovnih ciljeva kompanije. To znači da PPM nije samo upravljanje većim brojem projekata, već on obuhvata i pravilnu selekciju projekata, formiranje optimalnog portfolia onda i upravljanje portfolijom projekata.

PPM koncept je značajan faktor integrisanja projekata sa ostalim aktivnostima organizacije. Nepostojanje veze između projekata i strategije organizaciju stavlja pred dva različita i vrlo teška problema:

- Resursi se troše na realizaciju i onih projekata koji nisu smeli biti selektovani.
- Realizuju se i dalje i oni projekti koji više ne služe opštem interesu.

PPM menja kompaniju i te promene počinju promenom organizacione kulture i prihvatanjem PPM kulture kao prirodno okruženje svih aktivnosti u organizaciji [1]. Sledeće promene koje ovaj koncept podrazumeva su promene u komunikaciji i načinu odlučivanja.

Izbor najboljih projekata portfolija se bira na bazi seta kriterijuma za vrednovanje projekata. Definisanje kriterijuma je najbolje izvršiti na nivou cele kompanije [2].

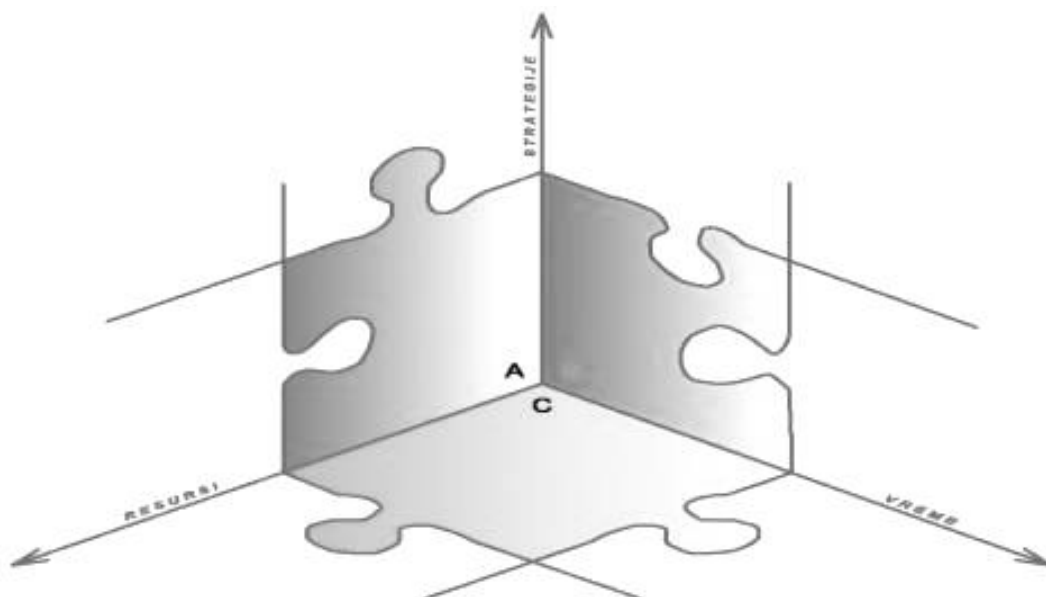
Koncept PPM zahteva dobru informacionu bazu. Samo na osnovu pravih i blagovremenih informacija o projektima sa jedne strane i strategije kompanije sa druge strane ovaj koncept može uspešno ostvariti svoje glavne zadatke, a to su:

- Prioritetizacija i selekcija projekata na bazi evaluacije po različitim kriterijumima,
- Monitoring aktivnih projekata u smislu ostvarenja ciljeva i ispunjavanja kriterijuma, i
- Podešavanje portfolia u pravcu maksimiranja sveukupnog povraćaja.

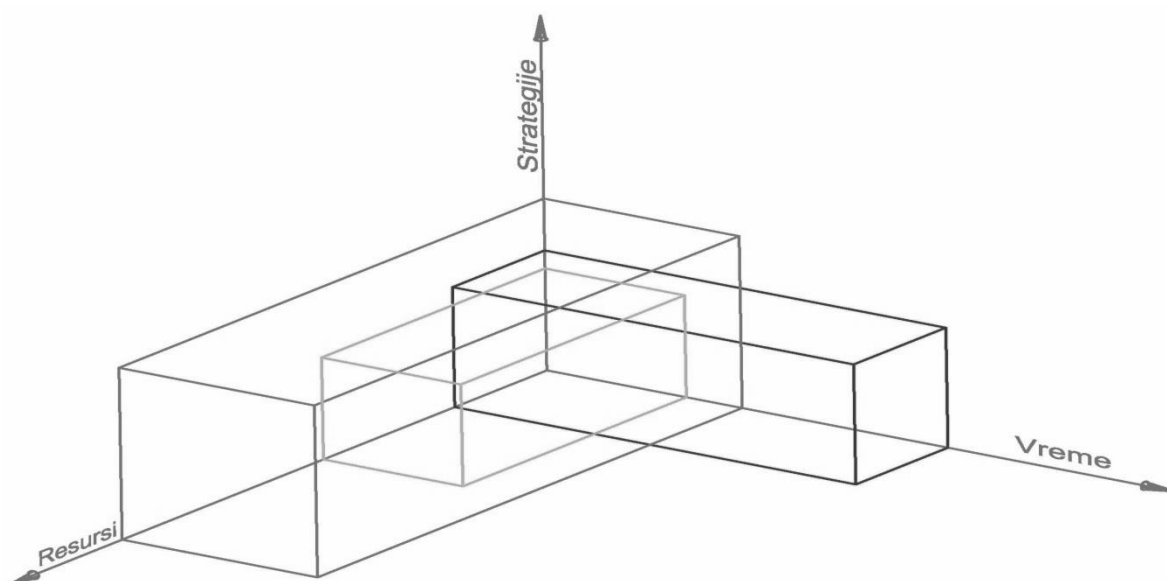
Sve navedeno ukazuje da je uvođenje i primena koncepta PPM-a jedan vrlo kompleksan proces koji kompanije moraju stalno izvršavati [3]. Zbog toga se tu stalno javljaju određeni problemi koji moraju biti rešavani kako bi kompanije mogle uspešno da funkcionišu. Ovi problemi su najteži na početku uvođenja ovog koncepta, a kada kompanije dostignu optimalni nivo razvoja i primene ovog koncepta, onda su problemi manji, predvidljivi i kompanije ih rešavaju u hodu. Iz tog razloga, u ovom radu se najveća pažnja posvećuje problemima koji se najčešće javljaju u fazi uvođenja koncepta PPM-a, što je vrlo važno za kompanije u našoj zemlji, jer najveći broj njih čeka primena ovog koncepta koji može da im pomogne da se promene na odgovarajući način kako bi opstale na tržištu.

2. PROBLEMI UVOĐENJA PPM KONCEPTA

Uvođenje i primena PPM koncepta nužno podrazumeva postojanja niza problema. Ako se ovaj koncept upoređuje sa svojevrsnom složenom slagalicom, onda se najznačajniji problemi ovakve PPM slagalice odnose na višedimenzionalno uklapanje projekata u zadate okvire organizacije. Ti okviri bi se pojednostavljeno mogli prikazati kao tri dimenzije jednog koordinatnog sistema u kome bi se projekti u idealnom slučaju složili na način prikazan na Slici 1. i Slici 2. [4].



Slika 1. PPM slagalica 1 [3]



Slika 2. PPM slagalica 2

Međutim, prikazano idealno stanje nije moguće postići u praksi ni u jednoj kompaniji ni u kom stvarnom okruženju. Ali svakako treba težiti tom idealnom stanju kroz suočavanje sa problemima i kroz njihovo rešavanje.

Problemi PPM koncepta i njegovog uvođenja su često razmatrani u teoriji, ali i u praksi. Naime, mnogi autori i institucije su vršili razna istraživanja na tu temu u praksi. Jedno od najkompletnijih istraživanja je obavila grupa finških autora [5]. Oni ukazuju na šest oblasti

multiprojektnog okruženja u kojima se najčešće javljaju problemi upravljanja portfoliom – Tabela 1. Te oblasti su: aktivnosti na nivou projekta; aktivnosti na nivou portfolija; upravljanje projektnim okruženjem; upravljanje informacijama; obaveze, uloge i odgovornosti; i resursi kompetencije i metode.

Tabela 1. Rezime problema u upravljanju multiprojektnim okruženjem

<p>Aktivnosti na nivou projekta</p> <ul style="list-style-type: none"> • Nepravilna implementacija projektnih faza • Nedovoljno čest monitoring napredovanja i statusa projekta • Suviše dugi projekti 	<p>Aktivnosti na nivou portfolija</p> <ul style="list-style-type: none"> • Preklapanje projekata • Neintegrisanost projekata • Odlučivanje bez razmatranja prioriteta • Nejasna uloga portfolio menadžera • Nema feedbacka sa projektnog nivoa • Projekti se ne prekidaju i kada je evidentno da više nisu od koristi za organizaciju
<p>Upravljanje projektnim okruženjem</p> <ul style="list-style-type: none"> • Projektima se daje drugorazredni značaj • Nedefinisana strategija za portfolio • Česte promene uloga i odgovornosti • Veliki broj nadležnosti za postavku projekta • Pojedinačni ciljevi delova organizacije su iznad ukupnih ciljeva organizacije kao celine 	<p>Upravljanje informacijama</p> <ul style="list-style-type: none"> • Nedostatak informacija na projektu • Slab protok informacija kroz organizaciju • Nedefinisane tokovi informacija na relaciji projekat-ostali delovi organizacije i obrnuto • Nepostojanje baze podataka o projektima
<p>Obaveze, uloge i odgovornosti</p> <ul style="list-style-type: none"> • Nejasno definisane uloge i odgovornosti između portfolio menadžmenta i ostalih • Menadžment organizacije ne podržava projekte • Nejasno definisane uloge i odgovornosti na nivou projekta 	<p>Resursi, kompetencije i metode</p> <ul style="list-style-type: none"> • Neadekvatne metode portfolio planiranja evaluacije i prioritizacije • Nedostatatak ljudskih resursa • Nedostatatak posvećenosti na nivou projekta • Razuđeni sastav projektnog biroa i odbora • Razuđeni sastav projektnih timova

Navedeni problemi uvođenja PPM koncepta su realnost kako u visoko razvijenim tržišnim okruženjima na zapadu, tako i u ostalim zemljama. U našoj zemlji problem je i sam koncept upravljanja jednim projektom (Project Management – PM koncept) koji nije dovoljno razvijen u većini kompanija. Na taj način, kod nas je osnovni preduslov primene i uvođenja PPM koncepta prevazilaženje problema samog PM koncepta.

Najteži problemi sa kojima se očekuje da će se naše kompanije susretati tokom uvođenja i primene PPM koncepta su sledeći:

- **Neusaglašenost projekata i strategije (alternativa A1)** – projekti ne prikazuju i ne realizuju strateške ciljeve kompanije,
- **Nezadovoljavajući kvalitet portfolia (alternativa A2)** – izabrani projekti za realizaciju su slabi, kraći, lakši, jeftiniji i samim tim neodgovarajući,
- **Nedostatak resursa (alternativa A3)** – nekvalitetan resurs, nedostatak finansijskih sredstava, kvalitetnog menadžmenta,
- **Veći kvantitet nego kvalitet informacija (alternativa A4)** – loše prikupljanje informacija, njihova loša sistematizacija i analiza, veliki broj informacija koje nisu upotrebljive i ne daju pravu sliku portfolia,
- **Donošenje odluka po osnovu moći (alternativa A5)** – odluke se ne donose na odgovarajući način, na primer u organu za upravljanje portfoliom, već se to radi na osnovu moći koje imaju pojedinci, kako u organu za upravljanje portfoliom, tako i na nivou cele kompanije,
- **Nepravilno shvatanje i tretman portfolia projekata (alternativa A6)** – portfoliu se ne daje značaj koji zaslužuje, veći je fokus na druge (tekuće) aktivnosti u organizaciji i samim tim on je prepušten sam sebi, , i
- **Savladavanje PM koncepta (alternativa A7)** – nedostatak znanja i veština za primenu metoda i tehnika PM koncepta, nedostatak prakse u ovoj menadžment disciplini i dr.

3. DEFINISANJE KRITERIJUMA ZA RANGIRANJE PROBLEMA

Kriterijumi sadrže najvažnije parametre za rangiranje problema uvođenja PPM koncepta u našim kompanijama, a to su:

Očekivani neželjeni efekti problema (kriterijum C1) je jako bitan faktor koji ima veliki uticaj pri rangiranju problema uvođenja PPM koncepta. Svaki problem prouzrokuje određene negativne efekte, koji mogu biti manji ili veći. U manje negativne efekte spadaju lošiji rad kompanije, nedostatak odgovarajućeg sistema donošenja odluka, loš sistem upravljanja informacija i dr. U veće negativne efekte spadaju nemogućnost ostvarenja strateških ciljeva kompanije, mali i uzan fokus delovanja kompanije, loša reakcija na zahteve klijenata, kašnjenje za konkurencijom i dr.

Vreme rešavanja problema (kriterijum C2) je takođe, veoma važan faktor koji značajno utiče na rangiranje problema uvođenja PPM koncepta. Na primer, ako određeni problem zahteva duže vreme za rešavanje, teže su njegove posledice po proces uvođenja PPM koncepta, ali i za kompaniju u celini. Sa druge strane, neki od ovih problema zahtevaju kraće vreme rešavanja što može da bude veoma značajno za proces uvođenja PPM koncepta.

Potrebni nivo znanja i veština za rešavanje problema (kriterijum C3) je kriterijum koji uzima u obzir znanje i veštine menadžera koji trebaju da reše ove probleme prilikom uvođenja PPM koncepta u kompaniji. Za neke probleme je dovoljno opšte znanje iz menadžmenta, dok je za druge potrebno mnogo veće znanje i to iz određenih specijalizovanih menadžment disciplina kao što su Upravljanje projektima, Strategijski menadžment, Upravljanje ljudskim resursima, Teorija odlučivanja i dr.

„Domino efekat“ problema (kriterijum C4) je kriterijum koji uzima u obzir da li se određeni problem javlja sam ili on izaziva lančanu reakciju tako što ondovodi do pojave

većeg ili manjeg broja drugih problema u kompaniji. Najveći broj problema, ukoliko se ne rešavaju, ili nisu rešeni na odgovarajući način, dovode do pojave novih problema koji mogu biti i teži od njih samih.

Nivo ugroženosti kompanije (kriterijum C5) predstavlja kriterijum koji uzima u obzir da li određeni problem ugrožava samo proces uvođenja PPM koncepta ili celu kompaniju. Naime, određeni problemi se odnose samo na proces uvođenja i primene PPM koncepta, dok drugi mogu negativno da utiču i na kompaniju u celini.

4. AHP METOD

AHP je kvantitativna tehnika koja polazi od dekompozicije složenog problema odlučivanja u višedimenzionalnu hijerarhijsku strukturu ciljeva, kriterijuma i alternativa. AHP vrši procenu uticaja kriterijuma, upoređuje alternative u odnosu na svaki kriterijum i obavlja rangiranje alternativa [6].

Procena relativnog uticaja svakog kriterijuma i poređenje alternativa u odnosu na kriterijume se vrši preko matrice poređenja. Zatim se vrši proračun težinskih koeficijenata za svaki element hijerarhije i procena stepena konzistentnosti u cilju provere konzistentnosti celokupnog procesa.

Upoređenje kriterijuma i alternativa vrši se na bazi skale sa ocenama od 1 do 9 – tabela 2.

Tabela 2. Skala poređenja elemenata odlučivanja

Dominantnosti	
Opis	Ocena
Jednako	1
Slaba dominacija	3
Jaka dominacija	5
Vrlo jaka dominacija	7
Apsolutna dominacija	9
2, 4, 6, 8 su međuvrednosti	

Određivanje konačnog ranga alternativa vrši se sintezom rezultata koji su dobijeni na svim nivoima.

5. REZULTATI RANGIRANJA PROBLEMA

Nakon definisanja alternativa (problema) i kriterijuma vrši se njihova ocena i rangiranje primenom AHP metode. Pri tome, za proračun je korišćen softver Criterium DecisionPlus.

Prvo se vrši definisanje višedimenzionalne hijerarhijske strukture ciljeva, kriterijuma i alternativa – slika 3.

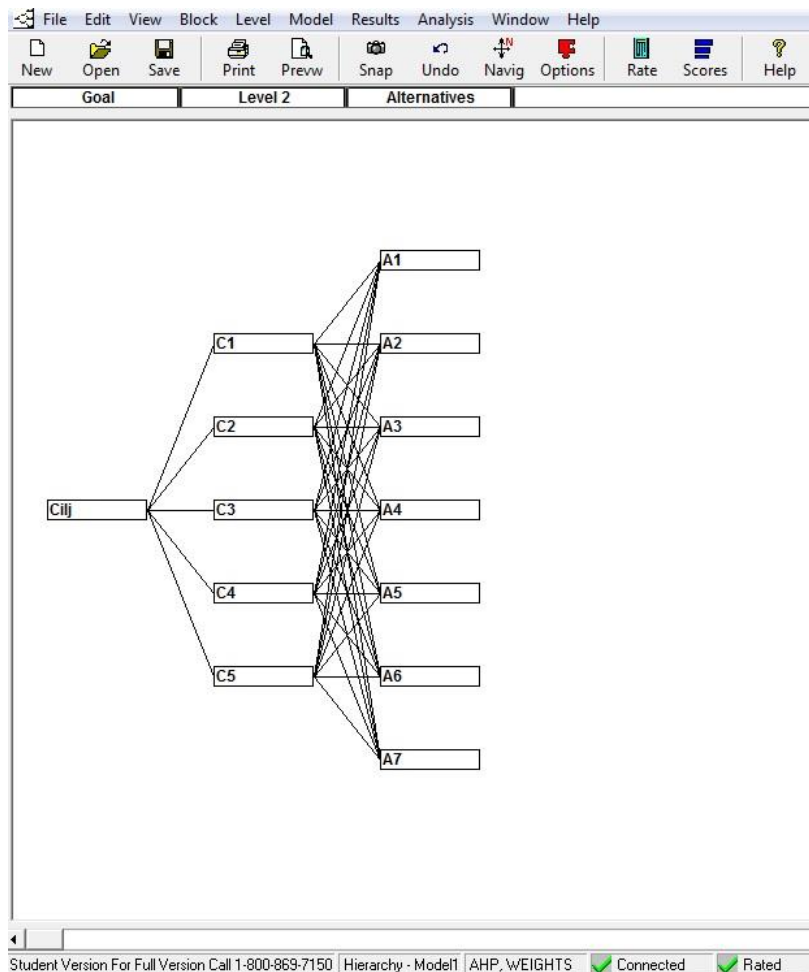
Onda se vrši određivanje težinskih koeficijenata kriterijuma uz pomoć skale poređenja koja je data u Tabeli 2. Rezultati poređenja su prikazani u Tabeli 3. i Tabeli 4.

Tabela 3. Definisiranje težinskih koeficijenata kriterijuma

Kriterijumi	C1	C2	C3	C4	C5
C1	1	5	1	1	1
C2		1	1/7	1/5	1/8
C3			1	1	1
C4				1	1
C5					1

Tabela 4. Rezultati težinskih koeficijenata kriterijuma

Kriterijumi	C1	C2	C3	C4	C5
Težinski koeficijenti	0.230	0.039	0.246	0.230	0.254
Stepen konzistentnosti	0.006 < 0.1				



Slika 3. Hijerarhija odlučivanja(Criterium DecisionPlus softver)

U narednom koraku se vrši upoređivanje problema uvođenja PPM koncepta (alternativa) u odnosu na sva pet definisana kriterijuma – Tabele 4-8.

Tabela 4. Upoređenje alternativa u odnosu na kriterijum C1

Alternative	A1	A2	A3	A4	A5	A6	A7
A1	1	3	2	7	4	4	2
A2		1	1	3	2	1	1
A3			1	4	3	2	2
A4				1	1/3	1/4	1/4
A5					1	1/3	1/4
A6						1	1
A7							1
Stepen konzist.	0.031<0.1						

Tabela 5. Upoređenje alternativa u odnosu na kriterijum C2

Alternative	A1	A2	A3	A4	A5	A6	A7
A1	1	3	2	1	7	2	1
A2		1	1/3	3	3	1	1
A3			1	3	5	2	2
A4				1	1	1/2	1/3
A5					1	1/3	1/5
A6						1	1/2
A7							1
Stepen konzist.	0.070<0.1						

Tabela 6. Upoređenje alternativa u odnosu na kriterijum C3

Alternative	A1	A2	A3	A4	A5	A6	A7
A1	1	3	9	5	7	3	1
A2		1	3	2	2	1	1
A3			1	1/2	1/3	1/5	1/5
A4				1	1	1/3	1/4
A5					1	1/3	1/3
A6						1	1
A7							1
Stepen konzist.	0.022<0.1						

Tabela 7. Upoređenje alternativa u odnosu na kriterijum C4

Alternative	A1	A2	A3	A4	A5	A6	A7
A1	1	3	3	7	5	5	7
A2		1	3	3	7	1	2
A3			1	3	2	1/3	1/2
A4				1	1	1/4	1/2
A5					1	1/3	1/2
A6						1	2
A7							1
Stepen konzist.	0.051<0.1						

Tabela 8. Upoređenje alternativa u odnosu na kriterijum C5

Alternative	A1	A2	A3	A4	A5	A6	A7
A1	1	5	2	7	7	5	6
A2		1	1	5	5	1	2
A3			1	5	5	1	3
A4				1	1	1/4	1
A5					1	1/3	1
A6						1	3
A7							1
Stepen konzist.	0.030<0.1						

Na kraju, dobijeni su rezultati rangiranja – Tabela 9. Rezultati pokazuju da je najteži problem alternativa A1 (neusaglašenost projekata i strategije). Na drugom mestu je alternativa A2 (nezadovoljavajući kvalitet portfolia), na trećem mestu je alternativa A6 (nepravilno shvatanje i tretman portfolia projekata), na četvrtom mestu je alternativa A7 (savladavanje PM koncepta), na petom mestu je alternativa A3 (nedostatak resursa), na šestom mestu je alternativa A5 (donošenje odluka po osnovu moći) i na poslednjem mestu je alternativa A4 (veći kvantitet nego kvalitet informacija).

Tabela 9. Konačni rang problema uvođenja koncepta PPM

Red. br.	Model ISM-a	Rezultat
1.	A1 (Neusaglašenost projekata i strategije)	0.372
2.	A2 (Nezadovoljavajući kvalitet portfolia)	0.145
3.	A6 (Nepravilno shvatanje i tretman portfolia projekata)	0.142
4.	A7 (Savladavanje PM koncepta)	0.123
5.	A3 (Nedostatak resursa)	0.121
6.	A5 (Donošenje odluka po osnovu moći)	0.053
7.	A4 (Veći kvantitet nego kvalitet informacija)	0.046

6. ANALIZA DOBIJENIH REZULTATA

Analiza obuhvata kriterijume i njihov uticaj na rangiranje problema uvođenja i primene PPM koncepta i same probleme PPM koncepta.

Pri analizi kriterijuma akcenat je na vrednosti njihovih težinskih koeficijenata. Naime, težinski koeficijenti kriterijuma predstavljaju njihovu meru uticaja na rezultat rangiranja alternativa, odnosno problema uvođenja i primene PPM koncepta. Iz Tabele 4. se vidi da kriterijum C5 (nivo ugroženosti kompanije) ima najveći uticaj na rezultat rangiranja jer njegov težinski koeficijent iznosi 0.254. To pokazuje da je kod rangiranja problema uvođenja i primene PPM koncepta najvažnije koliko ti problemi mogu da ugroze kompaniju u celini, a ne samo deo koji se odnosi na primenu PPM-a.

Na drugom mestu po uticaju je kriterijum C3 (potrebni nivo znanja i veština za rešavanje problema), koji utiče sa 24.6% na rezultat rangiranja. To ukazuje na značaj znanja i veština pri rešavanju ovih problema. Veći nivo znanja i veština koje poseduju kompanije i pojedinci u njoj predstavlja veliku prednost kod rešavanja problema uvođenja i primene PPM koncepta.

Treće mesto po značaju dele kriterijumi C1 (očekivani neželjeni efekti problema) i C4 („Domino efekat“ problema), koji utiču sa po 23.0% na ovaj proces. Ovi kriterijumi direktno potenciraju negativne efekte problema na kompaniju. Zbog toga su oni veoma značajni za konačno rangiranje svih problema uvođenja i primene PPM koncepta.

Na kraju, najmanje uticajan kriterijum je C2 (vreme rešavanja problema) koji ima težinski koeficijent od 0.039. To pokazuje da je vreme koje je potrebno za rešavanje problema, iako važno, u drugom planu u odnosu na ostale efekte problema.

Kod analize konačnog ranga alternativa (problema uvođenja i primene PPM koncepta) polazi se od najtežeg problema. To je alternativa A1 (neusaglašenost projekata i strategije) koji ima najveću vrednost rezultata od 0.372. Razlog je u tome što ovaj problem ukazuje upravo na ono što je najvažnije za kompanije, a to je realizacija strateških ciljeva preko projekata. Ukoliko kompanije ne mogu ostvariti strateške ciljeve zbog toga što portfolio ne podražava strategiju, one polako gube korak sa konkurencijom i na kraju propadaju.

Na drugom mestu po rangiranju se nalazi alternativa A2 (nezadovoljavajući kvalitet portfolia). Naime, loš kvalitet portfolia daje loše rezultate jer projekti koji se realizuju nisu odgovarajući i nisu međusobno usklađeni, zatim nisu adekvatno određeni prioriteti i dr. Ovaj problem takođe može u velikoj meri da ugrozi kompanije koje primenjuju PPM koncept.

Na trećem mestu je alternativa A6 (nepravilno shvatanje i tretman portfolia projekata). U kompanijama koje primenjuju koncept PPM-a portfolio mora imati tretman od najvišeg značaja, jer jedino onda, uz uključivanje velikog broja zaposlenih i menadžera, on može dati željene rezultate. Ukoliko je portfolio prepušten samom sebi, on ima male šanse za uspeh, a to stvara dodatne probleme u kompaniji.

Na četvrtom mestu je alternativa A7 (savladavanje PM koncepta), dok je na petom mestu alternativa A3 (nedostatak resursa). Razlika u rezultatu između ovih problema je mala. PM koncept je deo koncepta PPM-a i ukoliko u kompanijama nema stručnjaka iz ove oblasti to može ugroziti uvođenje i primenu PPM koncepta. Takođe, nedostatak resursa može u velikoj meri da ugrozi PPM koncept, jer on koristi i kombinuje resurse kompanija. Bez

odgovarajućih resursa kompanije ne mogu uspešno primeniti ovaj koncept i on ne može dati željene rezultate.

Na šestom mestu je alternativa A5 (donošenje odluka po osnovu moći) koja predstavlja problem donošenja odluka na odgovarajući način. Loše donešene odluke mogu u značajnoj meri da ugroze realizaciju portfolia projekata, jer kompanija nema ustaljeni sistem donošenja odluka, veće se to radi na bazi moći pojedinaca u njoj.

I na kraju, poslednje rangirana alternativa je A4 (veći kvantitet nego kvalitet informacija). Ovo je problem koji ne omogućava adekvatno korišćenje informacija sa portfolia, jer u kompaniji ne postoji odgovarajući sistem prikupljanja, sistematizacije i analize informacija. Ovakve informacije nisu upotrebljive u odgovarajućoj meri i stvaraju teškoće prilikom praćenja realizacije portfolia, prilikom donošenja odluka, prilikom definisanja i primene korektivnih akcija i dr. Međutim, ovaj problem se može rešiti na znatno lakši način u odnosu na ostale navedene probleme.

7. ZAKLJUČAK

U ovom radu je primenjena višekriterijumska metoda za rangiranje problema uvođenja i primene PPM koncepta. Problemi koji se javljaju prilikom uvođenja i primene PPM koncepta mogu u velikoj meri da ugroze ovaj savremeni koncept rada i funkcionisanja kompanije, a nekad i samu kompaniju. Analizirana su sedam problema uvođenja i primene PPM koncepta – neusaglašenost projekata i strategije (alternativa A1), nezadovoljavajući kvalitet portfolia (alternativa A2), nedostatak resursa (alternativa A3), veći kvantitet nego kvalitet informacija (alternativa A4), donošenje odluka po osnovu moći (alternativa A5), nepravilno shvatanje i tretman portfolia projekata (alternativa A6) i savladavanje PM koncepta (alternativa A7). Takođe, razmatrana su pet kriterijuma za rangiranje – očekivani neželjeni efekti problema (kriterijum C1), Vreme rešavanja problema (kriterijum C2), Potrebni nivo znanja i veština za rešavanje problema (kriterijum C3), „Domino efekat“ problema (kriterijum C4) i nivo ugroženosti kompanije (kriterijum C5).

Rangiranje problema uvođenja i primene PPM koncepta je izvršeno pomoću AHP metode za višekriterijumsko odlučivanje. Kod ove metode, prvo je urađeno određivanje težinskih koeficijenata kriterijuma za rangiranje, a onda ocenjivanje problema uvođenja i primene PPM koncepta i njihovo kompletno rangiranje.

Na osnovu dobijenih rezultata AHP metodom, određen je najteži problem uvođenja i primene PPM koncepta u našoj zemlji, a to je alternativa A1 (neusaglašenost projekata i strategije). Najuticajniji kriterijum za kompletno rangiranje problema uvođenja i primene PPM koncepta je kriterijum C5 (nivo ugroženosti kompanije).

REFERENCE

1. H. A. Levine, Project Portfolio Management, Jossey-Bass, A Wiley Imprint, USA, 2005.
2. Don Kingsberry, Using PPM to Ease The Hewlett-Packard-Compaq Merger, Chapter 9.2.

3. S. Mathur, What is PPM and what it can do for my business, PMI Global Congress Sydney, Australia, 2008.
4. R. G. Cooper, S.J. Edgett, E. J. Kleinschmidt, Portfolio management for new products, Perseus Books, New York, 1998.
5. S. Elonen, K. Artto, Problems in managing internal development projects in multi-project environments, International Journal of Project Management, 21 (2003) 400.
6. Saaty T.L., The Analytical Hierarchy Process, New York, McGraw-Hill, 1980.

IMPACT ENTREPRENEURIAL ACTIVITY ON THE PROFITABILITY OF SMES IN THE PIROT DISTRICT

Ivan Jovanović, Milica Arsić

University of Belgrade, Technical Faculty in Bor, Management Department, Serbia

Abstract: This paper explores how entrepreneurial activities such as: entrepreneurial creativity and knowledge distributions affect the innovation of the organization, entrepreneurial self-efficacy and way of data collecting affect the teamwork, as well as the impact of innovation and teamwork on the organizational profitability, in the Pirot District. The proposed conceptual model and set six hypotheses were tested on a sample of 302 entrepreneurs-owners of small and medium-sized enterprises (SMEs). For statistical data analysis we used the software programs SPSS 17.0 and LISREL 8.80. Hypothesis testing was done by using SEM (*Structural Equation Modeling*) methodology. The empirical results confirm the hypothesis, and suggests a positive correlation between them.

Keywords: Organizational profitability, questionnaire, statistical analysis, SEM methodology.

1. UVOD

Mala i srednja preduzeća (MSP) se ubrajaju u važne pokretače ekonomskog razvoja svake privrede. Preduzetnička orijentisanost vlasnika MSP ima važnu ulogu u ostvarivanju ovog zadatka. Mnoga istraživanja su pokazala da preduzetnička orijentisanost, sa svoje tri glavne dimenzije: preuzimanje rizika, proaktivno delovanje i kreativnost, ima pozitivan uticaj na poslovanje i profitabilnost organizacija. Organizacije sa visokim nivoom preduzetničkog duha konstantno istražuju i analiziraju okruženje u potrazi za novim idejama. Takođe je utvrđeno da je većina MSP zainteresovana za prikupljanje informacija sa tržišta o potrebama klijenata i konkurenata, kako bi što više učvrstile svoj položaj na tržištu i uvećale prodaju [1].

Glavni cilj ovog istraživanja je da se, na nivou pojedinca, utvrde mehanizmi na osnovu kojih preduzetničke aktivnosti (kreativnost preduzetnika, distribucija stečenog znanja, preduzetnička samoefikasnost, prikupljanje informacija sa tržišta, timski rad i inovativnost organizacije) utiču na profitabilnost MSP u Pirotskom okrugu. Pirotski okrug je izabran za istraživanje zbog činjenice da spada u najnerazvijenije okruge u Srbiji, koja još uvek prolazi kroz tranzicioni period i trenutno ima status pridružene članice EU. Rezultati dobijeni sa ovog područja se mogu analizirati i upoređivati sa rezultatima istraživanja dobijenih iz drugih regiona, i na taj način utvrditi univerzalno važeće veze koje bi mogle biti važne za razvoj preduzetništva u Srbiji. Iako autor u svom radu [2] ističe, zbog relevantnosti otkrića, da se preduzetničko istraživanje treba ograničiti samo na napredne privrede, u radu [3] autori ističu da istraživanje u različitim kulturama može samo da unapredi preduzetništvo, jer se na taj način mogu istaknuti veze koje su univerzalno važeće u odnosu na veze koje važe u

pojedinačnim kulturama. Takođe, autori u radu [4] naglašavaju važnost pitanja o prenosivosti zaključaka širom zemalja, i ističu da otkrića u istraživanjima u naprednim zemljama nisu neophodno relevantna za objašnjenje ponašanja u tranzicionim privredama.

Proučavajući ovaj fenomen formiran je konceptualni model i postavljeno šest hipoteza.

2. ISTRAŽIVAČKE HIPOTEZE I KONCEPTUALNI MODEL

1.1 KREATIVNOST PREDUZETNIKA I INOVATIVNOST ORGANIZACIJE

Još je Šumpeter u svojoj teoriji “kreatina destrukcija” ukazao na ključnu ulogu preduzetničke kreativnosti u pokretanju tehnoloških inovacija i privrednih promena. Od tada se u mnogim studijama proučava fenomen preduzetničke kreativnosti. Maslow je naglasio da je kreativnost urođena osobina svih ljudi, ali da samo mali deo populacije deluje kreativno. Autor rada [5] ističe da je preduzetnička kreativnost “izum budućnosti”. U radu [6] autori ističu pozitivan uticaj kreativnosti preduzetnika na učinak organizacija. Preduzetnička kreativnost se može definisati i kao stvaranje novih i korisnih ideja u bilo kom domenu. Autori u radu [7] ističu da ljudi koji su kreativni u jednoj oblasti su, vrlo verovatno, kreativni i u drugim oblastima, baš kao što i ljudi koji su jako inteligentni imaju dobre rezultate pri mnoštvu kognitivnih zadataka.

Inovacija je ključni element konkurencije i dinamičke efikasnosti tržišta [8]. Posmatrano na duže staze, inovativne organizacije će rasti brže, biti efikasnije i profitabilnije u odnosu na neinovativne. Naša očekivanja su da je preduzetnička kreativnost pozitivno povezana sa inovativnošću organizacije, zbog toga predlažemo hipotezu H1: *Kreativnost preduzetnika pozitivno utiče na inovativnost organizacije.*

1.2 DISTRIBUCIJA ZNANJA I INOVATIVNOST ORGANIZACIJE

U organizacionom smislu, distribucija znanja predstavlja proces u kojem iskustvo jedne grupe utiče na drugu grupu, obzirom da sam proces uključuje dve ili više strana [9], i ukazuje se na činjenicu da su to organizacione celine koje postoje unutar same organizacije. Kada je uspostavljena dobra komunikacija među ljudima, distribucija znanja se podrazumeva i dešava se indirektno. Organizacije same po sebi nisu sposobne da stvore znanje, znanje stvaraju pojedinci i ono se udvostručuje onog trenutka kada ga pojedinci dele sa drugima [10]. Što je manje posrednika u odnosu između dve organizacione jedinice, koje nisu direktno povezane, to je bolja distribucija znanja.

Pravilna distribucija znanja unapređuje inovativnost organizacije, a time i prosečno poslovanje organizacije. Autori u radu [11] ističu da bi svakoj organizaciji stečeno znanje omogućilo poboljšavanje svog učinka ukoliko bi bili u stanju da dobro apsorbuju to znanje, deluju kreativno po tom znanju i stvaraju nova znanja koja nastaju iz ovih aktivnosti. Naša očekivanja su da će distribucija znanja uvećati inovativnost organizacija a time i njihovu profitabilnost, zato predlažemo hipotezu H2: *Distribucija znanja pozitivno utiče na inovativnost organizacije.*

1.3 SAMOEFIKASNOST PREDUZETNIKA I TIMSKI RAD

Preduzetnička samoeфикаsnost se odnosi na jačinu verovanja osobe da je ona sposobna da uspešno izvršava različite uloge i zadatke preduzetništva. Preduzetnici sa istim veštinama mogu imati slab, adekvatan ili izvanredan učinak, zavisno od toga da li njihova sopstvena verovanja o ефикаsnosti jačaju ili umanjuju njihovu motivaciju i pokušaje rešavanja. Postoje veće šanse da će pojedinci sa visokom samoeфикасношću za određeni zadatak više tragati i izdržati na tom zadatku, nego li pojedinci sa niskim verovanjima o samoeфикаsnosti. Osoba može imati visoku samoeфикаsnost u jednoj oblasti, ali nisku samoeфикаsnost u drugoj oblasti, i to za određene, veoma specifične zadatke i/ili veštine. Preduzetnici sa čvrstim uverenjima o preduzetničkoj samoeфикаsnosti teže da izazovne situacije dovode u vezu sa nagradama kao što je profit, priznanje zajednice i psihološka ispunjenost, zato što se samoeфикаsnost ne bavi prošlost, već sudovima o tome šta bi se moglo postići u budućnosti [12].

U radu [13] se ističe pozitivan efekat preduzetničke kreativnosti na timski rad, koja stimuliše preduzetničku improvizaciju i sam poslovni učinak. Naša očekivanja su da će samoeфикаsnost preduzetnika pozitivno uticati na timski rad, a time i na bolji poslovni učinak, zbog toga predlažemo hipotezu H3: *Samoeфикаsnost preduzetnika pozitivno utiče na timski rad.*

1.4 SAKUPLJANJE INFORMACIJA I TIMSKI RAD

Informacije sa tržišta se definišu kao podaci povezani sa trenutnim i potencijalnim stakeholderima, koji proizilaze iz različitih eksternih izvora. Važnost ovog procesa je ogromna kako za velika tako i za MSP. Proces prikupljanja informacija sa tržišta je veliki izazov za MSP, obzirom na ograničene resurse kojima raspolažu i manje iskustva u istraživanju tržišta. Zbog toga se većina preduzetnika oslanja na neformalne izvore informacija, kao što su rođaci ili postojeći klijenti. Obučavanje ljudi u organizaciji i njihova dodatna edukacija, osposobili bi zaposlene da prikupljaju i koriste informacije sa tržišta.

Donošenje kvalitetnih odluka zahteva integrisanje velike količine znanja koje je rasuto i raštrkano svuda u firmi. To znači da oni koji treba da donose odluke moraju da tragaju za neophodnim znanjem unutar organizacije, a onda da to znanje prenesu radnim timovima gde je ono potrebno u određenom trenutku. Interno sticanje znanja u kombinaciji sa eksternim (sajmovi, izložbe, seminari, programi za obuku, akademske zajednice) stvara neophodan preduslov za uspešan timski rad u organizaciji, a time i uslove za kvalitetno donošenje odluka. Očekujemo da će sistemsko prikupljanje informacija sa tržišta pozitivno uticati na timski rad u organizaciji, i predlažemo hipotezu H4: *Sakupljanje informacija pozitivno utiče na timski rad.*

1.5 INOVATIVNOST ORGANIZACIJE I PROFITABILNOST ORGANIZACIJE

MSP koja imaju prethodno iskustvo inovacije imaju dvostruko veće šanse za uspešno poslovanje, za veći izvoz svojih proizvoda/usluga, povećan rast i razvoj organizacije nego neinovativne firme [14]. U mnogim studijama postoje brojni dokazi koji ukazuju na pozitivan odnos između inovacije i rezultata organizacija, kako kod proizvodne tako i kod uslužne delatnosti, npr. u radu [15]. U istom radu se ističe pozitivni uticaj inovacija u MSP na njihovu profitabilnost, na rast organizacije i povećanje izvoza. Takođe, u radu [16] se tvrdi da kod MSP postoji jaka pozitivna veza između organizacionih inovacija, njene profitabilnosti, rasta

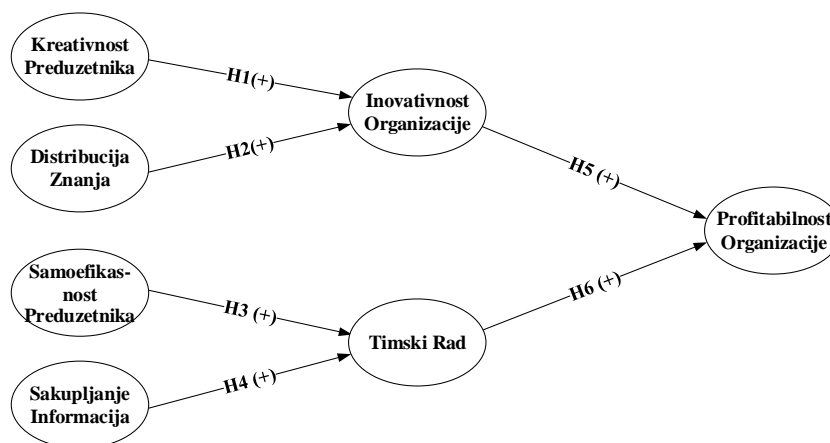
izvoza, a time i rasta organizacije. Zbog svega istaknutog predlažemo hipotezu H5: *Inovativnost organizacije pozitivno utiče na profitabilnost organizacije.*

1.6 TIMSKI RAD I PROFITABILNOST ORGANIZACIJE

Osnovni element svake organizacione celine čine ljudi i timovi. Timskim radom se postiže sinergijski efekat, jer se zbirno postiže daleko veći rezultat od bilo kog pojedinačnog, a da pri tome svaki pojedinac postiže više nego što bi to ikada mogao sam. U poslovanju, timski rad sve više dobija na značaju i moderno poslovanje bez njega gotovo da postaje nezamislivo.

Praktično je potvrđeno da korišćenje timova u organizacijama uvećava zadovoljstvo i lojalnost zaposlenih i organizaciju dovodi brže do postavljenih ciljeva. Timski rad je suštinski deo korporativne odgovornosti, jer povećava komunikaciju, poverenje u organizaciji, promovira drugarstvo i stimuliše profitabilnost organizacije [17]. Zato predlažemo hipotezu H6: *Timski rad pozitivno utiče na profitabilnost organizacije.*

Na osnovu predloženih šest istraživačkih hipoteza, na Slici 1 je prikazan konceptualni model pozitivnih uticaja.



Slika 1. Konceptualni (istraživački) model

3. METODOLOGIJA ISTRAŽIVANJA

Za ovo istraživanje je korišćen istraživački metod anketiranja. U cilju istraživanja formiran je upitnik, koji sadrži 7 grupe pitanja, označenih od Q1 do Q7, u kojih je raspoređeno 25 pitanja, na način koji je prikazan u Tabeli 1. Takođe, upitnik sadrži i 8 kontrolnih pitanja, označenih od CQ1 do CQ8, koja su prikazana u Tabeli 2.

1.7 UZORAK I PRIKUPLJANJE PODATAKA

Istraživanje je obavljeno u periodu od januara do aprila 2015. godine. Prikupljanje podataka se vršilo anonimnim anketiranjem vlasnika slučajno odabranih privrednih subjekata u Pirotskom okrugu, gde je akcenat stavljen na MSP. Prikupljanje podataka je obavljeno

neposrednim anketiranjem preduzetnika, odnosno vlasnika organizacija, koji su upitnik popunjavali zaokruživanjem ponuđenih odgovora. Od ukupno 356 anketiranih, validnih anketa je bilo 302 ili 84,83%. Odnos veličine uzorka (302 ispitanika) i broja pitanja (25 pitanja iz upitnika) iznosi 12,8, što je veći od preporučenog nivoa 5, prema autoru rada [18].

1.8 MERE I DEMOGRAFSKE KARAKTERISTIKE UZORKA

Za ocenu anketnih pitanja korišćena je Likertova petostepena skala (1-jako se ne slažem, ..., 5-jako se slažem). U modelu postoje četiri nezavisne latentne promenljive: kreativnost preduzetnika (Q1), distribucija znanja (Q2), samoeфикаsnost preduzetnika (Q3) i sakupljanje informacija (Q4), kao i tri zavisne latentne promenljive: inovativnost organizacije (Q5), timski rad (Q6) i profitabilnost organizacije (Q7). Za merenje zavisnih i nezavisnih promenljivih korišćena su pitanja koja se mogu pronaći u radovima autora prikazanih u Tabeli 1.

Tabela 1. Stavke upitnika

Konstrukt	Oznaka	Pitanje	Izvor
Kreativnost preduzetnika (Q1)	Q1_1	Mogu da osmislim iznenadna rešenja	Hills et al. (1997)
	Q1_2	Moje ideje su obično vrlo jedinstvene	
	Q1_3	Kad predvidim moguće prepreke, sposoban sam da ih savladam	
	Q1_4	Pokušavam da nadjem nova rešenja, čak i kad to nije potrebno	
	Q1_5	Uvek imam u glavi veliki broj ideja	
Distribucija znanja (Q2)	Q2_1	Organizacija ima formalne mehanizme da garantuje razmenu najbolje prakse između različitih oblasti delatnosti	Jime'nez-Jime'nez and Sanz-Valle (2011)
	Q2_2	Postoje pojedinci u organizaciji koji učestvuju u radu više različitih timova ili grupa i oni predstavljaju vezu između njih u funkciji razmene znanja	
	Q2_3	Postoje pojedinci u organizaciji koji su nadležni za prikupljanje, sastavljanje i distribuciju sugestija zaposlenih radnika	
Samoeфикаsnost preduzetnika (Q3)	Q3_1	Sposoban sam da postavim i ispunim poslovne ciljeve	Chen et al. (1998)
	Q3_2	Sposoban sam da kontrolišem troškove	
	Q3_3	Sposoban sam da sprovedem analizu tržišta	
	Q3_4	Sposoban sam da razvijem nove ideje	
Skupljanje informacija (Q4)	Q4_1	Redovno prikupljam informacije o prodaji koje bi mi poslužile za nove ideje	Heinonen et al. (2011)
	Q4_2	Redovno prikupljam informacije o tržištu koje bi mi poslužile za nove ideje	
	Q4_3	Organizovano radim na smišljanju novih ideja	
Inovativnost organizacije (Q5)	Q5_1	Broj proizvoda ili usluga koje je organizacija prva plasirala	Yung and Cheng (2009)
	Q5_2	Broj proizvoda ili usluga koje je organizacija plasirala	
	Q5_3	Brzina razvoja novih proizvoda ili usluga	
Tiski rad (Q6)	Q6_1	Pomoć svih članova tima prilikom stvaranja novih rešenja je uvek dostupna	Anderson and West (1998)
	Q6_2	Članovi mog tima su uvek spremni za nove ideje	
	Q6_3	Čl. mog tima uvek traže nova rešenja i svaki problem sagledaju iz novog ugla	
	Q6_4	Članovi tima pružaju jedni drugima pomoć prilikom relazacije problema	
Profitabilnost organizacije (Q7)	Q7_1	Naša organizacija posluje mnogo bolje od konkurentskih	Anderson et al. (2002)
	Q7_2	Naša prodaja raste brže od konkurentске	
	Q7_3	Naš tržišni udeo je veći od konkurentskog	

Na osnovu odgovora ispitanika, u Tabeli 2 su prikazane demografske karakteristike testiranja. Odgovori upućuju na sledeće zaključke. Upitnik je popunilo 69,2% muških i 30,8% ženskih ispitanika, tj. vlasnika organizacija. Ukupno 83,1% ispitanika se nalazi u idealnom

starosnom dobu od 26 do 55 godina života. Na osnovu broja zaposlenih 72,8% ispitanika poseduje organizaciju u kategoriji mikro preduzeća (<10 radnika). “Mlade” organizacije, tj. one koje nisu starije od 10 godina, zastupljene su u 55,3% slučajeva. Ispitanici su u 69,9% slučajeva dali odgovor da su imali prethodno poslovno iskustvo, što znači da je 30,1% njih koji su po prvi put pokrenuli preduzetničku aktivnost. Ukupno 79,15% ispitanika (167/211) je to poslovno iskustvo, u prethodnom periodu, steklo baveći se poslom koji i trenutno obavljaju.

Tabela 2. Demografske karakteristike uzorka

Oznaka	Kontrolne promenljive	Kategorija	Frekvencija	Udeo (%)
CQ1	Pol poslodavca-vlasnika	Muški	209	69,2
		Ženski	93	30,8
CQ2	Godine starosti poslodavca-vlasnika	≤ 25	14	4,6
		26-35	78	25,8
		36-45	78	25,8
		46-55	95	31,5
		≥ 56	37	12,3
CQ3	Broj zaposlenih u organizaciji	≤ 10	220	72,8
		11-50	57	18,9
		51-250	25	8,3
CQ4	Hronološka starost organizacije (godine)	≤ 5	83	27,5
		6-10	84	27,8
		11-20	66	21,9
		21-30	37	12,3
CQ5	Predhodno poslovno iskustvo poslodavca-vlasnika	Ne	91	30,1
		Da	211	69,9
CQ6	Predhodno poslovno iskustvo u struci poslodavca-vlasnika	Ne	135	44,7
		Da	167	55,3
CQ7	Vlasnička struktura vaše organizacije	Domaće vlasništvo	290	96,0
		Strano vlasništvo	5	1,7
		Mešovito vlasništvo	7	2,3
CQ8	Sektor privredne delatnosi	Poljoprivreda	17	5,6
		Proizvodni	56	18,5
		Neproizvodni	29	9,6
		Uslužni	200	66,2

Takođe, uočava se da je dominantna domaća vlasnička struktura organizacija (96,0%), kao i to da se najveći broj ispitanika nalazi u uslužnom sektoru privredne delatnosti (66,2%).

4. REZULTATI ISTRAŽIVANJA I DISKUSIJA

1.9 DESKRIPTIVNA STATISTIKA

Deskriptivna statistika spada u grupu statističkih metoda istraživanja masovnih pojava, koja obuhvata prikupljanje, sređivanje, izračunavanje, prikazivanje i opisivanje osnovnih karakteristika statističkih serija. Deskriptivna statistika je urađena korišćenjem kompjuterskog programa SPSS 17.0 uz korišćenje literature [19], a dobijeni rezultati su prikazani u Tabeli 3.

Tabela 3. Deskriptivna statistika promenljivih

Prom.	Sred. vred.	s.d.	Prom.	Sred. vred.	s.d.	Prom.	Sred. vred.	s.d.	Prom.	Sred. vred.	s.d.	Prom.	Sred. vred.	s.d.
Q1_1	3,950	0,816	Q2_1	3,123	0,894	Q3_3	3,821	0,886	Q5_1	3,315	0,956	Q6_3	3,586	0,921
Q1_2	3,788	0,886	Q2_2	3,109	0,935	Q3_4	3,937	0,823	Q5_2	3,374	0,864	Q6_4	3,791	0,839
Q1_3	3,997	0,767	Q2_3	3,113	0,954	Q4_1	3,987	0,866	Q5_3	3,374	0,879	Q7_1	3,318	0,987
Q1_4	3,695	1,037	Q3_1	4,156	0,710	Q4_2	4,013	0,866	Q6_1	3,699	0,826	Q7_2	3,281	0,931
Q1_5	4,026	0,847	Q3_2	3,937	0,904	Q4_3	3,821	0,923	Q6_2	3,636	0,851	Q7_3	3,311	0,938

Rezultati pokazuju da se srednja vrednost, kod svih 25 pitanja, kreće u granicama od 3,109 do 4,156, a standardna devijacija od 0,816 do 1,037. Na osnovu toga se može zaključiti da je stav preduzetnika takav da oni imaju pozitivno mišljenje na sva postavljena pitanjima, i da, na osnovu datih odgovora, mogu zadovoljiti bitne pretpostavke preduzetničke aktivnosti, koje su definisane kroz 7 grupa pitanja.

1.10 STATISTIČKA ANALIZA KONTROLNOG MODELA

Statistička analiza podatka je urađena primenom SEM (*Structural Equation Modeling*) metodologije. Za proračun i analizu podataka korišćeni su kompjuterski programi SPSS 17.0 i LISREL 8.80.

Faktorska analiza

Kako bi se utvrdila jednodimenzionalnost grupa pitanja u razmatranom modelu urađena je eksploratorna faktorska analiza (*EFA-Exploratory Factor Analysis*).

Tabela 4. Rezultati EFA i CFA statistike za kontrolni model

Grupa pitanja	Promenljiva	Eksploratorna Faktorska Analiza (EFA)		Konfirmatorna Faktorska Analiza (CFA)		
		PCA		Pouzdanost	Konvergentna validnost	
		% varijanse koji se može opisati jednodimenzionim faktorom	Faktorsko opterećenje	Cronbach alpha	Faktorsko opterećenje	t-vrednost
Q1		56,966		0,806		
	Q1_1		0,750		0,58	13,49 **
	Q1_2		0,703		0,54	11,10 **
	Q1_3		0,778		0,55	13,47 **
	Q1_4		0,763		0,66	11,60 *
	Q1_5		0,777		0,60	13,41 **
Q2		74,246		0,826		
	Q2_1		0,826		0,65	13,73 **
	Q2_2		0,894		0,80	16,86 **
	Q2_3		0,863		0,74	14,86 **
Q3		63,283		0,801		
	Q3_1		0,834		0,53	14,11 **
	Q3_2		0,779		0,57	11,44 **
	Q3_3		0,793		0,62	13,00 **
	Q3_4		0,775		0,63	14,82 **
Q4		79,189		0,866		
	Q4_1		0,913		0,78	19,32 **
	Q4_2		0,924		0,77	19,12 **
	Q4_3		0,830		0,66	13,75 **
Q5		84,746		0,909		
	Q5_1		0,915		0,85	19,11 **
	Q5_2		0,937		0,77	19,44 **
	Q5_3		0,910		0,75	18,03 **
Q6		77,123		0,901		
	Q6_1		0,849		0,64	15,56 **
	Q6_2		0,894		0,74	18,58 **
	Q6_3		0,905		0,82	19,21 **
	Q6_4		0,863		0,67	16,10 **
Q7		87,558		0,928		
	Q7_1		0,917		0,84	18,30 **
	Q7_2		0,955		0,89	21,98 **
	Q7_3		0,935		0,84	19,86 **

Napomena: Nivo statističke značajnosti * $p < 0,10$; ** $p < 0,05$; *** $p < 0,01$

Najpre je utvrđeno da li je skup podataka prikladan za faktorsku analizu tako što je proverena vrednost KMO pokazatelja (*Kaiser-Meyer-Olkin Measure of Sampling Adequacy*) i Bartletovog pokazatelja sveričnosti (*Barlett's Test of Sphericity*). Minimalno prihvatljiva vrednost za KMO pokazatelj je 0,6, dok nivo značajnosti Bartlett-ovog testa iznosi $p \leq 0,05$. U ovoj studiji, u svim ispitivanim grupama pitanja, KMO pokazatelji su daleko iznad preporučene vrednosti od 0,6. Bartletov pokazatelj je značajan i manji od vrednosti 0,05, što ukazuje da postoje korelacije među stavkama upitnika (pitanjima u okviru grupa) u mernom instrumentu, odnosno da korelaciona matrica nije jedinična. Na ovaj način je potvrđena prikladnost podataka za faktorsku analizu.

Urađena je analiza glavnih komponentata, tj. PCA analiza (*Principal Component Analysis*), koja je jedna od osnovnih metoda kod EFA analize. PCA analizi je podvrgnuto 25 pitanja raspoređenih u 7 grupa. Rezultati faktorske (PCA) analize upućuju na zaključak da je

potvrđena jednodimenzionalnost kod svih grupa pitanja koje su postavljene u konceptualnom modelu, jer su sve ispitivane stavke svrstane u po jedan faktorski skup sa sopstvenom vrednošću većom od 1,0. Procenti varijabiliteta opisani svakim jednodimenzionalnim faktorom su prikazani u Tabeli 4. Faktorsko opterećenje promenljivih se nalazi u granicama od 0,673 do 0,900, što je iznad vrednosti od 0,6, na osnovu literalnih preporuka [20,21]. To upućuje na zaključak da se latentne grupe promenljivih, od Q1 do Q7, mogu pouzdano opisati korišćenjem istraživačkih pitanja definisanih od Q1_1 do Q7_3.

Pouzdanost i validnost kontrolnog modela

Kako bi se obezbedila pouzdanost i validnost razmatranog konceptualnog modela definisan je kontrolni model nad kojim je urađena konfirmatorna faktorska analiza (CFA-*Confirmatory Factor Analysis*). Dobijene vrednosti su prikazane u Tabeli 4.

Za pouzdanost kontrolnog modela koristi se pokazatelj *unutrašnje saglasnosti* (engl. *internal consistency*). Unutrašnja saglasnost je merena upotrebom Kronbahovog koeficijenta alfa (*Cronbach's Alpha*), koji pokazuje prosečnu korelaciju između svih vrednosti na skali, i kreće se između 0 i 1. Zavisno od prirode i namene skale, zahtevaju se različiti nivoi pouzdanosti. Na osnovu preporuke, koja je data u literaturi [20], ističe se da bi Kronbahov koeficijent alfa trebao biti $\alpha \geq 0,7$. Na osnovu dobijenih rezultata (Tabela 4) može se uočiti da su vrednosti Kronbahovog koeficijenta alfa za sve grupe pitanja iznad preporučene vrednosti. Takođe, izračunat je i Kronbahov koeficijent alfa za kontrolni model u celini koji iznosi $\alpha = 0,904$, što je daleko iznad preporučene vrednosti. Na osnovu dobijenih rezultata može se zaključiti da postoji unutrašnja saglasnost i da su istraživačka pitanja pouzdana za dalju analizu.

Konvergentna validnost kontrolnog modela potvrđuje se na osnovu dobijenih vrednosti CFA analize (Tabela 4) i potvrde fitovanja modela (Tabela 5). U poslednje dve kolone Tabele 4. može se uočiti da je faktorsko opterećenje u najvećem broju slučajeva iznad vrednosti 0,6, kao i to da su sve vrednosti *t*-testa dostigle nivo značajnosti od $p < 0,05$. Na osnovu toga se može zaključiti da je svaka odrednica razmatranih grupa pitanja postigla konvergentnu validnost.

Mere fitovanja kontrolnog i strukturnog modela

Na osnovu urađene CFA analize utvrđene su mere fitovanja (*goodness-of-fit measures*) kontrolnog modela. Vrednosti pojedinih parametara prikazani su u Tabeli 5, na osnovu kojih se određuje da li kontrolni model zadovoljavajuće fituje polazne podatke.

Tabela 5. Vrednosti indikatora fitovanja za kontrolni i strukturni model

Indikatori fitovanja	Vrednosti za kontrolni (merni) model	Vrednosti za strukturni (PATH) model	Preporučene vrednosti
Chi-Square (χ^2)	583,14	651,47	-
Degree of freedom (d.f.)	254	263	-
Relative Chi-Square ($\chi^2/d.f.$)	2,30	2,48	< 3,0
Root Mean Square Error of Approximation (RMSEA)	0,066	0,070	< 0,08 – 0,10
Goodness-of-Fit Index (GFI)	0,87	0,85	> 0,8
Adjusted Goodness-of-Fit Index (AGFI)	0,83	0,82	> 0,9
Comparative Fit Index (CFI)	0,97	0,97	> 0,9
Incremental Fit Index (IFI)	0,97	0,97	> 0,9
Normed Fit Index (NFI)	0,95	0,95	> 0,9
Non-Normed Fit Index (NNFI)	0,97	0,96	> 0,9
Relative Fit Index (RFI)	0,94	0,94	> 0,9

RMSEA je indikator koji se zasniva na aproksimativnoj grešci, koja se javlja usled očekivanog stepena slobode u populaciji. Što je njegova vrednost niža to je veća podudarnost, tj. model bolje fituje polazne podatke. Prihvatljiva podudarnost je ispod 0,08, a neki autori navode vrednost manju od 0,10 [22]. U mernom modelu, RMSEA indikator ima vrednost 0,066 što ukazuje na dobru podudarnost. GFI indikator predstavlja indeks podudarnih vrednosti, i meri koliko je model primenljiviji u poređenju sa situacijom kada uopšte nema modela. Rezultati merenja se kreću u intervalu [0,1], gde je 0 loša podudarnost (primenljivost), a 1 savršena podudarnost. Što je veća vrednost ovog indikatora veća je podudarnost, a prihvatljive vrednosti su iznad 0,8 [22]. U ovom slučaju, GFI indikator pokazuje dobru podudarnost kontrolnog modela, jer vrednost iznosi 0,87. Na osnovu dobijenih vrednosti za RMSEA i GFI indikator, može se zaključiti da postoji apsolutna podudarnost modela.

Takođe, na osnovu dobijenih vrednosti indikatora AGFI=0,83; CFI=0,97; IFI=0,97; NFI=0,95; NNFI=0,97 i RFI=0,94, čije vrednosti se smatraju prihvatljivim iznad 0,90, može se zaključiti da kontrolni model pokazuje solidno povećanje podudarnosti.

Ekonomičnost kontrolnog modela se obezbeđuje na osnovu prosečne *chi-square* vrednosti ($\chi^2/d.f.$). Ova vrednost mora biti veća od 1 a ispod vrednosti 3, kako bi se osiguralo fitovanje podataka, i kako bi bili zaista reprezentativni podaci. U našem slučaju ova vrednost iznosi $\chi^2/d.f.=2,30$, što je u granicama preporučene vrednosti prema literaturnim preporukama [18,22].

U komparaciji sa preporučenim vrednostima indikatora fitovanja, može se dati generalni zaključak da je postignuto dobro fitovanje kontrolnog modela. To znači da 25 promenljivih (pitanja) mogu na pouzdan i validan način da opišu formirane 7 grupe promenljivih (grupe pitanja) na osnovu konceptualnog modela, koji je prikazan na Slici 1.

Korelaciona matrica

Korelaciona matrica kontrolnog modela je urađena korišćenjem softverskog programa LISREL 8.80, a rezultati su prikazani u Tabeli 6.

Tabela 6. Korelaciona matrica latentnih promenljivih

Grupe pitanja	1	2	3	4	5	6	7
1. Kreativnost preduzetnika	1						
2. Distribucija znanja	0,46*	1					
3. Samoefikasnost preduzetnika	0,84**	0,44*	1				
4. Sakupljanje informacija	0,71**	0,40*	0,71**	1			
5. Inovativnost organizacije	0,50**	0,35*	0,38*	0,41**	1		
6. Timski rad	0,44*	0,54**	0,35*	0,42**	0,26*	1	
7. Profitabilnost organizacije	0,49**	0,49**	0,48**	0,36**	0,65**	0,37**	1

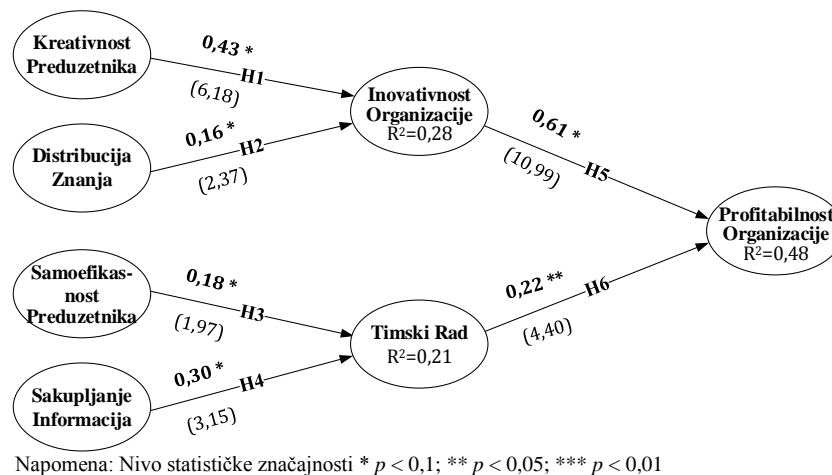
Napomena: Nivo statističke značajnosti * $p < 0,10$; ** $p < 0,05$; *** $p < 0,01$

Svi koeficijenti korelacije su pozitivni i iznad preporučene vrednosti od $r \geq 0,33$, što upućuje na zaključak da postoji pozitivna korelacija između latentnih promenljivih koji su od praktičnog značaja. Nivo statističke značajnosti korelacionih veza je označen zvezdicama.

1.11 TESTIRANJE STRUKTURNOG MODELA

Nakon urađene validacije kontrolnog modela i dobijenih zadovoljavajućih mera fitovanja, pristupilo se testiranju strukturnog modela, koji je definisan konceptualnim modelom na Slici 1. Analiza putanje (*Path Model Analysis*) je urađena korišćenjem kompjuterskog programa za statističku obradu podataka LISREL 8.80, pri čemu su utvrđene sekvencijalne relacije u definisanom konceptualnom modelu. Dobijene mere fitovanja za strukturni model prikazane su u Tabeli 5 gde je, zajedno sa merama fitovanja kontrolnog modela, urađena komparacija sa preporučenim vrednostima. Dobijene vrednosti mera fitovanja za kontrolni i strukturni model, ukazuju na prihvatljivost postavljenog konceptualnog modela.

Na osnovu ovakvih zaključaka, pristupilo se analizi i testiranju postavljenih hipoteza. Rezultati analize strukturnog modela prikazani su na Slici 2. Iznad strelica su vrednosti koeficijenata regresije (β -koeficijent putanje), koji objašnjavaju jačinu veza između zavisnih i nezavisnih promenljivih. Nivo statističke značajnosti je označen zvezdicama iznad koeficijenata regresije, a njihova vrednost prikazana u napomeni ispod slike. Podaci u zagradama predstavljaju vrednosti t -testa. Koeficijenti determinacije (R^2) su prikazani u poljima zavisnih promenljivih, koje pokazuju učešće objašnjenog varijabiliteta u ukupnom, odnosno koliko je varijacija zavisne promenljive objašnjena prediktorskom promenljivom.



Slika 2. Strukturni (Path) model

Na osnovu dobijenih rezultata *path* analize, može se uočiti da svi koeficijenti putanje (regresije) imaju pozitivnu vrednost, što znači da je svih šest hipoteza potvrđeno. Da bi se donela odluka o prihvatanju hipoteza urađen je odgovarajući *t*-test, i na taj način proverila statistička značajnost dobijenih rezultata. Na osnovu dobijenih rezultata (Slika 2) može se zaključiti da je svih 6 hipoteza prihvatljivo, jer su koeficijenti *t*-testa iznad preporučene vrednosti od 1,96, prema preporukama autora [18,19].

Rezultati testiranja hipoteza ukazuju na činjenicu da je svih šest istraživačkih hipoteza potvrđeno, prihvatljivo i statistički značajno, jer su dobijeni sledeći rezultati: H1 ($\beta=0,43$; $t=6,18$; $p<0,10$); H2 ($\beta=0,16$; $t=2,37$; $p<0,10$); H3 ($\beta=0,18$; $t=1,87$; $p<0,10$); H4 ($\beta=0,30$; $t=3,15$; $p<0,10$); H5 ($\beta=0,61$; $t=10,99$; $p<0,10$) i H6 ($\beta=0,22$; $t=4,40$; $p<0,05$).

Koeficijent determinacije R^2 (*Squared Multiple Correlations*) je indeks proporcije varijanse endogene promenljive, koja se izračunava preko egzogenih ili prediktorskih promenljivih. Što je veća vrednost koeficijenta determinacije veća je moć objašnjenja strukturnog modela, kao i bolje (jače) predviđanje zavisne promenljive. Koeficijent determinacije, u ovoj studiji, ukazuje na to da se uticaji latentnih prediktora “Kreativnost preduzetnika” i “Distribucija znanja” na latentnu endogenu promenljivu “Inovativnost organizacije” može obračunati sa 28% varijanse. Latentna endogena promenljiva “Timski rad” se može obračunati sa 21% varijanse latentnih prediktora “Samoefikasnost preduzetnika” i “Sakupljanje informacija”. Takođe, latentna endogena promenljiva “Profitabilnost organizacije” se može obračunati sa 48% varijanse latentnih prediktora “Inovativnost organizacije” i “Timski rad”.

5. ZAKLJUČAK

U poslednjih 25 godina, politički i ekonomski sistemi zemalja u tranziciji u centralnoj, istočnoj i jugoistočnoj Evropi, pretrpeli se velike promene. Ove promene imale su veliki uticaj na poslovanje organizacija, njihovo spoljno okruženje i konkurentske sposobnosti.

Prelazak organizacija sa centralno planske na tržišno orjentisanu privredu predstavljao je radikalnu promenu, što je onemogućilo organizacije da simultano sprovedu i unutrašnju reorganizaciju i da se uspešno prilagode novim spoljašnjim uslovima.

Autori su ovim radom želeli da, na nivou pojedinca, ukažu na mehanizme na osnovu kojih preduzetničke aktivnosti utiču na profitabilnost MSP u Srbiji, konkretno u Pirotskom okrugu. Na osnovu relevantnog istraživanja i adekvatne literature, postavljen je istraživački model i šest hipoteza. Dobijeni rezultati statističke analize su pokazali da je svih šest testiranih istraživačkih hipoteza potvrđeno, prihvatljivo i statistički značajno. Generalni zaključak ovog istraživanja je da se povećanjem kreativnosti preduzetnika i distribucije njihovog znanja povećava inovativnost organizacije, da se povećanjem samoefikasnosti preduzetnika i načinom prikupljanja informacija povećavaju efekti timskog rada, kao i to da sa porastom inovativnosti organizacije i efekata timskog rada raste i profitabilnost organizacije.

Dobijeni rezultati u ovom radu mogu da budu dobra osnova za dalja istraživanja i u drugim ekonomijama u regionu, i upotrebljeni za njihovu komparativnu analizu sa ciljem utvrđivanja univerzalno važećih veza koje bi mogle biti važne za razvoj preduzetništva.

REFERENCE

1. Keh, H.T., Nguyen, T.T.M., Ng, H.P. (2007). The effects of entrepreneurial orientation and marketing information on the performance of SMEs. *Journal of Business venturing*, 22, 592-611.
2. Naude, W. (2010). Entrepreneurship, Developing countries, and development economics: New approaches and insights. *Small Business Economics*, 34(1), 1-12.
3. Engelen, A., Heinemann, F., Brettel, M. (2009). Cross-cultural entrepreneurship research: Current status and framework for future studies. *Journal of International Entrepreneurship*, 7(3), 163-189.
4. Leskovar-Spacapan, G., Bastic, M. (2007). Differences in organizations' innovation capability in a transition economy: Internal aspect of the organizations' strategic orientation. *Technovation*, 27(9), 533-546.
5. Nystrom, H. (1993). Creativity and entrepreneurship. *Creativity and Innovation Management*, 2(4), 237-242.
6. Baron, R. A., Tang, J. (2011). The role of entrepreneurs in firm-level innovation: The joint effects of positive affect, creativity, and environmental dynamism. *Journal of Business Venturing*, 26(1), 49-60.
7. Silvia, P.J., Kaufman, J.C., Pretz, J.E. (2009). Is creativity domain-specific? Latent class models of creative accomplishments and creative self-descriptions. *Psychology of Aesthetics, Creativity, and the Arts*, 3(3), 139-148.

8. Hall, B.H., Lotti, F., Mairesse, J. (2009). Innovation and productivity in SMEs: Empirical evidence for Italy. *Small Business Economics*, 33, 13-33.
9. Hasan, I., Low, P.K.C., Islam, M.Z. (2013). Knowledge management, Knowledge Transfer and Corporate Social Responsibility (CSR). *Springer link: Encyclopedia of Corporate Social Responsibility*, 1555-1562.
10. Zhang, P., Ng, F.F. (2012). Attitude toward knowledge sharing in construction teams. *Industrial Management & Data Systems*, 112(9), 1326-1347.
11. Soo, C.W., Devinney, T.M., Midgley, D.F. (2007). External knowledge acquisition, creativity and learning in organisational problem solving. *International Journal of Technology Management*, 38(1-2), 137-159.
12. Yang, H.L., Cheng, H.H. (2009). Creative self-efficacy and its factors: An empirical study of information system analysts and programmers. *Computers in Human Behavior*, 25(2), 429-438.
13. Tang, J. (2008). Environmental munificence for entrepreneurs: entrepreneurial alertness and commitment. *International Journal of Entrepreneurial Behaviour and Research*, 14(3), 128-151.
14. European Commission (2010). *Internationalisation of European SMEs*. Brussels: Directorate-General for Enterprise and Industry, European Commission.
15. Love, J.H., Roper, S. (2015). SME innovation, exporting and growth: A review of existing evidence. *International Small Business Journal*, 33(1), 28-48.
16. Golovko, E., Valentini, G. (2011). Exploring the complementarity between innovation and export for SMEs growth. *Journal of International Business Studies*, 42, 362-380.
17. Levine, C., (2007). Neural correlates of corporate camaraderie and teamwork. *Annals of the New York Academy of Sciences*, 1118, 102-108.
18. Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., Tatham, R.L. (2006). *Multivariate Data Analysis, 6th Edition*, Pearson Prentice Hall, Upper Saddle River, NJ.
19. Ho, R. (2006). *Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS*, Chapman & Hall/CRC, Taylor & Francis Group.
20. Nunnally, J.C. (1978). *Psychometric Theory, 2nd Edition*. McGraw-Hill, New York.
21. Tenenhaus, M., Vinzi, V.E., Chatelin, Y.M., Lauro, C. (2005). PLS path modeling. *Computational Statistics and Data Analysis*, 48(1), 159-205.
22. Molina, M.L., Montes-Lorens, J., Ruiz-Moreno A. (2007). Relationship between quality management practices and knowledge transfer. *Journal of Operations Management*, 25, 682-701.

THE STAFF EVALUATION AS A SOURCE OF INFORMATION FOR THE MAIN FUNCTIONS AND ACTIVITIES IN STRATEGIC HUMAN RESOURCES MANAGEMENT

Valentin Vassilev, Stefan Novoselski

SWU "N.Rilski" Blagoevgrad, Bulgaria

Abstract: The report examines the critical importance of the personnel evaluation in its quality as a source of information for effective implementation of the main functions and activities in strategic human resources management in the organizations in the public sphere. The direct link between staff evaluation and policy and strategy in human resources management, planning of human resources needs, their selection, their motivation and last but not least the training and development of people in the institutions is examined. Furthermore trends and challenges, facing these relationships, are discuss and the need of their implementation in practice with reference to efficient human resources management is motivated.

Keywords: Staff evaluation, strategic HR management

STRATEGIC APPROACH TO CORPORATE GOVERNANCE AND FOREIGN DIRECT INVESTMENT – THE WESTERN BALKANS

Nada Vignjević Đorđević¹, Safet Kurtović²

*¹State University Novi Pazar, Serbia; ²University Džemal Bijedić Sarajevo, Faculty of
Economics, Bosnia and Herzegovina*

Apstrakt: Foreign direct investments (FDI) are an important initiator of economic development in the Western Balkans. The Western Balkan countries include: Albania, Bosnia and Herzegovina (B&H), Croatia, Macedonia, Montenegro and Serbia. Among the countries of the Western Balkans we analyze Croatia, too despite the fact that it joined the EU in July 2013. The countries of the Western Balkans, in comparison with the countries of Central and Eastern Europe, have received less FDI during the 1990s. The main reason for this is that most of the countries of the Western Balkans were in transition or in the war conflict. Countries such as Albania, Bulgaria, Croatia, Macedonia, Romania, Yugoslavia, except Bosnia and Herzegovina, which was at war, were observed since 1990 until 1996 when they realized FDI inflows amounting to 3,4 billion dollars or 5.7% of total FDI in relation to the 27 transition economies in the world. Observed since 1989 till 2000 FDI inflows within the Western Balkan countries amounted to 15,3 billion dollars or 9.4% of total FDI in relation to 27 transition economies. The Western Balkan countries have achieved FDI of 5.8% in 2010, and all the countries of South Eastern Europe recorded 14.7% (South East European countries are all the countries of the Western Balkans, as well as, Romania and Bulgaria) (11).

Keywords: Transition, business strategy, foreign direct investment, corporate governance

1. FOREIGN DIRECT INVESTMENTS INFLOWS TO WESTERN BALKANS

Observing the individual countries of the Western Balkans, we can point out that the Bosnia and Herzegovina realized FDI in the amount of 5,856 million euros in the period 2005-2013 (4). According to the Central Bank data increase in foreign direct investment was registered in 2010 and 2011. The inflow of FDI in 2010 increased by 307 million euros or 70.5% compared to 2009 year. FDI inflows in 2011 amounted to 355 million euros, which represented 2.7% of GDP and an increase of 15.7% compared to 2010. Unfortunately, besides promising assessment, foreign direct investments in 2012 amounted to 285 million euros, which represented a decrease of 2.2% of GDP or 19.6% compared to 2011. Significant decline in FDI inflows has continued during 2013, amounting to 252 million euros.

Albania realized FDI inflows of 1,051 billion dollars in 2010. A slight decrease of the FDI was recorded in 2011 in amount of 1,036 billion dollars. The downward trend continued in 2012 when the total FDI amounted 957 million dollars. In 2013 there was a significant increase in FDI inflow in the amount of 1,35 billion dollars (2). Montenegro achieved total FDI inflow in the amount of 1,066 billion euros in 2009. This year was followed by a decline

in FDI inflows in 2010 (552,107 million euros). In 2011 downward trend continues and FDI records 389,104 million euros. A slight increase in FDI inflow was recorded in 2012. It was 461,590 million euros and in 2013 followed another fall in the inflow of FDI to 323 million euros (6).

In the period since 1993 until 2013 Croatia achieved total FDI inflow in the amount of 26,865 billion euros. 2008 was a record year, because the FDI inflow was in the amount of 4,053 billion euros. This year was followed by a decline in FDI inflows in 2009 (2,408 billion euros) and also in 2010 (370 million euros), which is linked to the recession in the eurozone and Croatia itself. During 2011 and 2012 FDI in Croatia recorded a significant increase of 1,091 and 1,055 billion euros, respectively. In 2013 it is recorded a significant decline in FDI inflow in the amount of 436 mil. euros (14). In the period since 2005 until 2012 Serbia recorded a net inflow of FDI of 12,5 billion euros. In 2006 Serbia achieved a record in net inflow of FDI in the amount of 3,322 billion euros. This year was followed by a significant decrease in the inflow of FDI. During the 2010 and 2011 the FDI amounted 860 million euros and 1,826 billion euros, respectively. In 2012 occurred a drastic decline in FDI, and totalled only 241 million euros. In 2013 recorded a significant increase in FDI inflow in the amount of 768,534 million euros (18). In the period since 2003 till 2013 Macedonia achieved a total net FDI inflows amounting to 2,938 billion euros. Record year in the inflow of FDI to Macedonia was 2007, when FDI stood at 506 million euros. In 2010 FDI amounted to 160 million euros. In 2011 FDI were 336,8 million euros. In 2012 and 2013 FDI amounted 72 and 251,5 million euros, respectively (19).

The main goal of this paper is to explore the main determinants that affect the inflow of FDI in countries of the Western Balkans. First of all, the size of gross domestic product per capita (GDP), growth rate of gross domestic product, the share of trade in GDP and inflation rates. Accordingly, the aim of this study is to determine which of these variables have greater impact on FDI inflows into a country and identify the reasons why some variables have less influence in attracting FDI. Therefore, in paper we apply panel regression analysis by which we measure the impact of these phenomena.

The structure of the paper is organized in the following manner. After the introduction second part presents a theoretical approach that explains the background of applied research. In the third part were identified determinants which affect the inflow of FDI in countries of the Western Balkans. The fourth section presents the data and model studies. The fifth section presents the results of research and conclusions.

2. DATE AND METHODOLOGY

The data used in this exploration were taken from the database of the World Bank. We selected a sample of six Western Balkan countries. We analyzed the time period since 1994 until 2012. It is a period when most of Western Balkan countries were in a transition phase. In our panel regression analysis dependent variable is net FDI inflows, while the independent variables are GDP per capita, GDP growth, the share of trade in GDP and the inflation rate. In research, we used a panel regression, which consists of 6 cross sections, 19 periods and 114 observations. Regression analysis is used in order to investigate the influence of independent variables on the inflow of FDI in the countries of the Western Balkans. The survey did not

measure the individual impact of these factors in each country, but in all the countries of the Western Balkans as a whole. In this paper, we started from the regression equation

$$FDI_{it} = \beta_0 + \beta_1 GDP_{it} + \beta_2 GG_{it} + \beta_3 TRA_{it} + \beta_4 CPI_{it} + \dots + \varepsilon_{it} \quad (1)$$

FDI_{it} – Net foreign direct investment in current dollars for the country i in time t ; GDP_{it} – Gross domestic product per capita in the country i in the period t ; GG_{it} – Growth rate of gross domestic product in the country i in the period t ; TRA_{it} – The Share of Trade in GDP for the country i in the period t ; CPI_{it} – Consumer Price Index in the country i in the period t ; ε_{it} – error relations in the period t .

In our analysis wasn't observed a high correlation between the observed variables within the initial value. It is generally known that a high correlation can lead to a problem of multicollinearity. This means that it is difficult to assess the correlation of one variable while the correlation of other variables is constant. All this leads to a less reliable conclusion. The problem of multicollinearity is present if two regression variables (or more) are linearly dependent or nearly linearly dependent (including variable $x_0 = 1$, which generates a constant member). Much more common and serious is problem of approximate multicollinearity or nearly linear dependence of regression variables, and which exists if two or more regression variables are highly correlated. When the observed variables are highly correlated, it is difficult to separate their individual effects on the dependent variable. If the objective of forecasting is future value of the dependent variable on the basis of the established

This means that there is a strong connection between FDI inflows and GDP in the Western Balkans countries. Higher GDP per capita can be a sign of a larger market and improvement of the business climate. Equally, in the case of TRA or the trade share of GDP – values is less than 5% of the eligible amount, which means that we reject the null hypothesis and we consider that the given variable is significant. The main explanation why the share of trade in GDP is significant, has been explained by the increased openness in terms of imports and exports of selected countries and their presence in a number of trade and customs agreements, such as the EU, CEFTA, EFTA, etc. Regarding the growth rate of gross domestic product or GG and inflation rate CPI we can say that they are insignificant, or that haven't a significant impact on FDI inflows. Their value is above the threshold of 5%. If the growth rate of gross domestic product was observed high value that exceeds the determined amount of 5%, which indicates that it is insignificant, and that does not affect the inflow of FDI . This is explained by the fact that the observed countries in the analyzed period had the most part a low rate of growth, which had a negative impact on FDI inflows. The rate of inflation or CPI is also insignificant, indicating that inflation does not affect the net inflow of FDI . This statement is identical to the previously conducted research.

3. THE EMPIRICAL RESULTS

In this paper we analyzed the impact of variables on the net inflow of FDI (1), such as GDP, growth rate of gross domestic product, the share of trade in GDP and inflation rate. Based on the identified results through the application of panel regression, we came to the

following conclusions. On the net inflow of FDI in the Western Balkans was determined a significant effect in the case of GDP, the share of trade in GDP, while in the case of GDP growth and inflation rate was found insignificant effect, and their negative effect on FDI. The positive effect of GDP per capita in the net inflow of FDI in Western Balkan countries can be explained by the fact that these countries as a whole, represent an important market in terms of size and future market potential. In the early 1990s, and during the transition period, the GDP per capita in the Western Balkan countries was low, in order to the early 2000s there was a significant increase due to the inflow of FDI which together with the process of transition and privatization played a critical role. These processes are not taking place equally well in all countries (3,4,5). In particular, this process is delayed in Bosnia and Serbia. In case of the share of trade in GDP we found a significant effect of the given variable to the net inflow of FDI. First of all, this is the result of a policy of openness and liberalization of economies of those countries. In particular, this effect is enhanced by the moment when the majority of countries signed an agreement on accession and candidate status. Beside this, these countries became members of the trade agreements, such as CEFTA, EFTA, etc. All this resulted in increased inflow of FDI.

Table 1. Panel EGLS (Cross-section random effects)

Dependent Variable: FDI
Method: Panel EGLS (Cross-section random effects)
Date: 06/01/14 Time: 18:56
Sample: 1994 2012
Periods included: 19
Cross-sections included: 6
Total panel (balanced) observations: 114
Swamy and Arora estimator of component variances

Variable	Coefficient	Std. Error	t-Statistic	Prob.
C	-0.163981	0.192724	-0.850859	0.3967
GDP	0.050375	0.004049	12.43977	0.0000
_GG	0.001017	0.006874	0.147950	0.8827
_TRA	0.002437	0.002089	1.166795	0.2458
_CPI	-0.001207	0.003017	-0.399881	0.6900
Effects Specification				
			S.D.	Rho
Cross-section random			0.000000	0.0000
Idiosyncratic random			0.684137	1.0000
Weighted Statistics				
R-squared	0.591489	Mean dependent var		0.750038
Adjusted R-squared	0.576498	S.D. dependent var		1.084160
S.E. of regression	0.705539	Sum squared resid		54.25859
F-statistic	39.45570	Durbin-Watson stat		0.840969
Prob(F-statistic)	0.000000			
Unweighted Statistics				
R-squared	0.591489	Mean dependent var		0.750038
Sum squared resid	54.25859	Durbin-Watson stat		0.840969

Source: Author's

Note: ***, **, and * represent statistical significance at the 1%, 5%, and 10% level, respectively.

4. CORPORATE GOVERNANCE AND MODELS OF PRIVATIZATION IN TRANSITION COUNTRIES

Models of privatization in transition countries provide different operational efficiency and the quality of corporate governance. Although, at the end of the eighties, it was thought

that each privatization method contributes to better corporate governance by providing property owners, fifteen years of experience in transition countries and practice different models of privatization have shown that this is not the case. Two dominant approach to privatization was the public offering of stock, which resulted in dispersed ownership structures, and the sale of assets, which is usually associated with the sale of the majority share of an investor or consortium of investors [8]. In transition countries, the choice of privatization method was connected and influenced the level of investor protection and the development of a formal corporate governance. Countries with weaker legal protection of investors, mostly used method of selling assets as a privatization method. However, some countries, and when the initial level of legal protection of investors was low, implemented voucher privatization as the primary method of sale.

During the process of privatization is increasing public interest in the functioning of financial markets, corporate governance and laws on securities. Studies provide evidence that the system of corporate governance significantly affects the size of the capital market, ownership structure and efficiency of the privatized companies [9]. The differences in the legal protection of investors, in different economies, affect the development and functioning of capital markets. Countries with "common law" system, providing better protection for investors, with large financial markets compared to countries with "civil law" system that provides less protection of investors. Therefore, the legal system primarily affects the functioning of financial markets and corporate governance in transition countries [10].

The area of corporate governance is an important element in the transition strategy, primarily as a factor in achieving economic growth, financial stability and increase private sector productivity. However, it appears that the transition countries (9) did not pay enough attention to this factor, improved performance, and is typically passed quite a long transition period before he began to apply the recommendations of the observance of codes of business and apply the standards and guidelines of international organizations. Creating a system of corporate governance in a transition economy need to be aligned with the specific circumstances of transition and privatization in particular the organization of the stock exchange, because the challenges that lie ahead of corporate governance reform in transitional economies considerably larger and heavier than the current corporate governance reform implemented by developed economies . The problem of corporate governance in developing countries and countries in transition is quite different from the problems they are facing developed countries [11]. The transition process of each country has a specific, so there is no unique way of improving this sphere of business. Formulation of national models of corporate governance requires involvement of the state in a transition economy, understanding the long process of improving corporate governance in relation to the entire duration of the transition period, the need for the adoption and implementation of effective legislation, and radical intervention in the market.

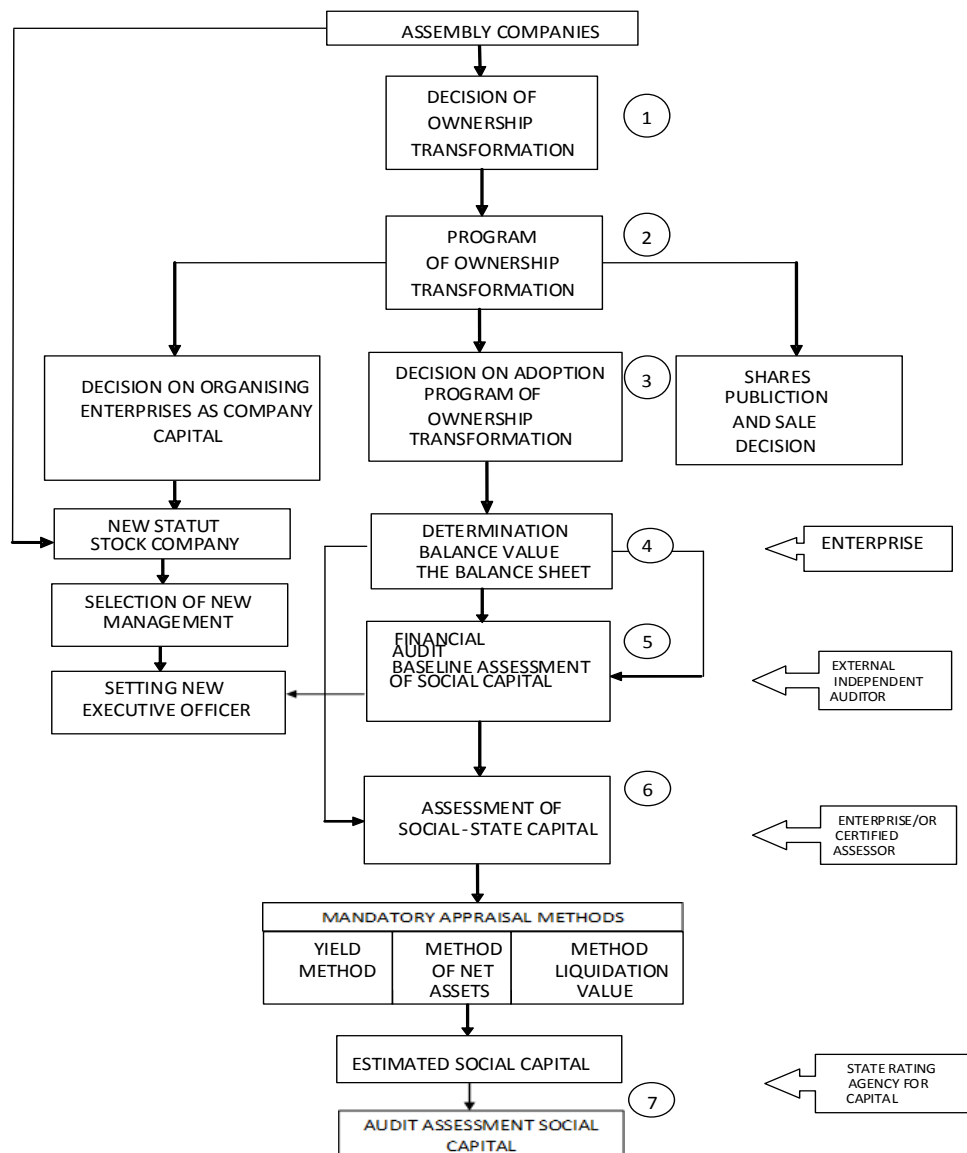
The experience of countries in different regions have shown that the mere making of the methods and manner of implementation of privatization organizovang usually not sufficient for the transition to a market economy system. Especially the large scale implementation of complementary and complementary measures, from building an institutional environment and law enforcement, to stimulate competition, market development and strengthening of corporate governance that are themselves separate from the process of

privatization and require specific policy decisions [12]. Necessary precondition of improving corporate governance mechanisms in developing countries are developed institutions and providing an efficient inference and respect for the rights of the contract. It turned out to be less effective means of action to protect the rights of small shareholders when institutions are poorly developed. In addition, privatization must be provided strong protection of investors because, otherwise, they will not be able to provide better performance of company operations due to the emergence of serious agency problems (with various forms of expropriation). It turned out that, in developed economies, the difference between the market-oriented banking and corporate governance system based on large differences in ownership structures and institutional environment [13].

The market for corporate control are realized different activities, which can not be easily classified. Many different strategies can be divided into offensive and defensive. Offensive-oriented takeover of other companies, a defensive to defend against takeovers. As part of the offensive strategy, there are three types of activities: acquisitions and mergers of companies or mergers, when there is a voluntary association of two companies through arrangements and agreements between managers and owners interested companies. The essence of a hostile takeover is that one company buys the stock market shares of another enterprise, against the will of the owner. There are different variations of this acquisition. One of the most common is through a public offer to buy shares of the company, which is the object of takeover (tender offer) where a company that wants to take over another company offers a purchase price of more than the current market price. Thus, attempts to acquire a controlling stake and assume effective control. Struggle agent (proxy fight) is a mechanism in which minority group in the general assembly is trying to win the votes of other shareholders to take control.

The capital market is an important external disciplining mechanism of managerial behavior. The market price is formed based on all available information for corporations, which shows the success of the corporation's management and performance management. So when management mismanaged affairs of the company, the share price decreases, since information about the fading performance encourage existing shareholders to sell their shares and seek investments that will generate a higher return. In this way, the owners of the corporation effectively vote on the quality of management (management corporation) (7,8,20), or buying and selling of stocks express trust or confidence in the future performance of the Corporation.

The market for corporate control should be allowed to function in an efficient and transparent manner (21,22). This means that all the rules and procedures governing the acquisition of corporate control in the capital market should be transparent and share prices (as they would agree to sell the shares at the time of supply), not after the completion of the takeover process when it is possible to sell the shares and the higher price. Download includes a developed money market in which the attacker can collect large sums of money for the operation of hostile takeovers. In addition, the board of directors and management companies often have at their disposal a number of different techniques of defense against a hostile takeover, which is held mostly at the expense of shareholders' assets. In addition, the lobbies managers often fail to cope and legal restrictions. The market for corporate control is the major mechanism of reducing agency costs in the outsider system of corporate governance.



Source: Corporate Governance: State and Trends in the region – a regulatory approach, *Ekonomika preduzeća*, LXII, sept-okt 2014, 2014 str. 264-280, ISSN 0353-443X

Graphic 1. Process chart of ownership transformation

Stability of a financial system (17) depends on the ability of the system to respond to the demands of time in which to exercise its functions. If these functions are not in fully implemented in the laws and regulations governing the financial system of a country, it is understandable that there is a need for such legislation and such a system to be aligned with the current needs and requirements of the financial markets. In everyday life, changes are becoming increasingly normal and commonplace. The need for change has become one of the

biggest challenges facing the modern strategic management of the company. Looking at the macro level, due to varying success in coping with the coming changes, rearranges the relative position of individual countries, their industrial base, wealth and power.

Privatisation has had a significant impact on the development of stock markets around the world. World Bank study on the stock market in transition countries shows that privatization policy, which is aimed at the development of formal institutions and corporate governance which prescribed for companies listing on the stock exchange as a mandatory segment of the privatization process, has failed to develop the capital market.. Apart from these, the countries in transition are often implemented and hybrid forms of privatization which represented a combination of both. Studies show that, in countries in transition, a business performance improvement achieved in the companies that have concentrated ownership structure, especially in cases where the owner was concentrated foreign investor (strategic partner). The influence of foreign owners and foreign strategic partner, was significantly more positive for the business performance of companies in relation to the impact of decentralized local owner.

5. CONCLUSION

In our study we found that variables such as GDP growth and inflation are not significant, i.e. they do not affect the net inflow of FDI. The rate of GDP growth was evidently low until the 2000s, and after this period it grew at a moderate rate. However, since 2008 all countries have a decrease in the rate of growth of GDP, as a result of the global economic recession. As for the inflation rate, in most countries it has been at a very low level during this period, except for Serbia, which had a decade inflationary problems. The presence of low inflation has not had a positive effect on attracting FDI, which confirms earlier research determined that inflation is not a crucial factor in attracting FDI.

An important factor for a successful privatization program and the quality of the institutional environment in the country. In countries where there is an institutional basis, privatization was associated with significant further improvement of institutional quality, and strengthening the regulatory structure. The basic premise of a successful privatization and the respect for legal rules. Counterbalance this positive development is an indication that in countries with poor institutional quality at an entry level of privatization, the formal institutions of government have not been developed and the underdeveloped institutions difficult to sustain.

In our conditions, where the companies are in the process of transition, the various transformation processes are becoming more important given that in many companies, in the past, affected the scope and structure of the business, and that the quality of their business performance over a longer period of time under a minimally acceptable level. Therefore, it is clear that they are to successfully cope with the competition must first train to meet modern standards of business. The contemporary view of corporate governance can not be implemented without consideration of important events and relationships that crystallized the practice of developed countries. To the rule of law, institutional development, contract defining the relationship of the corporation, the protection of property rights, managers

discretion and the agency problem. Corporate governance researching proceeds multidisciplinary approaching with concern finance, social science, political science and strategic governance. Corporate governance system refers to entire laws, quality institutions, professional chambers and business ethics. In emerging markets many of links missed, approaching by assessment corporate governance system stability faced to difficulties of state governance weaknesses. Corporate governance quality based the substance elementary share protecting roles and market institutions integrity.

REFERENCES

1. Anyanwu, C.J., Determinants of Foreign Direct Investment Inflows to Africa, 1980-2007, African Development Bank Group, Working Paper No. 136, 2011
2. Bank of Albania, *Bulletin of the Bank of Albania (H II, 2013)*, Bank of Albania, 2014
3. Bellak, C., Leibrecht, M., Leibensteiner, M, Attracting foreign direct investment: the public policy scope for South East European countries, *Eastern Journal of European Studies*, Vol. 1, No. 2, December, 2010 pp. 37-52.
4. Botrić, V., Skuflić, L, Main Determinants of Foreign Direct Investment In The South East European Countries, 2nd Euroframe Conference on Economic Policy Issues in the European Union “Trade, FDI and Relocation: Challenges for Employment and Growth in the European Union?”, Vienna, Austria, 2005
5. Botrić, V., Foreign direct investment in the Western Balkans: privatization, institutional change, and banking sector dominance, *Economic Annals*, Vol. LV, No. 187, October – December, 2010 pp. 7-30.
6. Central Bank of Montenegro, Central Bank Bulletin, *Centralna banka Crne Gore, *Bilten Centralne banke Crne Gore*, Podgorica, Centralna banka Crne Gore, 2014
7. Cevis, I., Camurdan, B., The Economic Determinants of Foreign Direct Investment in Developing Countries and Transition Economies, *The Pakistan Development Review*, Vol. 46, No 3, Autumn, 2007 pp. 285-299.
8. Culahović, B., Mehić, E., Agić, E., Selimović, J., The Impact of Institutional Quality Development on Foreign Direct Investment: Evidence of The Manufacturing sector in SEE countries, 6th Research/Expert Conference with International Participations “QUALITY 2009“, Neum, June 04–07, B&H, 2009
9. Dauti, B., Determinants of FDI inflow in South East European Countries, Panel Estimation, Tirana International Conference, December, Retrieved on March 27, 2008

10. Dumludag, D., Soukroglu, D., The Impact of Macroeconomic and Institutional variables on foreign direct investment flows in emerging markets, Marmara Universities, I.I.B.F. Dergisi, CILT XXIII, SAYI2, 2007 pp.133-165.
11. Estrin, S., Uvalić, M., Foreign direct investment into transition economies: Are the Balkans different? *LEQS paper*, No. 64. July, 2013 pp. 5- 39.
12. Gentvilaitė, R., Determinants of FDI and its Motives in Central and Eastern European Countries, School of Economics and Management, Bachelor Thesis, Lunds University, January, 2010
13. Haansen, E. B., *Econometrics*, University of Wisconsin, Chicago, 2014
14. Central Bank of Croatia, Foreign direct investments in Republic of Croatia, by years (Hrvatska narodna banka, [Inozemna izravna ulaganja u Republiku Hrvatsku \(po godinama\)](#), Hrvatska narodna banka), 2014
15. The International Bank for Reconstruction and Development/ The World Bank, Doing Business 2007: How to reform, comparing regulation in 175 economies, 2006,3
16. IMF, Monetary and Exchange Rate Policies of the Euro Area, IMF Country Report No.01/06, Washington, D.C. pp 21
17. Frommel, Michael. Volatility Regimes in Central and Eastern European Countries, 2006, www.wiwi.uni-hannover.de
18. Central Bank of Serbia, Balance of payment – Foreign direct Investments in currencies, neto, by countries, (Narodna banka Srbije, *Platni bilans – strana direktna ulaganja u novcu, neto, po zemljama*), 2005-2013(BPM5), Narodna banka Srbije, 2014
19. National Bank of the Republic of Macedonia (2014), *Basic Economic Indicators for Republic Of Macedonia*, National Bank of the Republic of Macedonia.
20. Vignjević Đorđević N., International economics, Finegraf, Belgrade. (Međunarodna ekonomija, Finegraf, Beograd), 2010, p 310
21. Vignjević Đorđević N., Corporate Governance: State and Trends in the region – a regulatory approach, *Ekonomika preduzeća*, LXII, sept-okt 2014, 2014 str. 264-280, UDC 65 ISSN 0353-443X, pp 264
22. Jevtić N., Vignjević Đorđević N., Jevtić S., The quality of corporate governance and environmental impact, (Kvalitet korporativnog upravljanja i uticaj na životnu sredinu), *Ecologica*, No 76, god. XXI Beograd, 2014. str. 650-655 UDC: 502,7 ISSN 0354-3285, pp 650

EFFECTS OF APPLICATION OF ELECTRONIC SYSTEM BUS4I THE EXPLOITATION AND MAINTENANCE OF FUNDS FOR PASSENGER TRANSPORT THE JKP "ZENICATRANS PREVOZ PUTNIKA" DD ZENICA

Jusuf Boric¹, Sulejman Muhamedagić², Mirsada Oruč³

¹JKP "Zenicatrans prevoz putnika" d.d. Zenica; ^{2,3}Fakultet za metalurgija i materijale, Univerzitet u Zenici, Bosnia and Herzegovina

Abstract: One of the main tasks during exploitation of motor vehicles is their maintenance in a technically correct condition. Diagnostics and monitoring cost of maintaining motor vehicles are essential for the safety of passengers and reduce costs. The application of electronic systems in the process of maintenance funds for the transportation of passengers are timely and continuous information allows for the analysis of: the work of employees in the maintenance, the length of time the repairs of the unit, of the total expenditure of the work on the listed under repairs, spare parts consumption and monitoring of all the other elements during exploitation of vehicles. This kind of monitoring of maintenance costs provided the perpetrators, increasing productivity, improving maintenance of motor vehicles roadworthiness and safety of passengers.

Keywords: electronic system, motor vehicles, maintenance, cost reduction, security

1. UVOD

Preduzeće za prevoz putnika „Zenicatrans“ je osnovano 21. marta 1958. godine. Početak rada je bio sa 3 prevozna sredstva za prevoz putnika u gradu na tri linije. U svom razvoju preduzeće je prolazilo kroz mnoge organizacione promene. U 1989. godini dostignut je maksimum razvoja: ostvaren je prevoz 36 miliona putnika, pređeno je 10,4 miliona kilometara sa 154 autobusa i 526 zaposlenih. U periodu 1992. -1995. godine uništen je veliki broj vozni jedinica. Nakon 1995. godine preduzeće je radilo s nekoliko dotrajalih autobusa.

U 2007. godini preduzeće je dobilo naziv Javno komunalno preduzeće (JKP) „Zenicatrans-prevoz putnika“ d.d. Zenica. Vlasnička struktura je: 83% državni a 17% privatni kapital. Osnovna delatnost je prevoz putnika u gradskom, prigradskom i međugradskom saobraćaju. Danas preduzeće ima 176 zaposlenih i 50 autobusa. Kontinuirano dnevno ima 600 polazaka na općinskim, kantonalnim i federalnim linijama.

Do marta 2007. godine sistem obrade informacija iz prevoznog procesa zasnovan je na putnom nalogu koji nije omogućavao uvid u većinu aktivnosti iz tog procesa. Usljed svakodnevnih organizacionih i subjektivnih problema prilikom izdavanja pojedinačnih i mesečnih karata, sistema zaduživanja i razduživanja istih, te razduživanja novčanih sredstava od strane vozača i blagajnika, nije se mogao kontinuirano i svakodnevno kontrolisati priliv

novčanih sredstava. Ovakav način obrade informacija menadžmentu preduzeća nije pružao kontinuirane i blagovremene informacije koje su bitne za vođenje procesa.

U martu 2007. godine donešena je odluka za početak pilot projekta primene elektronskog sistema naplate karata. Osnovni cilj primene elektronskog sistema naplate karata - bezkontaktna čip kartica bio je smanjiti vreme izdavanja karata na autobuskim stajalištima, zadržavanja autobusa na stajalištima i rada motora vozila u neutralnom položaju.

Sva vozila, blagajna i tehnološka služba su opremljena elektronskim uređejima za prodaju pojedinačnih karata i evidentiranje bezkontaktnih – čip kartica. Primenom ovakvog sistema izdavanja karata, rezultiralo je u smanjenju vremena pri izdavanju pojedinačnih i mesečnih karata, administrativnih poslova kod vozača autobusa, zadržavanja autobusa na autobuskim stajalištima. Elektronski sistema naplate karata također se odrazio na smanjenje potrošnje goriva autobusa pri stajanju na autobuskim stajalištima što direktno utiče i na smanjenje zagađenja životne sredine.

U 2011. godini postojeći pilot projekt primene elektronskog sistema naplate karata je proširen i uveden je informacioni sistem BUS4i. Ovaj sistem omogućio je praćenja potrošnje svih vrsta materijala, goriva, maziva, efektivnih sati usluga održavanja i drugih parametara koji bitno utiču na funkcionalnost, bezbjednost i ekonomičnost rada preduzeća, pojedinačno za svako prevozno sredstvo.

2. ELEKTRONSKI SISTEM NAPLATE KARATA

2.1. MOBILNI TERMINAL IT 3000

U 2007. godini urađena je prva faza na uvođenju elektronskog sistema naplate karata za prevoz putnika u saradnji sa firmom “Četrta Pot” d.o.o iz Kranja, Slovenija. Nabavljena su dva mobilna elektronska aparata IT 3000 i sa pojedinačnom prodajom karata u autobusu. Na slici 1. dat je izgled mobilnog aparat IT 3000 namenjenog za prodaju karata u autobusu kao i za kontrolu karata koju vrše kontrolori.



Slika 1. Mobilni aparat IT 3000 [1]

Aparat IT 3000 se sastoji od: terminala, integriranog termalnog pisača, integriranog čitača e – karte, integrirane SQL baze, TFT zaslona u boji osetljivog na dodir, Windowsa CE OS, 32MB RAM.

Detaljna analiza podataka koji je omogućio novi sistem ukazala je na korisne informacije u poboljšanju tehničkih, tehnoloških i ekonomskih parametara za prevozno sredstvo. Na osnovu analize o primeni mobilnog aparata IT 3000 donešena je odluka za drugu fazu realizacije elektronskog sistema naplate karata.

2.2. Stabilni aparat TA – 400 s terminalom BT3 i elektronska kartica

Druga faza realizacije je bila kontinuirana nabavka mobilnih aparata i stabilnih TA – 400 s terminalom BT3 i elektronskih kartica (čip kartica). Na slici 2. dat je izgled stabilnog aparat TA - 400 s terminalom BT3 (čitač) u vozilu. Aparat je montiran kod vozača, koji preko zaslona na dodir na jednostavan način upravlja sa prodajom karata.



Slika 2. Stabilni aparat TA 400 s terminalom BT3 u vozilu [1]

Tehnička svojstva stabilnog aparat TA - 400 s terminalom BT3 su: davanje informacija o angažovanim sredstvima, kompletna POS aplikacija, prenos podataka sa ključem, WLAN ili GPRS, integrirana SQL baza, povezivanje na GPS sistem, LED zaslone, veliki TFT zaslon u boji koji je osetljiv na dodir.

Putnički terminal BT3 je namenjen putniku, koji se sa svojom karticom približi terminalu te na taj način učini sve što je potrebno za njegovu vožnju. Njegova tehnička svojstva su: čitač e – karte ISO – 14443, brzi termalni printer sa rezačem i jednostavnom promenom papira, veliki grafički LCD zaslon FSTN, elektronski sistem naplate karata.

2.3. ČIP KARTICA

Elektronska kartica omogućava brzo i jednostavno svakodnevno plaćanje vožnje u putničkom prometu. Kada se elektronska kartica približi terminalu BT3, računar proveriti ispravnost kartice i relaciju te na temelju zahtjevnog algoritma odobri ili ne odobri ulazak i

istovremeno umanju iznos na kartici, te ispiše kartu. Sistem omogućuje gotovinska plaćanja za povremene putnike sa izdavanjem karte. Sve te transakcije se prenesu u centralnu bazu, koje su osnova za interne obračune, izradu izvještaja i analize saobraćaja.

Danas JKP“Zenicatrans prevoz putnika“ na svim svojim voznim jedinicama ima instalirane uređaje elektronskog sistema naplate, a sa istim uređajima su opremljeni izvršioc kontrola i prodaje mesečnih (čip-kartica) i izvršioc na prijemu finansijskih sredstava i razduživanju voznog osoblja sa finansijskom dokumentacijom.

Na slici 3. dat je izgled izgled čip kartice.



Slika 3. Izgled čip kartice[1]

3. ELEKTRONSKI SISTEM BUS4I

Treća faza realizacije se odnosi na uvođenje elektronskog sistema BUS4i koji omogućuje kontinuirano praćenje i vođenje svih potrebnih podataka i informacija elemenata transportnog procesa. Na osnovu dobivenih informacija menadžment preduzeća brzo i kvalitetno može uraditi sveobuhvatne analize svih faza procesa u cilju donošenja poslovnih odluka za efikasno upravljanje procesom transporta. JKP” Zenicatrans – prevoz putnika”d.d.Zenica koristi usluge servera firme “Četrta Pot” d.o.o Kranj. Uvedeni sistem obezbeđuje praćenje velikog broja informacija. Omogućuje brzu i kvalitetnu izradu raznih analiza (finansijskih parametara rada po prevoznom sredstvu, radnoj jedinici i kompletno za preduzeće). Sistem omogućuje praćenje sledećih parametara:

- evidentira svaku prodatu pojedinačnu kartu sa mestom i vremenom prodaje,
- evidentira korisnika mesečnih karta,
- brz ispis karata sa svim podacima,
- registrira ulaz svakog putnika u vozilo,
- vreme zadržavanja autobusa na stajalištima,
- pregled izdatih karata (pojedinačnih i mesečnih),
- pregled prihoda po linijama, polascima, po vozilu i vozaču,
- pregled broja putnika po linijama, po polascima, po stajalištima,
- distribucija putnika (broj ulaza i izlaza putnika) po stajalištima,
- pregled rasporeda rada vozača i mehaničara po vozilima i po linijama,
- vreme postavljanja i skidanja autogume,
- vrijeme popravki po pojedinim sklopovima,

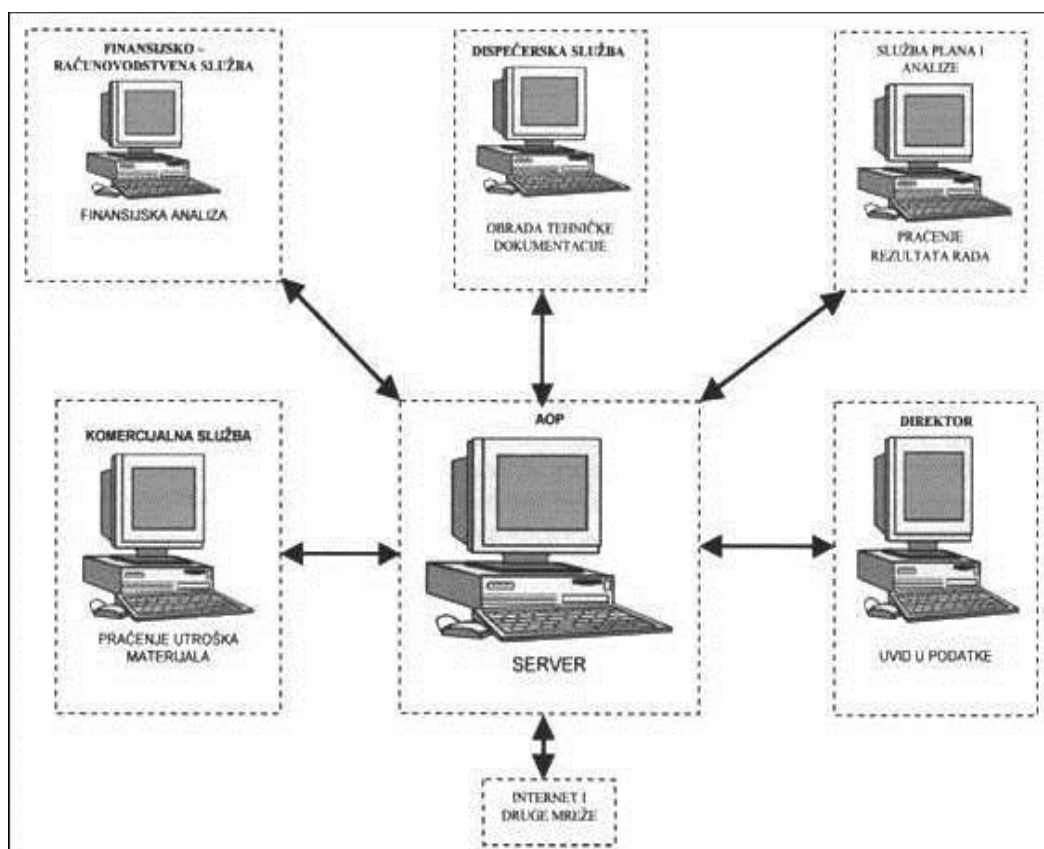
- vreme zadržavanja motornog vozila u radionici za popravke,
- pređene kilometre za svaku vožnju,
- potrošnju goriva, motornog ulja, autoguma, rezervnih delova, i drugih sredstava,
- efektivni rad svakog vozača,
- efektivnih sati izvršioca rada na održavanju autobusa,
- efektivnih sati za pranje i čišćenje autobusa,
- pregled ukupnog radnog vremena svakog pojedinačnog izvršioca u bilo kom vremenskom periodu,

Na slici 4 data je osnovna oprema elektronskog sistem **BUS4i**.



Slika 4. Elektronski sistem **BUS4i**, izvor:autorsko delo[3]

Na slici 5 dat je model informacionog sistema **BUS4i**.



Slika 5. Model informacionog sistema **BUS4i**, u JKP Zenicatrans – prevoz putnika D.D. Zenica (izvor: Izvod iz programa „Četrta pot“) [3]

4. EFEKTI PRIMENE ELEKTRONSKOG SISTEMA BUS4I

Zadatak radne jedinice Održavanja je da obezbedi tehničku ispravnost autobusa u cilju povećanja sigurnosti putnika, a zadatak radne jedinice Saobraćaj da putniku pruži kvalitetnu uslugu prevoza. Instalirani sistema obezbedio je vođenje i praćenje svih bitnih tehničkih, tehnoloških i ekonomskih parameta za uspešno rukovođenje procesom u prevozu putnika. Sistem je pojednostavio mnoge faze rada na praćenju: troškova održavanja, evidentiranju efektivnog rada izvršilaca, potrošnje goriva, maziva i rezervnih delova u odnosu kada se to radilo ručno. Primena elektronskog sistema naplate karata i elektronskog sistema BUS4i odrazila se na:

- podizanje nivoa kvaliteta usluge u prevozu,
- poboljšanje tehnološke i radne discipline zaposlenih izvršilaca,
- povećanje raspoloživosti kapaciteta,
- smanjenje potrošnje goriva, maziva, rezervnih delova i drugih troškova,
- povećanje sigurnosti prevoznih sredstava,

- smanjenje vremena predaje novčanih sredstava od strane vozača i biletara,
- poboljšanje finansijske situacije preduzeća,
- smanjenje vremena stajanja na autobuskim stajalištima, što je rezultiralo i u smanjenju zagađenosti okoline po osnovu izduvnih gasova iz vozila .

Na osnovu redovnih godišnjih izvještaja o radu JKP” Zenicatrans – prevoz putnika” d.d.Zenica u tabeli 1. dat je uporedni pregled bitnih parametara za dva različita vremenska perioda.

Tabela 1. Uporedni parametri rada [5]

Parametri	Godina	
	2012 ¹ .	2014 ² .
Pređeni kilometri, (km)	3.485.537	3.657.250
Potrošnja goriva, (l/100 km)	36,5	35,0
Potrošnja motornog ulja, (l/km)	0,0039	0,0028
Potrošnja rezervnih delova, (KM/km)	0,109	0,077
Potrošnja autoguma, (KM/km)	0,022	0,017
Vreme zadržavanja autobusa na stajalištima, (sec)	300	150
Vreme zadržavanja vozila u servisu, (sati)	4-5	2
Broj pranja i čišćenja autobusa, (kom)	15	30
Efektivno radno vreme mehaničara (sati/mjesec)	176	136

¹Nije bio u primeni elektronskog sistema BUS4i,

² Elektronski sistema BUS4i u primeni.

Paralelno sa primenom elektronskog sistema naplate karata i elektronskog sistema BUS4i, vršena je korekcija „Pravilnika o radu“-JKP Zenicatrans prevoz putnika Zenica. Posebne korekcije u pravilniku su urađene na osnovu analize efektivnog rada izvršilaca. U starom pravilniku je bilo regulisano ako je izvršilac prisutan na poslu da ima 100 % vrednost satnice bez obzira na njegov efektivni rad i učinak. U korigovanom pravilniku efektivni rad se plaća sa 100% vrednosti satnice, a ostali fond sati se plaća 60% od vrednosti satnice. U izmenjenim okolnostima sada izvršioци traže posao od predpostavljenog.

Na osnovu kontinuiranih (dnevni, mesečni i godišnji) analiza o realizaciji prihoda koje ostvare izvršioци i troškova koji su nastali tokom eksploatacije, određuje se pojedinačni stimulatívni i destimulatívni dio plate izvršilaca u zavisnosti od rezultata analize rada.

5. ZAKLJUČAK

Primena elektronskog sistema naplate karata i elektronskog sistema BUS4i, u procesu pružanja usluge prevoza putnika omogućila je praćenje i vođenje bitnih tehničkih, tehnoloških

i finansijski parametara rada. Sistem obezbjeđuje da se brzo i kvalitetno mogu uraditi razne analize rada i troškova po izvršiocu i vozilu. Također sistem obezbjeđuje pregled detaljnog finansijskog poslovanja cjelokupnog preduzeća.

Realizacijom ovog projekta je došlo do:

- podizanja nivoa kvaliteta usluga u prevozu,
- poboljšanja tehnološke i radne discipline zaposlenih izvršilaca,
- povećanja raspoloživosti kapaciteta,
- smanjenja potrošnje goriva, maziva, rezervnih delova i drugih troškova,
- povećanja sigurnosti prevoznih sredstava,
- smanjenja vremena predaje novčanih sredstava od strane vozača i biletara,
- poboljšanja finansijske situacije celog preduzeća.

REFERENCE

- [1] B.Solar, D.Matjaž, J.Borić: "Projekat uvođenja elektronskog sistema naplate u JKP " Zenicatrans prevoz putnika"d.d.Zenica, Zenica, 2007.
- [2] www.cetrtpot.si, "Četrta pot", Kranj, Slovenija, 2007.
- [3] B.Solar, D.Matjaž, J.Borić: "Projekat uvođenja elektronskog sistema BUS4i u JKP " Zenicatrans prevoz putnika"d.d.Zenica, Zenica, 2011.
- [4] Pravilnik o radu, JKP „Zenicatrans prevoz putnika“, Zenica, 2014.
- [5] Godišnji izvještaji o radu, JKP „Zenicatrans prevoz putnika“, Zenica, 2012., 2014.
- [6] J.Borić, S. Muhamedagić: Uticaj primjene elektronskog sistema naplate na smanjenje zagađenosti zraka, XI. Međunarodno savjetovanje, Saobraćajni i ekološki problemi država u tranziciji s aspekta integracije u evropsku uniju, Vlašić, maj 2015.
- [7] M.Oruč i dr: Menadžment kvaliteta, FMM, Univerzitet u Zenici, 2013.

DEALING WITH RISK MANAGEMENT IN SMALL AND MEDIUM ENTERPRISES

Xhenana Azizi

*University College FAMA, Pristina & Deloitte Kosova LLC, Pristina, Kosovo**

Abstract: Small and medium enterprises are mayor part of the Kosovo as well as international economy. SMEs play an important role in most economies worldwide (Burgstaller and Wagner, 2015)⁴⁷. Bearing in mind that there is a lack of researches and literature on risk management with attention on small and medium enterprises (SMEs), the purpose of this paper is to focus on their risk management. SMEs have been labelled as engines for economic growth all over the world. Risk Management deals with identifying, analyzing and preventing or mitigating undesirable events. Efficient risk management enables crisis prevention, enhanced performance, reputation protection and increased stock value. Generally, the methodology of risk management in organizations consist from different phases, such as identification, measurement and treatment. In this paper are identified various types of risks that may occur in SMEs. In times of crisis, companies need to carefully monitor current expenses and forecast potential costs which could be caused by activities, while due to the limited resources SMEs are more exposed to the risk. The paper derives interesting finding related to risk followed by the provision of tools and techniques dealing with occurred risk.

Keywords: Risk management, small and medium enterprises, risk, risk types, process.

1. INTRODUCTION

1.1 PROBLEM DEFINITION

Risk is omnipresent and spreads through every issue of life. Every business decisions and entrepreneurial act is connected with risk. Small and business enterprises often face with the same risk as bigger firs. In a real business environment with market perfections they need to manage those risks in order to secure their business continuity and add additional value by avoiding or reducing transactional costs (Dickinson, 2001). Managing risks to reduce and minimize the loss exposure is essential for every small and medium business.

⁴⁷Burgstaller, J. and Wagner, E. (2015), "How do family ownership and founder management affect capital structure decisions and adjustment of SMEs? Evidence from a bank-based economy", *The Journal of Risk Finance*, Vol. 16.

Due to the limited financial and human resources, small and medium enterprises rarely care out about risk assessment and management strategies. Usually their planned investment are based on current activities and financial situation. This paper focuses on the risk management processes in small and medium businesses, considering main risk management terms and theoretical risk management models.

Particularly, objective of this study is to identify which areas of risk are more important to SMEs, risk management, risk types and how small and medium enterprises approaches to risk. An entrepreneur everyday makes choices that includes risk. Risk management may help SME managers to identify significant risks that could jeopardize the success or existence of the company in time to efficiently cope with them (Brustbauer, 2014).

In this paper are identified various types of risks that may occur in SMEs. Risk is related with uncertainty, possibility of gain or lost. For an enterprise, especially for small and medium enterprises risk represents possibility of events that cause fluctuations and failures to realize enterprise objectives. Risk can be measured, assessed and managed, therefore this is a continuous process for an enterprise followed by continuous risk.

Regarding to the research conducted about the enterprises in Republic of Kosovo in 2014, is confirmed that 436 enterprises are closed and 2.912 are newly registered⁴⁸. Taking into account the current economic situation this is a positive situation from the total number of enterprises in Kosovo.

However, what are the current and potential risk faced by the economy in Kosovo, how are they managed by SMEs' managers, are some of the main points to be discussed in this paper.

1.2 PURPOSE

The aim of this research paper is to analyze risk management process in some small and medium enterprises, respectfully in 8 SMEs of which 5 (five) are small enterprises and 3 (three) are medium enterprises. This paper focuses on the risk management processes in small businesses, investigates main risk management terms and theoretical risk management models.

Herein is presented short literature review related to the risk management process, identification, evaluation and prevention of risk, risk classification and risk management terminology.

Main questions used for the purpose of this paper are: How do SMEs assess risk? How SMEs implement risk management strategy? How SMEs deal with the occurred risk? From the answers and finding this research paper may contribute as a recommendation for other small and medium enterprises to establish effective risk management.

This paper is expected to help with other further research papers conducted in relevant field, as well as it can be used as an introduction for risk assessment and risk management.

⁴⁸ Statistical report on economic enterprises in Kosovo 1Q-2014 – Kosovo Agency of statistic (Raporti statistikor mbi ndërmarrjet ekonomike në Kosovë TM1-2014. – Agjencia e statistikave të Kosovës).

2. METHODOLOGY

Considering the specifics of this issue is used qualitative method which refers to collect and utilize non numerical data. Therefore, for the purpose of data collection is use the interview as one of research techniques.

Interviews may be useful as follow-up to certain respondents to questionnaires, e.g. to further investigate their response (McNamara, 1999). It is very useful for getting the story behind a participant's experience and can pursue in-depth information around the topic.

The interview is conducted with managers and owners of the small and medium enterprises. The gathered data are compared mutually and with literature. The interviews lasted around 30 minutes (average). In interviews are covered general information about the organization, awareness of risk and risk management, implementation of management techniques and strategies. The results will be presented in the following chapters.

Limitation of used qualitative research methodology (interview) is small number of participant due to the resource and time restriction. It's known fact that interviews are more expensive and time consuming. There have been also other difficulties with some of the research participants as making appointments and in some cases participants were not very willing to cooperate in my research so it was necessary to change participants in order to fulfill the said number of sample. Nevertheless, I was very fortunate to conducts interviews with managers/owners of small and medium enterprises, and their opinions and experiences have provided good base for this phenomenon.

Special attention was paid to the discretion of interview's participants. Therefore, due to the confidentiality names of the interviewed representatives of the small and medium enterprises will not be mentioned (discovered).

3. LITERATURE REVIEW

3.1 RISK MANAGEMENT

Risk is not only the focus on hazard or operational risk, but also strategic, reputational, compliance, environmental, human capital and technology, market and supply chain risk. Risk management is defined as the systematic application of management policies, procedures and practices to the tasks of establishing the context, identifying, analyzing, assessing, treating, monitoring and communicating⁴⁹.

Risk management is the identification, assessment, and prioritization of risks (defined in ISO 31000 as the effect of uncertainty on objectives) followed by coordinated and economical application of resources to minimize, monitor, and control the probability and/or impact of unfortunate events or to maximize the realization of opportunities.

⁴⁹ Standard AS/NSZ 4369:2004 – South Cross University Study (2012).

In some organizations, risk management takes the form of complex financial transactions (Chacko et al 2001); in others, it follows a more holistic assessment of financial and nonfinancial risks bridging functional silos (Mikes 2011).

Risk management is used to understand levels of risk and properly engage risk into development and growth of the enterprise/organization. This process is related to systematical assessment and strategic response.

Risk management frameworks (Mikes 2011) can effectively identify the types of risks that modern businesses must control, these frameworks are largely silent about how specific duties or accomplishments should be assigned and coordinated within the organization.

Risk Management is a subset of management that includes the processes concerned with identifying, analyzing, and responding to risk. It consists of risk identification, risk quantification, risk response development, and risk response control.

3.1.1 Risk types

There are many risk classification types. Risks can be named from likely risks; possible risks; hypothetical risks to imaginary risks; where losses can happen usually, reasonably, or be theoretically possible or even unlikely exist. According to the Risk Management for Small Business by Global Risk Alliance there are three types of risk:

- a. Uncertainty based risk – This risk is managed by disaster and emergency planning as well as business continuity planning.
- b. Opportunity based risk – This risk is managed by assessing the up/down side of risk
- c. Hazard based risk – This risk is managed by safety and hazard management tools, techniques and methods.

Regarding this research paper, in the following are discussed hazard risk, financial risk, operational risk and strategic risk.

- a. Hazard risks are mainly risk related to the working environment, property and natural disasters. This risk refers to potential harms that can affect health and safety of enterprise staff or property. Preventing form happening and controlling hazard risk ensures staff to work with no pressure to be injured or harmed.
- b. Financial risk covers a lot of risks related to financing. (CPA Australia, 2006). Financial risk can be liquidation risk, interest rate risk, investment risk, funding risk, credit risk etc. Financial risk management is considered a specialization of risk management. In addition to careful revise on business cash flow and operational forecast, management use hedging - including stocks, insurances, etc. – as a method for reducing risks in operations and other investments Candice 2010)
- c. Operational risk are risks that incur from internal organizations activities and actions that include human resources, operational systems, and external factors. The Basel II regulations listed seven categories of operational risks: internal fraud; external fraud;

employment practices and workplace safety; client, products and business practice; damage to physical assets, business disruption and system failure; and finally, execution, delivery and process management⁵⁰.

- d. Strategic risk are occurred because the lack of strategic business plan or poor business plan, bad decisions or inappropriate plan or decision implementation. Strategic risk management (Beasley, et al. 2008) requires concentrations on risks to shareholder value as the ultimate goal.

3.1.2 Risk management process

Risk management process consists from four phases: first phase is risk identification, second phase is evaluation of risk, development of risk management plan is third phase and forth phase is implementation or execution of risk management plan. Risk management process is presented in the Figure 1 below⁵¹. Risk identification includes identifying the possible risk and analyzing possible effects. After that are identified sources of problems, threats and risks. Methods mainly are chosen based by organizational, cultural, political and other factors.



Figure 1. Risk management process

Another definition that explains risk management process is “A 5 step risk management model”, whereby risk management is a systematic process of identifying, analyzing and responding to project risk. This may be broken down into a number of sub-processes used as the basis for the five-stage model:

- a. Risk identification
- b. Qualitative risk analysis
- c. Quantitative risk assessment
- d. Risk response planning
- e. Risk monitoring and control

3.2 SMALL AND MEDIUM ENTERPRISES

According to the definition of the European Commission (2003), SMEs are firms which employ fewer than 250 employees and have an annual turnover of less than 50 million Euros and/or total assets of less than 43 million Euros.

⁵⁰ Basel Committee on Banking Supervision, 2004

⁵¹ Project Management Methodology and step-by-step Guide to Managing Successful Projects. Project management Methodology Guidelines. Chandler – Arizona.

Small and medium enterprises (SMEs) operate in the same environment as their larger counterparts, but without the associated benefits such as adequate capital and extended human resources of the larger organizations.

Small and medium enterprises are a distinct kind of client with specific needs and particularities that require risk management tools and methodologies specifically developed for them (Altman and Sabato, 2007).

Risk dealt by small and medium enterprises can be uncertainties related to management, natural disasters, political affairs and cultural factors (Koster, 2009).

3.3 ENTERPRISE RISK MANAGEMENT

Enterprise risk management is a process, effected by an entity's board of directors, management and other personnel, applied in strategy setting and across the enterprise, designed to identify potential events that may affect the entity, and manage risk to be within its risk appetite, to provide reasonable assurance regarding the achievement of entity objectives.

Enterprise risk management is not strictly a serial process, where one component affects only the next. It is a multidirectional, iterative process in which almost any component can and does influence another. A risk management process does not have to be complicated or time consuming to be effective.

There are different approaches that SMEs can use for risk management. Dwyer et.al (2013) prefers a four-step process: risk identification, risk analysis, risk mitigation and risk follow-up.

Other risk that SMEs are facing are business entity risk, human capital risk, financial risk (costs, cash flow and leverage capacity), competition and market share.

Entrepreneurs in SMEs need to be familiar with risk identification and analysis to manage risks from a diverse range of sources (Schultz, 2001).

By incorporating risk management into SMEs operations, SMEs are better equipped to exploit their resources, thereby enabling organizations to transform an expenditure activity into an activity that can yield a positive return (Kirytopoulos et al., 2001)

All of the "actors" in the risk management system have a responsibility.

4. RESULTS

As noted in the methodology, the research method used in this paper is qualitative based on interview. The interview took place in organizations' premises, with managers or owners of the organization, depending on their organizational structure.

The activities of the SME are of vital importance for promotion for economic growth, job creation and mitigation of poverty. More than 99% of enterprises in Kosovo are small and medium enterprises (SMEs)⁵².

⁵² Statistical report on economic enterprises in Kosovo 1Q-2014 – Kosovo Agency of statistic (Raporti statistikor mbi ndërmarrjet ekonomike në Kosovë TM1-2014. – Agjencia e statistikave të Kosovës).

The biggest issue for all small and medium enterprises is limited financial, time and human resources. From the point of view of the organizations managers and/or owners, they are very well aware of the business and operations that would affect planned growth.

Understanding the risk and risk management is crucial for every manager. Based on the research almost all managers and/or owners agreed that the risk they are dealing with is business risk, political risk, legal framework risk, human resources, environmental, market risk etc. Another important thing is that risk awareness in the organization depends on the position and the department of an individual, because that in SMEs one person is included in more than one project or duty, therefore, he or she is involved in different activities at the same time and cover more information based on the related activities.

SMEs are characterized as open to risk taking, therefore risk management in SMEs should be focused by managers.

The interviewees point out that the managers or/and owners manage occurred risk as project risk management, including the assessment of positive and negative results and outcomes. For most organizations, project risk management is seen as opportunity to highlight possible risks with positive and negative outcomes. Usually they use weekly and monthly meetings and brainstorming as a method of gathering ideas about the risk and its threats. Regarding their awareness about the project risk management, it's concluded that the process of project risk management consist three phases, such as: initial phase, implementation and ending phase.

There is a huge gap regarding the risk management techniques and strategies. Only few of organizations use risk assessment and risk mitigations plans. Managers or/and owners deal with risk based on current financial statements, previous situations and experiences. Meanwhile some of them use enterprise risk management for identification, evaluation and risk management Consulting services are used only by a small number of SMEs and for the fund raising projects and donors. It is worth mentioning that in few cases two of SMEs use external sources as professional service companies in the field of auditing, tax and advisory. Meanwhile, in cases when there is no need for consulting services the risk management is carried out by managers and the risk is assessed and divided in departments.

Therefore, risk awareness varies in organizations due to the techniques and strategies they use for risk management. Three of total number of SMEs included in research understand deeply risk and discuss about the information and share experience. Employees are involved closer in business activities and as a result they show more advantages that other SMEs.

5. CONCLUSIONS

SMEs have more practical than systematic and theoretical knowledge about the risk and risk management, and their activities and actions are based on their experience.

SME Strategy is the tool to implement the Small Business Act for Europe in Kosovo and to drive the Kosovo economic reform process and to put SME policy into the center of economic and administrative decision making in Kosovo as well. SMEs are and will be engine of economic development and provide jobs, growth and prosperity.

Regarding the research results issues and risk with which SMEs in Kosovo are dealing are different, starting from lack of implementation of existing legislation, large informal sector, limited range of financial products available to them, low level of managerial skills, low awareness of export opportunities, inadequate support for SMEs from the government etc.

Furthermore, there are also a lot of opportunities young labor force, high liquidity of banks, increased domestic market demand, access to regional markets, investment in public infrastructure, improved cross-border cooperation and also donors' support focused on development of SME sector.

Risk management in small and medium enterprises should not be individual program but should be integrated and followed by other management processes such as business strategy planning, human resources management, financial management and customer relationship management.

According to all this said above an effective and least expensive risk management technique is common sense. Enterprises can capitalize on this common sense by:

- Recruiting capable and well-qualified staff;
- Putting on paper clear job descriptions and providing orientation policies for new employees;
- Supporting professional development at all levels of the enterprise; and
- Establishing an organizational culture that stresses and rewards risk management thinking and behavior.

In summary, project risk management with proper implementation can assist the project success with huge benefit. It should be in the interest of business leader and project manager to evaluate and customize a suitable project risk management strategy for their project.

I hope that this review and suggestions for further research will stimulate more research on the important topic of risk management in SMEs.

REFERENCES

1. Altman , E. I and G. Sabato. Modeling Credit Risk for SMEs: Evidence from the US Market. ABACUS (2007.). Vol. 43 (3).

2. Basel Committee on Banking Supervision. Basel II – second Basel Accords. Accessed 01.05.2013. Published 06.2004. <http://www.bis.org/publ/bcbsca.htm>.
3. Beasley, M. and Frigo, M. May Strategic Risk Management – Creating and Protecting Value. Strategic Finance. B. Ritholtz. 2008.
4. Brustbauer, J. “Enterprise risk management in SMEs: Towards a structural model”, International Small Business Journal, in press, 2014, doi: 10.1177/0266242614542853.
5. Burgstaller, J. and Wagner, E. “How do family ownership and founder management affect capital structure decisions and adjustment of SMEs? Evidence from a bank-based economy”, The Journal of Risk Finance, (2015), Vol. 16.
6. Candice, Lim. Risk Management in Small-Medium Enterprises (SMEs): How does Risk Management in Small-Medium Enterprises (SMEs) Contribute to the Company’s Financial Performance? University of Wolverhampton. 2010.
7. Chacko, George, Tufano, Peter and Verter, Geoffrey. Cephalon, Inc.: Taking Risk Management Theory Seriously. Journal of Financial Economics, (2001). 60 (2-3).
8. CPA Australia, Business and Management Centre of Excellence. Risk Management Guide for Small and Medium sized Business. 2009. Accessed 02.05.2013. <http://www.cpaaustralia.com.au/cps/rde/xbcr/cpa-site/risk-management-guide-for-small-and-medium-sized-business.pdf>.
9. Dickinson, G. Enterprise Risk Management: Its Origins and Conceptual Foundation, The Geneva Papers on Risk and Insurance, (2001). Vol 26 (3).
10. Dwyer, J., Stanton, P. and Thiessen, V. Project Management in Health and Community Services. Routledge (2013).
11. Global Risk Alliance Risk Management Guide for small business. 2005. Accessed <http://www.significanceinternational.com/portals/0/documents/2005-sme-risk-management-guide-global-risk-alliance-nsw-dsrd.pdf>.
12. Hatch, M.J. and Schultz, M. Are the strategic stars aligned for your corporate brand, Harvard Business Review, (2001).
13. Koster, K. International Project Management. London SAGE publications Ltd. (2009).392 pp. ISBN: 1412946212.
14. Leopoulus, V., Kirotopoulos, K., & Malandrakis, C. Risk management for SMEs: Tools to use and how. Production Planning & Control, (2006). 17(3)
15. McNamara, Carter, PhD., General Guidelines for Conducting Interviews, Minnesota (1999.).
16. Mikes, A. From counting risk to making risk count: Boundary-work in risk management. Accounting, Organizations and Society (2011).

17. Project Management Methodology and step-by-step Guide to Managing Successful Projects. Project management Methodology Guidelines. Chandler – Arizona. Accessed: <https://www.chandleraz.gov/Content/PM000PMMethodologyGDE.pdf>.
18. Statistical report on economic enterprises in Kosovo 1Q-2014 – Kosovo Agency of statistic (Raporti statistikor mbi ndërmarrjet ekonomike në Kosovë TM1-2014. – Agjencia e statistikave të Kosovës). Accessed: https://ask.rks-gov.net/publikimet/doc_download/1000-repertori-statistikor-mbi-ndermarrjet-ekonomike-ne-kosove-tm1-2013+&cd=2&hl=en&ct=clnk.

STRATEGIC MANAGEMENT FOR CENTRAL EUROPEAN START-UP COMPANIES

Hana Janáková, Monika Zatrochová

Institute of Management of the Slovak University of Technology, Slovakia

Abstract: Start-up companies in Central Europe are different than in USA. Financial sources of risk capital are limited. The growth of investment in technology start-ups is necessary and expected. The current state is concentrated primary in IT technology and is slowly moved to electrical engineering and mechatronics. Statistics show that the percentage of successful start-up is about 5 percent. The critical period for most of these projects is a period of 2-3 years, when the company has to overcome the risks of arrival on the global market and finance resources are beginning to decrease. At this stage, the overriding role of the strategic management, which must cope with the problems of maintaining viability in particular in the process of changing the ownership structure associated with enforcing the competitive market new technologies. The start-up conversion process to stable and financially independent company is a method of determining the vision of strategic management through a central element of the management of the company. As an example, real companies in the Central European region shows the effects of a position of strategic management role in successfully managing the entry of a strong partner to technology companies. As an example we can use Logomotion Company.

Keywords: start – up, business plan, strategic management,

JEL: M0, M1

1. INTRODUCTION

The key to sustainable economic growth and increase competitiveness is to increase a productivity which is based on innovation, widely supported by the activities of start-ups. Start-ups are business initiatives with high growth and innovation potential that can kick-start a long-term support smart and inclusive economic growth and also attract foreign investment. Contribute to the development of industries with high added value, regional and global competitiveness and employment creation skilled workforce.

Start-ups are generally defined as beginning with companies that seek to apply innovative approaches to solving problems and have high potential for scalability. Their added value is a breakthrough or substantially improved product or service for the relevant market.

The mission of a company, as a philosophy, means purpose of the existence of company. Usually it does not have time limits and if properly formulated, can remain unchanged for decades. (Plchová, 2013, p. 12 – 13) The company's vision is more specific in setting goals and timeframes for achieving them. Vision is usually linked with some form of success. Strategy is a way of thinking and to stimulate that thinking and the dialog that goes

along with it, it is essential to design metrics, based on dynamic and practical parameters, and follow a set of action oriented steps aimed at helping executives assess the strength of their strategies. It is imperative to design steps focused on testing the strategy itself (in other words, test the output of the strategy-development process).

Strategic management is the comprehensive collection of ongoing activities and processes that organizations use to systematically coordinate and align resources and actions with mission, vision and strategy throughout an organization. Strategic management activities transform the static plan into a system that provides strategic performance feedback to decision making and enables the plan to evolve and grow as requirements and other circumstances change."

Business start-up strategies differ from those of an existing business because start-up businesses have obstacles to overcome that existing business may not necessarily face. When you're starting a business, some of the strategies you can put in place include writing and putting together a business plan, learning everything there is to know about your customers, setting measurable goals and putting these goals in writing. All of these business start-up strategies help create a vision and direction for your company.

There are some innovations that came from the countries of the former Central Europe. Slovak republic, Hungary, the Czech Republic, Poland, Romania, Serbia and Croatia are famous for their human capital and innovation. This has been the legacy of CE, but the question young business people are asking is when is this latent potential going to flourish into the kind of tech start-up boom well underway in Western Europe and the U.S.

Central Europe consistently ranks at the top of the world ranks in educational achievement in math, science and technology. In the US, by comparison, companies struggle with hiring good programmers. As a result, a growing number of deals are so-called acquisitions, done for the sole purpose of securing skilled staff in order to build leading technical teams.

However, most investors in the region have private equity or investment banking backgrounds, without any hands-on experience building companies. The result is that they avoid risk and have limited knowledge of how to help entrepreneurs build successful companies. Founders and early employees of the company made a fortune, but re-invested their money in new start-ups that helped the tech community. Today there are hundreds of start-ups in CE, working to gain market traction.

Most successful startups coming from the region have their development center somewhere in CE and are doing business development in the U.S. This way they establish a direct connection with the market while having access to highly skilled technical teams in CE.

2. LOGOMOTION

It is about Slovak research-development project – Logomotion mobile payment. This is the biggest Slovak research development project with private Slovak investor. Logomotion is developing a comprehensive secure micro SD card based mobile payment solution supporting contactless payment at a POS terminal with a consumer's **existing** mobile phone. This solution is compatible with open payment scheme standards such as Pay Pass™ and Pay

Wave. Logomotion's secure micro SD card [LOGOMOTION PAY CARD] has a miniature antenna for contactless payment. The consumer will be able to make offline payments for small amounts of 1-5 EUR and also make normal online payments for larger amounts. This project has been established in 2009. The LOGOMOTION PAY CARD contains a payment chip, a microprocessor, flash memory, a frequency chip and a miniature antenna. The card architecture is designed to meet payment industry security standards.

Logomotion's proprietary antenna design has been tested by the Institute of Radiofrequency and Microwave Engineering of Leibniz University in Hannover, Germany. Their Measurement Certificate shows that Logomotion's miniature NFC antenna design performs up to ten times the minimum level set by the payment industry's specification for contactless payment. The card comes with payment and other applications developed by Logomotion. Third party applications such as for transit ticketing or merchant loyalty can also be stored in flash memory. The card also contains normal memory space for the consumer to use for storing songs, photos, videos and so on.

Solutions for paying at a contactless POS terminal in a shop are often designed for either small offline payments (usually less than 25 EUR) or for larger online payments. Logomotion's mobile payment solution includes an innovative payment process hosted on the LOGOMOTION PAY CARD which:

- is simple for the consumer and merchant;
- can be processed with existing payment infrastructure
- enables offline or online authorization as called for in payment industry business rules.

Logomotion has patents pending for this innovative payment technology. For some consumers, remembering a PIN to use at the POS terminal in a shop is an inconvenience. Logomotion has a patent pending for this innovative payment technology.

Project has been established like former existing technological concept of OPEN NT (Slovak) company. Connection of technical engineers with Slovak investor leads to establishing small team with mixed manager control of people from university area, international business area and industry area. Development process is split between small research teams, which cooperate under manager control. Teams were located in Slovakia, Czech rep. and Taiwan. Testing series should be produced in Taiwan, so manager's rule is strongly important to organize cooperation between partners.

We have to point, that this project has no publicity yet. There are three or four similar projects around the world, but only two of them have a chance to be commercially successful. One of them is Logomotion project.

2.1. ASPECTS OF STRATEGIC MANAGEMENT

Logomotion project is a special case: was established on green-field with aim to develop new technology wireless payment method independent on mobile phones producers. A specific feature in this case is that was established in Slovakia like small high-tech

company without research employers, where management had to create a structure of creative research team, to find suitable researchers with technical experiences and mixed them within different countries. Each development team has to find solution for independent tasks (special chip design with security payment cryptography), design of high-frequency antenna embedded in communication unit for wireless communication.

Creative management is responsible for:

- General technical concept with respect of partial solutions
- Research team selection
- Organization of cooperation between teams
- Patents verification and validations
- Serial production preparations
- Visa/MasterCard validation and acceptance process

We have to point, that establishing and selecting research teams was the most difficult part of project, because of Logomotion has no experience within development of products in this field of area. Expected production/capacity which will be realized on Taiwan, is probably about 5 million SD cards per month.

The beginning of testing process of mobile payment SD cards is planning in the first half of 2015, while a final production should be achieved at the end of 2015.

Strategic management was focused to find strategic world's investor. Worldwide expansion is expected. During last few months strong Japan Company became investors partner with owners majority. Head Office will be located in Japan, while Slovakia became European Center Office.

3. CONCLUSION

The critical period for most of these projects is a period of 2-3 years, when the company has to overcome the risks of arrival on the global market and finance resources are beginning to decrease. At this stage, the overriding role of the strategic management, which must cope with the problems of maintaining viability in particular in the process of changing the ownership structure associated with enforcing the competitive market new technologies. The start-up conversion process to stable and financially independent company is a method of determining the vision of strategic management through a central element of the management of the company. As an example, real companies in the Central European region shows the effects of a position of strategic management role in successfully managing the entry of a strong partner to technology companies. As an example we can use Logomotion Company, where total process spends longer time than usual in Western countries. Example show us, that strategic management in Central European countries start-ups require patient activity and take longer time to be successful.

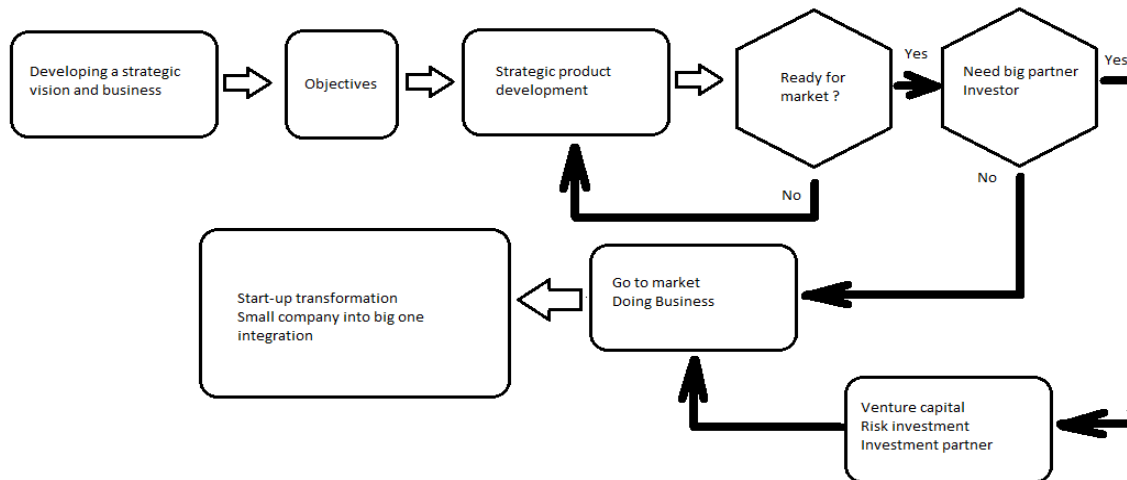


Figure 1. Scheme of strategic management of use Logomotion Company

Source: Own processing

Strategic management in start-ups is used to describe alternative approaches to business process, such as strategy formation and organizational change, and at the operational level to refer to new products development and technological innovation.

We have presented a case of strategic management of start-up in practice. Project Logomotion Pay Card is special high-tech project established on green-field with private investor. Management of such as type of project require creativity on all levels – from leaders to researchers.

Paper described typical scenery in which impact of strategic management in business processes and their management and presented exemplary strategies and actions that organizations apply to deal with the phenomenon of creativity to enhance process performance and quality of creative products. However, until now there is no comprehensive approach on how to manage creativity from a business process perspective.

A big part of strategic planning that start-ups often neglect is figuring out staffing needs based on the business plan in advance and being proactive with on boarding staff that is needed regularly. Many start-ups rely on “just-in-time” hiring strategies but what they don’t realize is that this causes the machine to stop or slow down and with growth as your main goal, this is not a good position to be in.

REFERENCES

1. R. Bissola, B.Imperatori, Organizing Individual and Collective Creativity: Flying in the Face of Creativity Clichés, Creativity and Innovation Management, 2011, p. 77-89
2. J. Barták, Od znalostí k inovacím. ALFA, Praha, 2008, p.157-162

3. CH. Bilton, Management and creativity: From creative industries to creative management. Blackwell publishing, Oxford: 2007. p. 175
4. S. Borejsson, M. Elmquist, Developing Innovation Capabilities: A Longitudinal Study of a Project at Volvo Cars, CREATIVITY AND INNOVATION MANAGEMENT, Volume 20, Number 3, 2011, p.171-184
5. Z. Dytr, M. Střitelská, Efektivní inovace: Odpovědnost v managementu. Computer press, Brno: 2009. p.143
6. X. Fangqi, T. Rickards, Creative Management: A Predicted Development from Research into Creativity and Management, Creativity and Innovation Management, 2007, Volume 16, Number 3, p. 216-228
7. S. Hemlin, L.Olsson, Creativity-Stimulating Leadership: A Critical Incident Study of Leaders' Influence on Creativity in Research Groups, CREATIVITY AND INNOVATION MANAGEMENT, Volume 20 Number 1, 2011, p. 49-58
8. S.Ollila, M. Elmquist, Managing Open Innovation: Exploring Challenges at the Interfaces of an Open Innovation Arena, CREATIVITY AND INNOVATION MANAGEMENT, Volume 20, Number 4, 2011, p. 273-283
9. Plchová, Jana: Základy podnikania, vydavateľstvo STU, 2013, p. 13
10. P. Stoneman, Soft innovation: Economies Product Aesthetics and the Creative Industries. OXFORD, Oxford: 2010, p. 47-57, p. 113-133

Other literature and references:

<http://www.theatlantic.com/business/archive/2011/11/the-8-best-innovation-ideas-from-around-the-world/248695/>(19.04. 2015)

<http://www.bptrends.com/publicationfiles/Three%2005-08-ART-CreativityManagement-Seidel-and-Rosemann-final.pdf> (06.04. 2015)

<http://www.wwd.com/wwd-summits/apparel/carol-goll-icms-matchmaker-5371593>(25.04. 2015)

http://mpira.ub.uni-muenchen.de/25971/1/MPRA_paper_25971.pdf (25.04. 2015)

http://ec.europa.eu/culture/key-documents/doc/study_impact_cult_creativity_06_09.pdf
(05.05.2015)

<http://product-ivity.com/creativity-and-innovation-management/> (05.05. 2015)

<http://www.logomotion.eu/> (05.05. 2015)

<http://balancedscorecard.org/Resources/Strategic-Planning-Basics> (06.05. 2015)

<http://smallbusiness.chron.com/business-start-up-strategies-4642.html> (06.05. 2015)

APPLICATION OF IPA ANALYSIS IN DETERMINING THE CRITICAL FACTORS OF JOB SATISFACTION IN PUBLIC ENTERPRISES

Milica Arsić, Danijela Voza, Živan Živković

Technical faculty in Bor, University of Belgrade, Bor, Serbia

Abstract: Job satisfaction is often studied in the field of management, because it is considered that satisfied worker is also productive worker. In order to predict a person's job satisfaction, we should take into account not only the individual aspects of the job, but also this person's expectations from this work. In this paper, IPA analysis (Importance-Performance Analysis) was used in order to determine the critical factors of employee satisfaction in public enterprises in the municipality of Knjaževac. This analysis except certain degree of satisfaction also measures the level of significance which this factor has to the employee. Results obtained by this analysis confirmed the initial assumption that wages and working conditions have the greatest importance, but the lowest performance in public enterprises.

Keywords: employee satisfaction, public enterprises, IPA

1. UVOD

Zadovoljstvo poslom predstavlja jednu od najčešće istraživanih tema iz oblasti organizacione psihologije [1]. Ono nažalost nije samo po sebi cilj. Iako se u poslednje vreme javljaju teorije po kojima je organizacija dužna, zbog socijalne odgovornosti, da čini svoje zaposlene zadovoljnim, ipak najviše napora se ulaže isključivo zbog pretpostavke da je zadovoljan radnik i produktivan radnik [2]. Zadovoljstvo poslom je promenljiva koja zavisi od radnih uslova u organizaciji i percepcije samog zaposlenog, a sa druge strane utiče na ispoljavanje različitih vidova poanašanja: absentizam, produktivnost, fluktuaciju, lojalnost [3]. Autori navode različite faktore koji utiču na zadovoljstvo zaposlenih, ali svi se slažu u jednom da su oni povezani za radnim uslovima i individualnim karakteristikama pojedinaca.

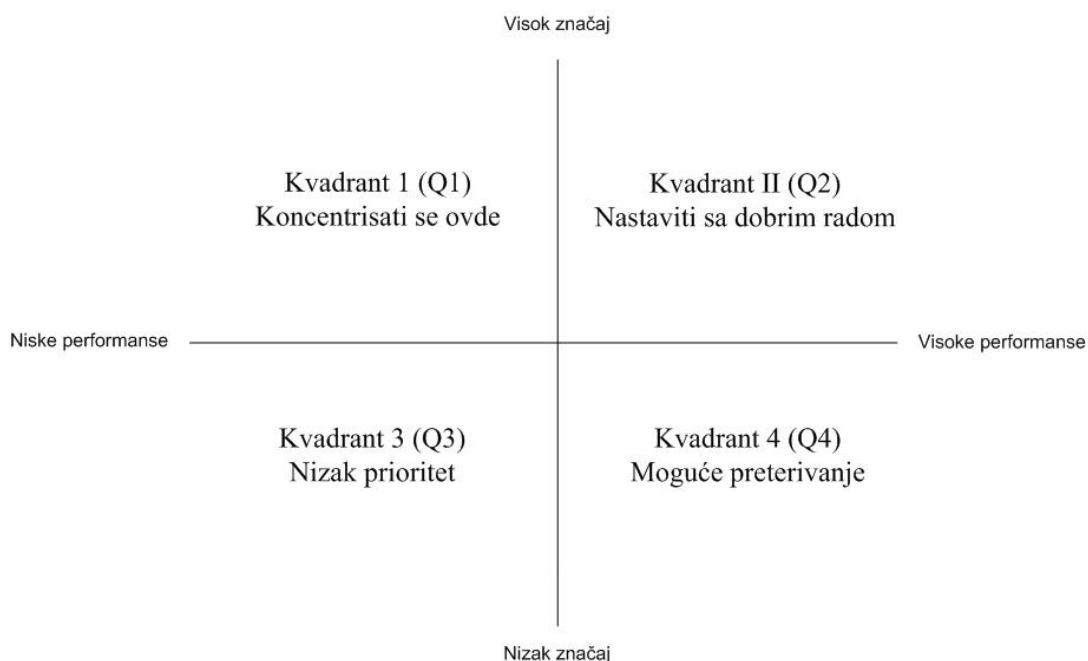
U oko 700 javnih preduzeća u Srbiji zaposleno je više od 100.000 ljudi. Javna preduzeća predstavljaju problem u Srbiji na nekoliko nivoa. Ta preduzeća se, usled loše organizovanosti ili političkog uticaja na uslove poslovanja, nalaze među najvećim gubitakima. Javna preduzeća su godinama korišćena za stranačke potrebe – za indirektno finansiranje partija, kroz zapošljavanje po stranačkoj pripadnosti, postavljanje stranačkih funkcionera ili kadrova na čelo JP ili kupovinu uticaja u medijima [4]. Iako stanje u javnim preduzećima nije na zavdnom nivou, kada se porede rezultati ispitivanja zadovoljstva zaposlenih u javnim i privatnim preduzećima, primećuje se značajno veće zadovoljstvo zaposlenih u javnim preduzećima. Studija sprovedena u Grčkoj, pokazala je da bi zaposleni u javnim preduzećima radije pristali na smanjenje plate, pre nego na gubitak posla i zaposlenje u privatnoj firmi [5]. Nedavno istraživanje u Srbiji, koje su sprovedeli Mihajlov sa saradnicima [6] pokazalo je da su zaposleni u javnim preduzećima generalno zadovoljniji poslom u odnosu na zaposlene u

privatnim preduzećima. Međutim, ono u čemu se obe grupe zaposlenih slažu je nezadovoljstvo zaradom koju primaju, gde je 60% iz privatnih preduzeća i 51% iz javnih odgovorilo da sui ili nezadovoljni platom ili se nisu izjasnili po ovom pitanju.

Cilj ovog istraživanja bio je da se ispituju i utvrde kritični faktori zadovoljstva zaposlenih u javnim preduzećima. Da bi ispunili postavljene ciljeve korišćena je metoda Analiza značaja i performansi, koja predstavlja veoma koristan i jeftin alat.

2. ANALIZA ZNAČAJA I PERFORMANSI

Analiza značaja i performansi (u daljem tekstu: IPA) je poslovna tehnika koja je razvijena kao marketinški alat koji pomaže u pronalaženju najboljih poslovnih strategija [7]. Iako je prvobitno osmišljena za potrebe marketinga, danas nalazi primenu u različitim oblastima poslovanja: turizmu [8], medicini [9], bankarstvu [10], elektronskom poslovanju [11] i ostalim delatnostima. Njegova prednost je u tome što je veoma lak i jeftin za korišćenje, a pritom pomaže menadžerima prilikom donošenja odluke, na koji način da alokira ograničene resurse, kako bi povećao poslovne performanse. Ipak, postoje i određeni ozbiljni nedostaci ove tehnike, njena konceptualna i metodološka osnova je veoma slaba. Jedan od najvećih problema sa kojima se suočavaju praktikanti je, takođe, gde povući liniju koja deli kvadrante i to dovodi u pitanje validnost ovog alata [12].



Slika, IPA struktura [13]

IPA tehnika kombinuje meru performansi određenih karakteristika proizvoda ili usluga percipiranu od strane korisnika i značaj koji ta karakteristika ima za njega, u

dvodimenzionalnu mrežu koja olakšava interpretaciju rezultata. Ova mreža klasifikuje karakteristike u četiri različite kategorije ili kvadranta, koji postavljaju prioritete za alociranje resursa. Ova četiri kvadranta se obično klasifikuju kao:

- 1) **Koncentrisati se ovde (usresrediti se ovde):** Kupci smatraju da karakteristike proizvoda ili usluge smeštene u ovom kvadrantu su veoma važne, ali nisu zadovoljni njihovim performansama;
- 2) **Nastavite sa dobrim radom:** Kupci smatraju da karakteristike proizvoda ili usluge smeštene u ovom kvadrantu su veoma važne, ali zadovoljni su njihovim performansama;
- 3) **Nizak prioritet:** Kupci smatraju da karakteristike proizvoda ili usluge smeštene u ovom kvadrantu nisu preterano važne, ali nisu ni zadovoljni njihovim performansama;
- 4) **Moguće preterivanje:** Kupci smatraju da karakteristike proizvoda ili usluge smeštene u ovom kvadrantu nisu veoma važne, ali su njihove performanse na veoma visokom nivou [13].

Kvadrant „nastavite sa dobrim radom“ predstavlja potencijalne konkurentske prednosti proizvoda ili usluga. Karakteristike koje su locirane u ovom kvadrantu se odlikuju visokim performansama, ali zahtevaju dodatne napore i ulaganja, da bi se zadržao visok kvalitet. Sa druge strane, kvadrant „moguće preterivanje“ sadrži karakteristike koje imaju visoke performanse, ali za korisnike veoma mali značaj i dalje ulaganje u ove karakteristike značilo bi samo uzaludno trošenje ograničenih resursa. Kvadrant „nizak prioritet“ je sa niskim performansama, ali sa druge strane bez značaja za korisnike, tako da ove karakteristike ne zahtevaju veliku pažnju. Najvažniji kvadrant u mreži je kvadrant „usredsrediti se na ovo“. Karakteristike smeštene u ovom kvadrantu imaju visok značaj za korisnike, ali niske performanse i kao takve predstavljaju najveću slabost proizvoda/usluga i pretnje za njegovu konkurentsku prednost. Ove karakteristike imaju najveći prioritet prilikom ulaganja. Na osnovu ovog može se zaključiti da svaki kvadrant predstavlja različitu strategiju za menadžere, pritom mu pomaže kod donošenja odluke kod izbora akcije za povećanje zadovoljstva korisnika [14]. Za pravilnu interpretaciju dobijenih rezultata veoma je bitno da se odabere prava tačka za povlačenje horizontalne i vertikalne linije, koje razdvajaju kvadrante. Neki autori predlažu da se koristi prosečna vrednost za svaku dimenziju da bi se odvojilo „visoko“ od „niskog“ za performanse i značaj [8].

Ovo istraživanje koristi određene faktore zadovoljstva poslom ne bi li merilo njihov „značaj“ i „performanse“. Može se desiti da se postavi pitanje, da li je u redu zameniti dimenziju performanse dimenzijom zadovoljstvo. Međutim, ako se zadovoljstvo poslom posmatra kao percepcija zaposlenog o performansama određenih aspekata posla, onda je ova zamena više nego opravdana. Cilj istraživanja je da se utvrde kritični faktori zadovoljstva poslom zaposlenih u javnim preduzećima i da se izmeri nivo zadovoljstva.

3. METODOLOGIJA

Ovo istraživanje je sprovedeno marta i aprila 2015. godine na teritoriji opštine Knjaževac, pomoću upitnika koji se sastoji od 20 pitanja. Veličina uzorka je N=108, a u analizu je uključeno više javnih preduzeća sa teritorije opštine Knjaževac. Za gradaciju dobijenih odgovora korišćena je Likertova petostepena skala, gde 1 označava ‘potpuno se ne slažem’, 5 ‘potpuno se slažem’. Anketni listić sastavljen je iz dva dela (Prilog 1). Prvi deo sadrži 5 pitanja kojim se dolazi do demografskih podataka ispitanika, a drugi deo ispituje zadovoljstvo zaposlenih i stepen važnosti određenih faktora zadovoljstva za zadovoljstvo zaposlenih. Za ispitivanje zadovoljstva zaposlenih korišćena je kraća verzija Minnesota Satisfaction Questionnaire (MSQ), koja se sastoji od 20 pitanja, koja ispituju uticaj opštih uslova, unutrašnjih i tzv. spoljašnjih motivatora na zadovoljstvo poslom. MSQ je razvijen od strane Weissa, Dawisa, Englanda i Loftquista još 1967. godine i predstavlja jedan od prvih upitnika zadovoljstva poslom. Njegova pouzdanost i validnost potvrđena je tokom skoro 50 godina korišćenja. Za potrebe ovog istraživanja, originalna verzija je sa engleskog prevedena na srpski jezik. Na osnovu 20 pitanja iz upitnika izdvojeno je 14 faktora, jer su pitanja 2, 3, 11, 15 i 16 združena u faktor F2 koji objašnjava samostalnost u radu, a pitanja 5, 9 i 18 objašnjavaju međuljudske odnose, faktor F4.

Tabela 1. Lista faktora

Faktor	Opis
F1	Okupiranost poslom
F2	Samostalnost u radu
F3	Prilika da bude "neko"
F4	Međuljudski odnosi
F5	Stručnost nadređenog u odlučivanju
F6	Delovanje u skladu sa sopstvenim sistemom vrednosti
F7	Mogućnost da naređuje drugima
F8	Sigurnost posla
F9	Poslovna politika organizacije
F10	Zarada
F11	Mogućnost napredovanja
F12	Radni uslovi
F13	Pohvale
F14	Osećaj ispunjenosti

4. REZULTATI

Deskriptivna analiza faktora

Srednje vrednosti obe dimenzije (značaj i zadovoljstvo) izračunate su za svaki faktor i prikazane u Tabeli 2

Po pitanju zadovoljstva, F6 (delovanje u skladu sa savešću) ima najveću srednju vrednost, dok F13 (Pohvale) ima najmanju srednju vrednost. Sa druge strane, po pitanju značajnosti najveću srednju ocenu ima Faktor 8 (Sigurnost posla), a najnižu ocenu ima Faktor 7 (Mogućnost da naređujem drugima). Rangiranje ostalih faktora prikazano je u Tabeli. Ukupna srednje vrednosti za zadovoljstvo i značaj su 3,39 i 3,96, respektivno. Može se zaključiti da su zaposleni donekle nezadovoljni poslom u odnosu na ono što oni očekuju. Najveći jaz između zadovoljstva i značaja je kod F10 (Zarada) i on iznosi 1,71.

. **Tabela 2.** Srednje vrednosti faktora

Faktori	Zadovoljstvo		Značaj		Razlika između proseka
	Prosek	Rang	Prosek	Rank	
Faktor 1	3,52	7	3,63	11	0,11
Factor 2	3,72	5	4,01	8	0,29
Faktor 3	3,43	8	3,60	12	0,17
Faktor 4	3,54	6	4,16	5	0,62
Faktor 5	3,75	4	4,07	7	0,32
Factor 6	3,90	1	4,14	6	0,24
Faktor 7	2,55	12	2,90	14	0,35
Faktor 8	3,75	3	4,27	1	0,52
Faktor 9	3,06	9	3,56	13	0,5
Faktor 10	2,51	13	4,22	3	1,71
Faktor 11	2,86	11	3,92	10	1,06
Faktor 12	3,02	10	4,22	4	1,2
Factor 13	2,41	14	3,94	9	1,53
Faktor 14	3,78	2	4,24	2	0,46
Ukupno	3,39		3,96		0,57

Izračunate su srednje vrednosti za zadovoljstvo po demografskim karakteristikama uzorka i prikazane u Tabeli 3 da bi se videlo da li postoji razlika u odgovorima ispitanika u odnosu na njihove demografske podatke. Rezultati korišćenja ANOVA testa pokazali su da statistički značajna razlika postoji samo kod odgovora ispitanika u odnosu na njihov nivo obrazovanja, te se tako pokazalo da su najzadovoljniji generalno zaposleni sa završenom osnovnom školom u odnosu na ostale zaposlene. Ipak, ovaj rezultat bi trebalo uzeti sa rezervom, imajući u vidu da je svega troje zaposlenih sa osnovnim obrazovanjem učestvovalo u anketi, što je nezatno u odnosu na ukupan broj anketiranih.

Tabela 3. Demografske karakteristike uzorka

Demografske varijable	Kategorije	N	Procenat (%)	Srednja vrednost	Std.devijacija
Pol	muški	66	61,1	3,46	0,57
	ženski	42	38,9	3,38	0,52
Starosne godine	od 18 - 25	11	10,2	3,62	0,79
	26 - 35	20	18,5	3,35	0,351
	36 - 45	27	25	3,45	0,52
	46 - 55	30	27,8	3,39	0,52
	56 i više	20	18,5	3,42	0,54
Obrazovanje*	osnovna škola	3	2,8	4,45	0,36
	srednja škola	52	48,1	3,36	0,48
	viša škola	27	25	3,33	0,66
	fakultet	26	24,1	3,55	0,45
Iskustvo na trenutnom radnom mestu	manje od 1god.	10	9,3	3,42	0,87
	1-5god.	15	13,9	3,38	0,42
	5-10god.	21	19,4	3,46	0,54
	preko 10 godina	62	57,4	3,43	0,53
Period zapošljavanja u trenutnoj organizaciji	manje od 1god.	14	13	3,43	0,78
	1-5god.	18	16,7	3,38	0,53
	5-10god.	18	16,7	3,37	0,56
	preko 10 godina	58	53,7	3,46	0,5

*p<0.005

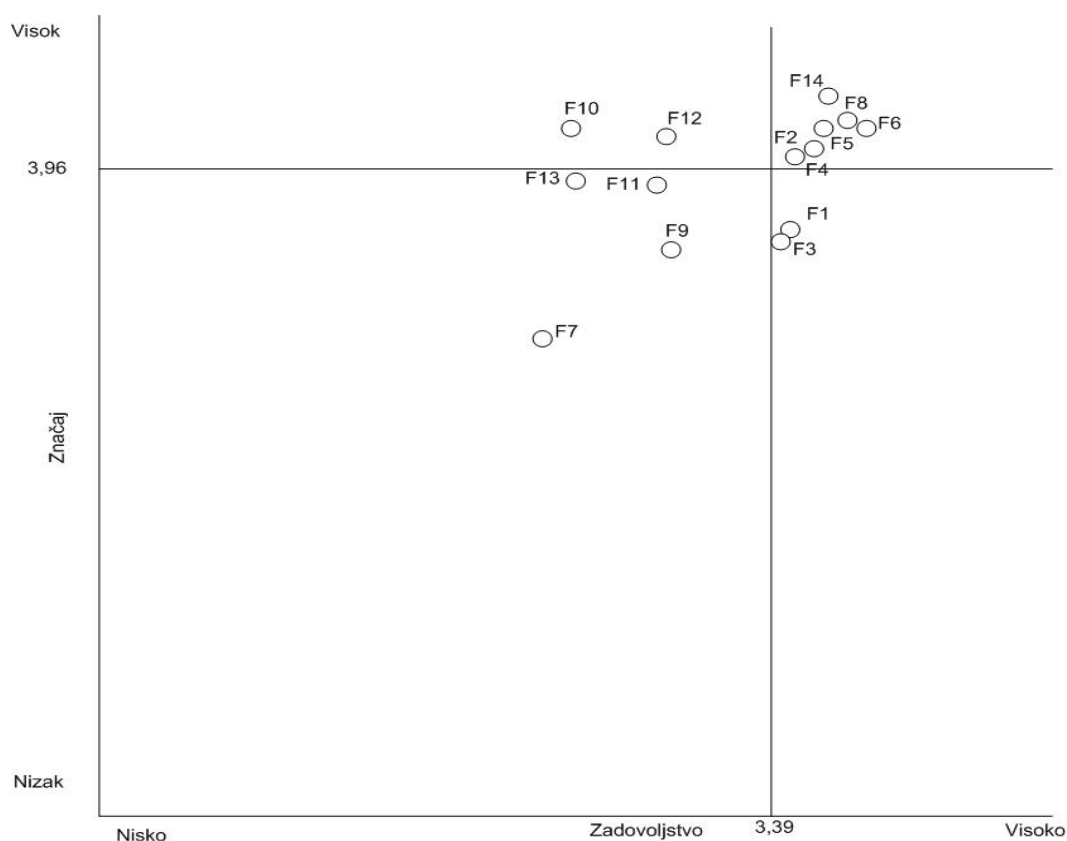
Analiza značaja i zadovoljstva kod zadovoljstva poslom

Sledeći korak je formiranje IPA matrice. Tačke se ubacuju na taj način što se uzimaju srednje vrednosti faktora za obe dimenzije. Linije preseka povučene su iz srednjih vrednosti za obe dimenzije: zadovoljstvo (3,39) i značaj (3,96).

Kao rezultat toga faktori F10 (zarada) i F12 (radni uslovi) našli su se u kvadrantu Q1, Faktori F2, F4, F5, F6, F8 i F14 u kvadrantu Q2, F1 i F3 u kvadrantu Q3 i F7, F9, F11 i F13 u kvadrantu Q4.

Kao što se moglo pretpostaviti zarada i radni uslovi predstavljaju faktore koji imaju najveću važnost za zaposlene, a sa druge strane osećaju najmanje zadovoljstva po pitanju ovih faktora. Tome je značajno doprinela činjenica da su plate dodatno smanjene od januara 2015.godine.

Nisko zadovoljstvo, ali i najmanji značaj zaposleni pridaju faktorima u kvadrantu Q4, to su F7 (volim da naređujem drugima), F9 (poslovna politika), F11 (mogućnost napredovanja)



Slika 2. IPA matrica zadovoljstva poslom

Prema Martilla and James (1977) kvadrant Q2 je kvadrant sa karakteristikama posla koje imaju zadovoljavajuće performance i savetuje se da organizacija samo održava njihov nivo. Iako se faktori F2 (samostalnost u radu) i F4 (međuljudski odnosi) nalaze u ovom kvadrantu, ipak bi trebalo povećati njihove performance, jer se nalaze blizu linije preseka.

Kvadrant Q3 čine faktori F1 (okupiranost poslom) i F3 (prilika da budem "neko"). To su karakteristike koje imaju visoke performance, ali nizak značaj za zaposlene, tako da nije potrebno ovim karakteristikama posvećivati preveliku pažnju.

Najniži na listi pririteta po pitanju obe dimenzije je faktor F7 (prilika da naređujem drugima). Međutim, u ovom kvadrantu se nalaze i F13 (pohvale) i F11 (mogućnost napredovanja), koji su na samoj granici sa kvadrantom Q1 i iako se nalaze u kvadrantu Q4 pokazuju veliki značaj za zaposlene, a niske performance, tako da se vrlo lako može desiti da povlačenjem horizontalne linije koja deli kvadrante oni pređu u kvadrant Q1, te se zbog toga i njima treba posvetiti posebna pažnja.

5. DISKUSIJA I ZAKLJUČAK

Rezultati sprovedenog istraživanja pokazali su sledeće :redosled faktora nije isti po dimenzijama značaj (očekivanja) i zadovoljstvo (iskustvo), ipak faktor, zarada ima najveće

odstupanje između očekivanih i percipiranih vrednosti (Tabela 2). Zbog toga, prema originalnoj ideji IPA matrice potrebno je posvetiti mu najveću pažnju. Međutim, tu nastaje problem obzirom da anketirana javna preduzeća dele sudbinu svih javnih preduzeća u Republici Srbiji, gde su plate smanjene od januara 2015.godine za 10%, kao jedna od mera štednji. Povećanje plate u datom trenutku nije opcija za menadžere, kako bi povećali zadovoljstvo zaposlenih, te je jedino rešenje da se preorjentiše na druge faktore. Pобољшanje radnih uslova bi u ovom slučaju bila sledeća opcija, gde bi menadžer mogao da se konsultuje sa svojim zaposlenima o tome šta podrazumevaju konkretno radni uslovi i sasluša eventualno predloge za njihovo poboljšanje.

Rezultati primene ANOVA testa pokazali su da ne postoji neka značajna razlika u odgovorima ispitanika u odnosu na neke demografske parameter, kao što su pol, starost, radni staž. Jedina razlika postoji kod odgovora ispitanika u odnosu na nivo obrazovanja, gde su najveće zadovoljstvo prijavili zaposleni sa osnovnim obrazovanjem. Ipak, zbog malog broja njih u odnosu na ukupan uzorak, ove rezultate bi trebalo uzeti sa rezervom. Sa druge strane, ovo istraživanje nije uključilo i analizu razloga zbog kojih zaposleni sa osnovnom školom osećaju najveće zadovoljstvo, da li je to ograničena mogućnost pronalaženja drugog posla, zbog stručne spreme ili neki drugi razlog, to bi mogao biti predmet nekih budućih istraživanja.

REFERENCE

1. K. J. Templer, *Applied Psychology: An International Review*, 61(2012).
2. N.Janićijević, *Organizational Behavior (in Serbian)*, Data Status, Belgrade, 2008.
3. A.Cooper-Hakim, C. Viswesvaran. *Psychological Bulletin*, 131(2005).
4. The effects of the new Law on Public Enterprises -politicization and professionalization (in Serbian), *Transparency Serbia*, 2014.
5. K. Kioulafas, G. Donatos, G. Michailidis, *International Journal of Manpower*, 12 (1991).
6. S. Mihajlov, V. Dedić, D. Radovanović, N. Mihajlov, *Industrija*, 41 (2013) 1.
7. J. A Martilla, J. C. James, *Journal of Marketing*, 41(1977)1.
8. F.C. Pan., *Tourism Management*, 46 (2015).
9. J. Abalo, J. Varela, V. Manzano, *Journal of Business Research*, 60 (2007).
10. A.Y. C . Yeo, *Journal of American Academy of Business*, 3(2003)1/ 2.
11. N. M. Levenburg, S. R. Magal, *E-Service Journal*, 3(2005)3.
12. E. Azzopardi, R. Nash, *Tourism Management*, 35 (2013)
13. I.Sever, *Tourism Management*, 48 (2015).

14. L. Dwyer, L. Knezevic, Celbar, D. Edwards, T. Mihalic, *Tourism Management*, 33 (2012).

MULTIGROUP ANALYSIS OF CREATIVITY IN THE PROCESS OF DATA COLLECTION AND VIABILITY OF BUSINESS IDEA

Milica Arsić, Ivan Jovanović

Technical faculty in Bor, University of Belgrade, Bor, Serbia

Abstract: Nowadays, business schools and faculties are faced with great challenges. They need to set their curriculum to be in accordance with the changes that occur in the environment, and that involve uncertainty. Due to this fact, the use of creativity, innovation and different techniques of data collection represent necessity for business, and students must be trained to recognize their importance and to apply them. This study aims to analyze the relationship between creativity of students, the use of different techniques for searching business opportunities and sustainability of business ideas that were developed during the course. The respondents were students of the Engineering Management Department, Technical Faculty in Bor, before and after listening to the course of Entrepreneurship. In order to get the most realistic picture of whether there is a difference in thinking of students before and after the course, multigroup SEM analysis was performed.

Keywords: creativity, data collection, SEM analysis, multigroup SEM analysis

1. UVOD

U literaturi o preduzetništvu, preduzetnici se opisuju kao visoko kreativni i inovativni pojedinci koji stalno kreiraju nova rešenja da bi stvorili neku novu vrednost.

Neke od alternativnih pristupa kažu da preduzetništvo se ne odnosi samo na kreativno i inovativno razmišljanje, već uključuje i znanje i sposobnosti [1]. Znanje nam je potrebno prilikom organizovanja i alokacije resursa, tj prilikom vođenja poslovanja i iskorišćavanja poslovnih prilika.

Ovo studija ispituje uticaj oba ova aspekta. Polazeći od stereotipnog karakteristike preduzetnika kreativnosti ispitujemo do koje mere pojedinci koriste kreativne strategije za prikupljanje podataka, a do koje mere stečeno znanje i na koji način obe ove strategije utiču na održivost poslovne ideje.

Model je razvijen na osnovu modela koji je Puhakka razvio 2007 [2]. Cilj kursa iz predmeta Preduzetništvo je da kod mladih razvije ili poboljša veštine generisanja novih ideja.

2. POSTAVLJANJE TEORIJSKOG MODELA

Iako se smatra da je većina ljudi donekle kreativna postoje visoko kreativni ljudi sa određenim karakteristikama ličnosti, kao što su originalnost, otvorenost, nezavisnost, preuzimanje inicijative. Oni ne donose zaključke o ideji na prečac, već o njoj razmišljaju neko vreme

Po savremenom shvatanju, kreativno razmišljanje se ipak može unaprediti sistematskim praktikovanjem određenih tehnika, koje mogu doprineti razvoju kreativnosti preduzetnika. Iako se kreativnost teško može naučiti, postoje brojne integralne (brainstorming, brainwriting) i analitičke (checklist) metode i tehnike (fokus grupa, teorija šest šešira, analiza parametara) koje stimulišu inventivno (kreativno) mišljenje. Autor Shane [3] ističe kreativnu ulogu preduzetnika u organizaciji i u svom radu zapaža da mnogi timovi koriste različite oblike brejnstorminga kako bi povećali broj novih ideja, i na taj način podstakli kreativnost preduzetnika. Stoga, može se definisati sledeća hipoteza:

H₁: Kreativnost je pozitivno povezana sa kreativnim strategijama za traženje novih mogućnosti.

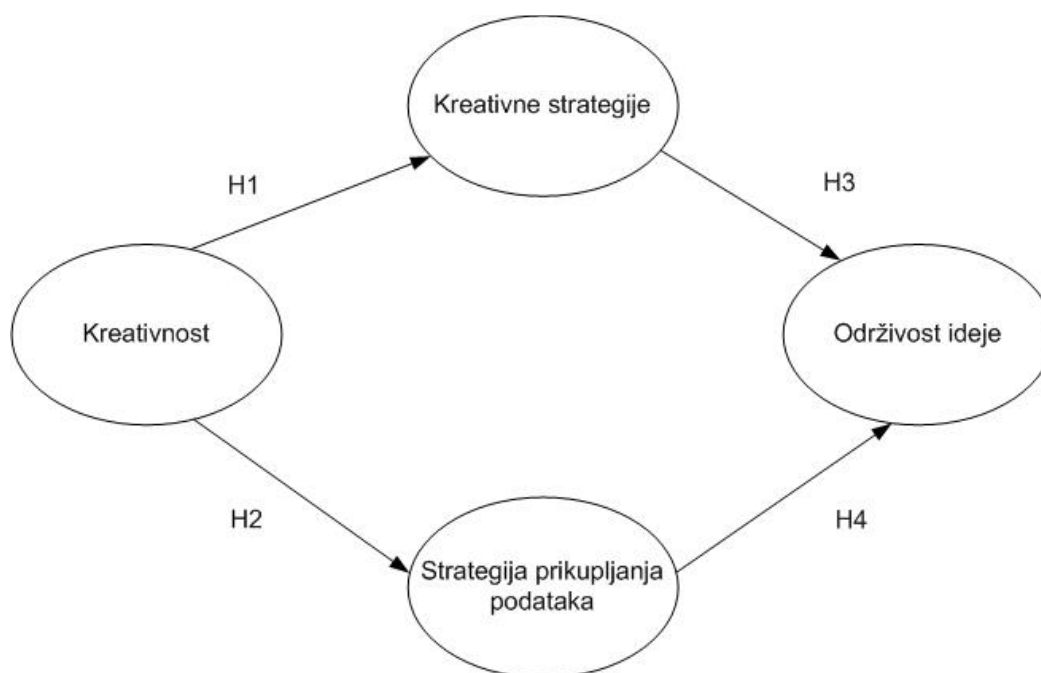
Informacije sa tržišta se definišu kao podaci povezani sa trenutnim i potencijalnim stejkholderima, koji proizilaze iz različitih eksternih izvora. [4]. Efekat koji prikupljanje i korišćenje informacija ima na održivost poslovne ideje naglašen je više puta u literaturi o preduzetništvu [5]. Tokom svog školovanja, studenti menadžmenta, uče kako da sakupljaju, analiziraju i koriste informacije sa tržišta, a smatra se da ovaj analitički pristup podstiče kreativnost [6]. Studenti se ohrabruju da pokažu i otkriju svoju kreativnu i inovativnu stranu. Na osnovu svega iznetog smatramo da kreativnost podstiče proces prikupljanja informacija sa tržišta.

H₂: Kreativnost je pozitivno povezana sa strategijom prikupljanja poslovnih informacija

Iako se obično preduzetnicima dive upravo zbog njihove kreativnosti pri pronalaženju novih ideja, proces generisanja novih ideja mora biti podržan organizovanim prikupljanjem podataka o tržištu, kupcima, konkurentima. Tako da obe ove strategije traženja poslovnih prilika moraju biti primenjene, kako kreativne strategije, tako i one zasnovane na prikupljanju informacija i korišćenju istih. Stoga, predlažemo dve hipoteze:

H₃: Korišćenje kreativnih strategija prilikom traženja novih poslovnih prilika ima pozitivan uticaj na održivost ideje.

H₄: Korišćenje strategija zasnovanih na analizi tržišta prilikom traženja novih poslovnih prilika ima pozitivan uticaj na održivost ideje.



Slika 1. Konceptualni model

3. METODOLOGIJA

Istraživanje je sprovedeno u periodu od oktobra 2014. do januara 2015. godine, na Odseku za Inženjerski menadžment, Tehničkog fakulteta u Boru. Prvi deo istraživanja obavljen je oktobra 2014.godine, pre početka kursa iz predmeta Preduzetništvo i u njemu je učestvovalo 84 studenata. Drugi deo istraživanja odrađen je nakon slušanja kursa i u njemu je učestvovalo 112 studenata.

Anketni listić je sastavljen od dva dela. Prvi deo čine 5 kontrolnih pitanja i drugi deo čine 16 istraživačkih pitanja. Istraživačka pitanja su podeljena u četiri grupe: Kreativnost, Održivost ideje, Strategije za traženje poslovnih prilika i Strategije za prikupljanje informacija. Za gradaciju dobijenih odgovora korišćena je Likertova petostepena skala, gde 1 označava „potpuno se ne slažem“, a 5 „potpuno se slažem“.

Tokom tromesečnog kursa studenti su imali priliku da pohađaju obuku za samostalnu izradu biznis plana, kao najvažnijeg dokumenta prilikom otpočinjanja novog poslovnog poduhvata. Njihov zadatak bio je da osmisle realnu i održivu poslovnu ideju, koja bi bila zasnovana na potrebama tržišta i na njihovoj kreativnosti. Studenti su najpre formirali timove koji su brojali od 5 do 6 članova, a nakon kursa svaki tim je prezentovao svoju ideju.

Deskriptivna statistika kontrolnih pitanja data je u Tabeli 1:

Tabela 1. Deskriptivna analiza kontrolnih pitanja

Faktor	Kategorije	Procenat
Pol	Muški	42,8
	Ženski	57,2
Prosečna ocena u toku dotadašnjeg studiranja	6,00-7,00	55,2
	7,01-8,00	37,6
	8,01-9,00	3,6
	9,01-10,00	3,6
Da li se bavite privatnim biznisom?	Ne	88,7
	Da	11,3
Da li se bilo ko u Vašoj užoj porodici bavi privatnim biznisom?	Ne	75,3
	Da	24,7
Da li se bilo ko u Vašoj užoj porodici ranije bavio privatnim biznisom?	Ne	55,7
	Da	44,3

4. REZULTATI

Za empirijsku validaciju modela korišćena je metodologija SEM-a (Structural Equation Modeling). U tu svrhu korišćen je softverski paket SPSS 18.0.

Tabela 2, Rezultati PCA analize i Cronbach's alfa koeficijenti

Grupe	Varijable	PCA		Pouzdanost
		%varijanse objašnjen preko unidim. faktora	Faktor opterećenja	Cronbach's alfa
Kreativnost (I)	I_1	51.849	0.776	0.766
	I_2		0.674	
	I_3		0.685	
	I_4		0.718	
	I_5		0.743	
Održivost ideje (II)	II_1	61.404	0.786	0.789
	II_2		0.707	
	II_3		0.807	
	II_4		0.828	
Traženje poslovnih prilika (III)	III_1	64.277	0.787	0.811
	III_2		0.800	
	III_3		0.823	
	III_4		0.797	
Prikupljanje podataka (IV)	IV_1	77.330	0.876	0.852
	IV_2		0.910	
	IV_3		0.852	

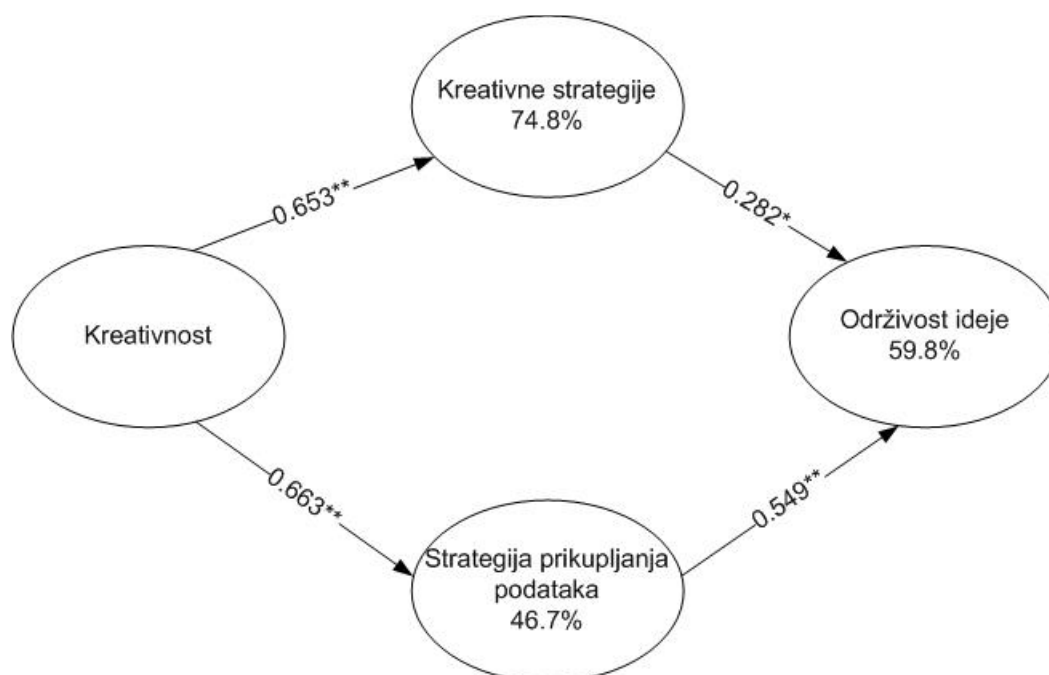
Prvo je preko PCA analize potvrđena jednodimenzionalnost u okviru sve četiri grupe u razmatranom modelu. Vrednosti koje su dobijene primenom faktorske analize prikazane su u Tabeli. Pored toga ispitana je pouzdanost ispitivanih rezultata korišćenjem Cronbach alfa testa. Na osnovu preporuke, koja je data u literature [7], ističe se da bi Kronbahov koeficijent alfa trebao biti $\alpha \geq 0.7$. Takođe, neki istraživači ističu da su poželjne vrednosti Kronbahovog koeficijenta alfa $\alpha \geq 0.8$. Cronbach alfa factor za ukupnu populaciju iznosi 0.905, dok su po grupama vrednosti ovog faktora prikazane u Tabeli 2.

Na osnovu urađene CFA analize utvrđene su mere fitovanja (*goodness-of-fit measures*) kontrolnog i strukturnog modela. Vrednosti pojedinih parametara prikazani su u Tabeli.3.

Tabela 3. Rezultati fitovanja za teorijski i istraživački model

Model	Chi-square (χ^2)	Degree of Freedom (df)	Relative Chi-square (χ^2/df)	Goodness-Of-Fit Index (GFI)	Root Mean Square Error Of Aproximation (RMSEA)	Comparative Fit Index (CFI)	Standard . Root Mean Square Error Of residual (SRMR)
<i>Kontrolni model</i>	153.41	95	1.61	0.921	0.043	0.886	0.051
<i>Ispitivanje teorijskog modela</i>	163.56	100	1.63	0.913	0.057	0.950	0.037
<i>Poželjni rang mera</i>	-	-	≤ 3	≥ 0.80	≤ 0.08	≥ 0.9	≤ 0.08

S obzirom na to da je utvrđena pouzdanost dobijenih podataka, ispitan je postavljeni model. Testiranje modela uključilo je određivanje koeficijenata regresije β i determinacije R^2 . Koeficijenti regresije objašnjavaju jačinu i karakter veza između zavisnih i nezavisnih varijabli, a koeficijent determinacije R^2 pokazuje učešće objašnjenog varijabiliteta u ukupnom, odnosno koliko je varijacija zavisne promenljive objašnjena nezavisnom promenljivom. Koeficijenti regresije prikazani su na slici 2:



Slika 2. Koeficijenti regresije

Sa grafika se mogu očitati beta koeficijenti između prediktorskih varijabli i zavisnih varijabli, i vidi se takođe da postoji linearna zavisnost između promenljivih. Regresionom analizom se može utvrditi ne samo uticaj zavisnih na nezavisne promenljive, već i predvideti buduće kretanje zavisnih varijabli u odnosu na promenu nezavisnih.

Rezultati path analize pokazuju da su sve četiri hipoteze potvrđene sa određenom statističkom značajnošću. Koeficijent determinacije u ovom slučaju je otkrio da se uticaj latentnih prediktora na održivost ideje može obračunati sa 59,8 % varijanse

4.2. MODEL VIŠEGRUPNE ANALIZE

Cilj multigrupne analize jeste poređenje fitovanja modela između grupa [8]. U ovoj analizi pažnja je usmerena na sličnosti i razlike u odgovorima studenata pre i nakon slušanja kursa iz predmeta Preduzetništvo. Dakle ispituje se svaka hipoteza ponaosob u odnosu na faktor Grupa.

Sprovođenje multigrupne analize započinje kreiranjem kontrolnog modela za kombinovan uzorak sa podacima za grupe pre i nakon kursa (N=196). Hipoteza koja se testira jeste da kontrolni model, važi kako za prvu tako i za drugu grupu studenata. Ova hipoteza zahteva da regresione vrednosti (loadings), kojima se predviđaju grupne varijable, budu iste za obe grupe (group invariant, nepromenljivi model). Odnosno zahteva da svaka regresiona veličina za uzorak Pre kursa bude jednak odgovarajućoj regresionoj veličini za uzorak Nakon kursa.

Rezultate proračuna za ovaj kontrolni model za grupu INVARIANT i VARIJANT prikazani su u tabeli

Tabela 4. Mere fitovanja za nepromenljivi i promenljivi path model

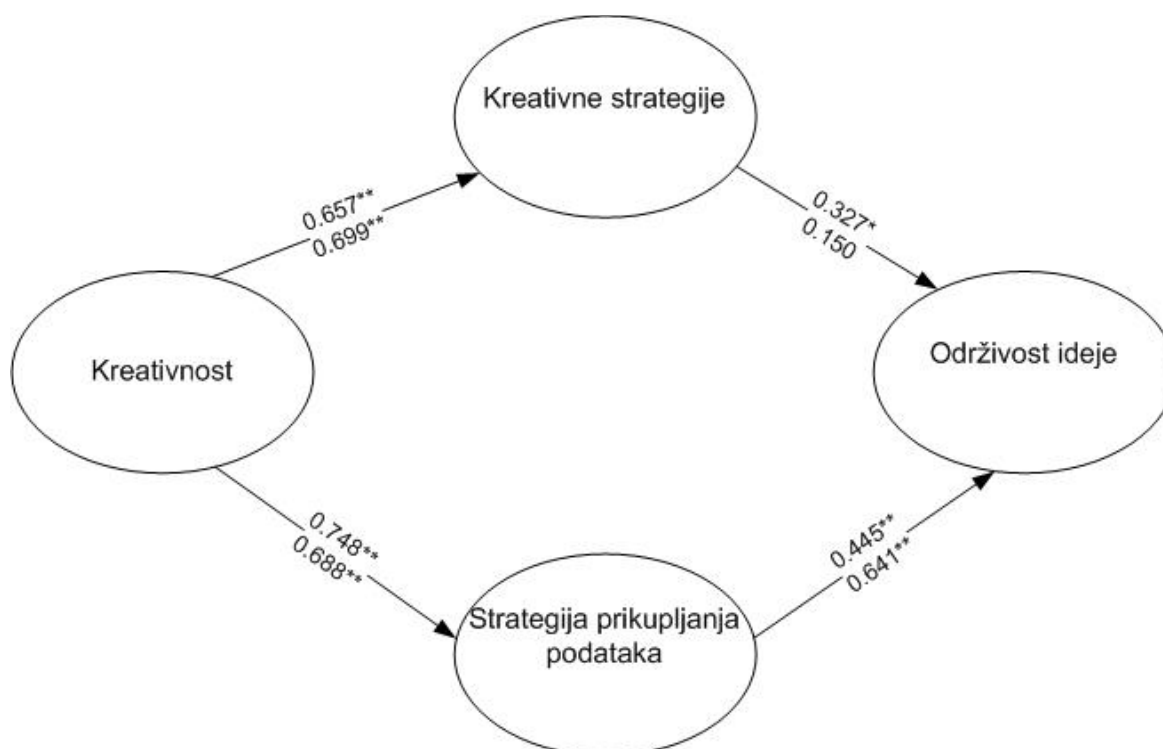
Model	Chi-square (χ^2)	Degree of Freedom (df)	Relative Chi-square (χ^2/df)	Goodness-Of-Fit Index (GFI)	Root Mean Square Error Of Aproximation (RMSEA)	Comparative Fit Index (CFI)	Standard . Root Mean Square Error Of residual (SRMR)
<i>Group Invariant</i>	340.43	216	1.58	0.829	0.055	0.906	0.059
<i>Group Variant</i>	338.71	212	1.6	0.830	0.056	0.904	0.058
<i>Poželjni rang mera</i>	-	-	≤ 3	≥ 0.80	≤ 0.08	≥ 0.9	≤ 0.08

Za definisani hipotetički model, koji je prikazan na slici 1, primenjuje se zatim višegrupna path analiza. Nakon ponovnog proračuna u softverskom paketu SPSS v.18, dobijaju se rezultati fitovanja i Critical Ratio test za formirani model višegrupne path analize. Rezultati ovog testa prikazani su u tabeli . Vrednosti parova koje su veće od ± 1.92 pokazuju za koje parove se ne može postaviti isti kontrolni model, jer oni nemaju isti uticaj.

Tabela 5. Critical Ratio test za razlike između parametara za višegrupni path model

	NW1	NW2	NW3	NW4
PW1	0.383	0.234	-2.847	-0.093
PW2	-0.311	-0.383	-3.009	-0.538
PW3	1.964	1.923	-0.858	1.597
PW4	1.752	1.584	-1.697	1.262

Prema dobijenim rezultatima možemo zaključiti da sve hipoteze mogu zameniti jedna drugu u oba modela. Koeficijente regresije (β koeficijente) u VARIANT grupi za grupu studenata pre slušanja kursa (PW) i nakon slušanja (NW), koji su dobijeni nakon proračuna za multigrupnu analizu, predstavljeni su na slici :



Slika 3. Rezultati multigrupne analize

Što se tiče koeficijenata determinacije (R^2), kojima se mogu opisati zavisne grupne varijable, razlikuju se za VARIANT grupu, u okviru koje su ovi koeficijenti različiti za dve posmatrane grupe. U tabeli, prikazani su koeficijenti determinacije.

Tabela 6. Koeficijenti determinacije za multigrupni path model

	VARIANT	
	Pre kursa	Nakon kursa
<i>Traženje prilika</i>	79,1%	73%
<i>Prikupljanje podataka</i>	44,4%	51%
<i>Održivost ideje</i>	62,8%	60,6%

Rezultati multigrupne path analize pokazuju da za grupu studenata pre slušanja kursa sve hipoteze potvrđene sa odgovarajućom statističkom značajnošću, dok u grupi studenata nakon slušanja kursa hipoteza H_3 nema statističku značajnost.

5. ZAKLJUČAK

Ova studija doprinosi tome da se razume značaj kako individualna kreativnost utiče na održivost ideje, kao i da ukaže na načine kako studenti traže nove poslovne ideje. Kreativnost

jača i pozitivno utiče na kreativne strategije i na organizovano prikupljanje podataka. Njena uloga je indirektna, ali pozitivna.

Iako se obično preduzetnicima dive upravo zbog njihove kreativnosti pri pronalaženju novih ideja, naša studija je pokazala da to nije cela istina. Proces generisanja novih ideja mora biti podržan organizovanim prikupljanjem podataka o tržištu, kupcima, konkurentima. Tako da obe ove strategije traženja poslovnih prilika moraju biti primenjene, kako kreativne strategije, tako i one zasnovane na prikupljanju informacija i korišćenju istih. Čak je u trenutnoj studiji pokazano da prikupljanje informacija ima jači uticaj na održivost ideje, što nije u saglasnosti sa prethodnim istraživanjima.

Praktična primena: Oni studenti koji su rođeni preduzetnici moraju biti ohrabreni da koriste različite strategije prilikom traženja novih poslovnih prilika. Taj proces za cilj bi imao generisanje što više novih i inovativnih ideja baziranih na istraživanju tržišta i korišćenju informacija sa tržišta.

REFERENCE

1. J.Heinonen, U.Hztti, P.Stenholm, *Eduaction+Training*, 56(2011)8/9.
2. V.Puhakka. *Journal of Entrepreneurship*, 16(2007)1.
3. S. Shane, *A general theory of entrepreneurship: The individual-opportunity nexus*, Weatherhead School of Management, Case Western Reserve University, United States, 2003.
4. C. Moorman, *Journal of Marketing Research* 32 (1995)3.
5. T.Kawakami, D.L.MacLachlan, A.Stringfellow, *J prod Innov Manag* 29 (2012)2.
6. A.A. Gibb, *International Journal of Management Review*, 4 (2002)3.
7. H. Kupermintz, Lee J. Cronbach's contributions to educational psychology. In B.J. Zimmerman and D.H. Schunk (Eds.), Mahwah, NJ, US: Erlbaum, 2003.
8. M. Savić, Đ. Nikolić, P. Đorđević, I. Mihajlović, Ž. Živković, *Proc. VIII International Symposium of Strategic Management*, 25-27.May, Bor, Serbia, 2012, p. 1030-1044.

BUSINESS STRATEGY AND SUCCESS AMONG INDEGINIOUS IGBO ENTREPRENEURS: STUDY OF HOUSE HOLD EQUIPMENT LINE, MAIN MARKET ONITSHA, NIGERIA

Franca Obi

Federal University of Ndufu-Alike, Ikwo, Ebonyi State, Nigeria

Abstract: This work justifies Business Strategy and Success among Igbo Entrepreneurs. Igbo people right from the ancient time is known for being business inclined. They are believed to be the backbone of business in Nigeria, as a result, today; they are referred to as the Japanese and Chinese of Africa. The practice of the right business strategies is the secret of business successfulness among Igbo Entrepreneurs. These practices are imbedded in the communal culture of Igbo. This paper tries to look into Igba-Odibo, Imu-Ahia, Idu-Odibo and Igba-Oso-Ahia as business strategies for achieving success in business which is measured through business/opportunity utilization, business/customers networking and increase sales volume and market shares. This paper also gives the in-depth symbolic interpretation and application of the dependent and independent variables used. The paper also extends its discussion on the significant of these business strategies as practiced among Igbo entrepreneurs and how they equip Igbo Entrepreneurs to immensely contribute their quotas in the area of developing entrepreneurship in Nigeria in particular and the globe in general. Three research questions were formulated to investigate the relationship between business strategy and success. Related literatures were reviewed. The study population covers house hold equipment line of Main Market Onitsha in Anambra state, Nigeria which has shop capacities of over five hundred which were used to assumed the population of the study and out of the three hundred (300) questionnaires administered to the directors of the business or the Masters/Mistresses, who are the business owners during the study, one hundred and eighty (180) were returned, seventy three (73) were invalid so the researcher was left with one hundred and seven (107) valid questionnaires to work with. The data collected were tested using frequency table, percentages Pearson product moment correlation analysis and Regression analysis. The result shows that there is a strong positive relationship between the two variables. The researcher recommends that Government should encourage and strongly support these entrepreneurs by providing loans and adequate infrastructure that aids business and the Igbo should encourage their children to complete their higher education before embarking on any of these strategies.

Keywords: Business Strategy, entrepreneurship in Nigeria, house hold equipment

GLOBAL FINANCIAL CRISIS AND MENA

Abdulhamed Ahmed

Libya

Abstract: What started as a financial disaster in the United States has become a truly global economic crisis. Although financial systems in MENA countries have not been highly vulnerable to the crisis so far due to their limited integration with global financial institutions, the impact of the global recession on the real economy can be significant in many MENA countries. The global financial crisis had immediate impact on access to external financing worldwide. Borrowing spreads increased for emerging market sovereign and corporate borrowers. However, MENA countries have been less severely affected by the credit crunch than other developing regions. The impact of the crisis goes beyond economic aggregates. In some countries, households and workers are being impacted directly. The economic impact of global slowdown varies depending on the degree of economic integration with highly impacted regions and commodities, and countries ability to react will depend upon initial fiscal and external account positions, public indebtedness, and institutional capacity to implement sound macroeconomic and structural policies. Countries across the region can be grouped in four categories for the sake of discussing. First, there are the GCC oil exporters with large financial capacity and relatively small populations – Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates. This group is in the best position to absorb the economic shocks.

Keywords: MENA, economic, financial crisis, recession

1. INTRODUCTION: IMPACTS OF THE FINANCIAL CRISIS ON WORLD FINANCIAL MARKETS AND ECONOMY

The 2008 (and today crisis in EU countries) crisis was the first of the postwar period to be caused by a near-collapse of the banking system in the advanced economies. The aggressive measures taken by the Federal Reserve, Treasury, and Fed have stabilized the US banking system after a few years. Several major USA banks have now repaid the Troubled Asset Relief Program (TARP) money [1], and if the other key banks need more capital, they will simply become somewhat more nationalized as they sell more shares to the government, rather than collapsing. The Troubled Asset Relief Program (TARP) is a program of the United States government to purchase assets and equity from financial institutions to strengthen its financial sector that was signed into law by U.S. President George W. Bush on October 3, 2008. [2] It was a component of the government's measures in 2008 to address the subprime mortgage crisis. The TARP program originally authorized expenditures of \$700 billion and was expected to cost the U.S. taxpayers as much as \$300 billion. Some worry that European banks are in severe danger, and cite the International Monetary Fund (IMF) estimates of

larger credit losses ahead (\$750 billion) than for the US banks (\$550 billion). Those losses was much larger in the eurozone (\$34 trillion in bank assets) than in the United States (\$11 trillion).

2. FINANCIAL CRISIS IMPACTS ON MENA COUNTRIES ECONOMY

The effects of the global financial crisis reflected on the economies of all countries, including MENA countries (The following countries are typically included in MENA[3]: Algeria, Bahrain, Djibouti, Egypt, Iran, Iraq, Israel, Jordan, Kuwait, Lebanon, Libya, Malta, Morocco, Oman, Qatar, Saudi Arabia, Syria, Tunisia, United Arab Emirates, West Bank and Gaza, and Yemen. Ethiopia and Sudan are sometimes included). It is certain that the degree of impact varies between MENA countries as they relate to the degree of integration into the global economy. Almost niether of MENA countries is not immune from the repercussions of the crisis on the regulations, economic policies, banking, and their influence directly or indirectly. In this thesis we will divide MENA countries into groups. First group of MENA countries with a high degree of economic and financial openness include MENA Gulf countries (Saudi Arabia, Bahrain, Oman, Qatar, Kuwait, United Arab Emirates), and second group of MENA countries are those with a low-and middle degree of economic and financial openness include Jordan, Egypt, Libya, Tunisia, Algeria.

Table 1. Real GDP Growth Rates, 2007–2010 [4]

Country or region	2007	2008	2009 (e)	2010 (p)
Algeria	3.0	2.4	2.2	3.9
Egypt	7.1	7.2	4.7	5.4
Libya	6.0	3.8	2.1	5.2
Mauritania	1.0	3.7	-1.1	4.5
Morocco	2.7	5.6	5.0	4.3
Tunisia	6.3	4.6	3.1	4.0
North Africa	—	5.4	3.8	4.8
Middle East and North Africa	5.6	5.1	2.4	4.5
Sub-Sahara Africa (SSA)	6.9	5.7	1.6	4.3
Central and Eastern Europe	5.5	3.0	-3.7	2.8
Developing Asia	10.6	7.9	6.6	8.7

Source: African Development Bank (ADB), March 2010, estimation, and *World Economic Outlook*, International Monetary Fund (IMF), April 2010, estimation.

The impact of the crisis goes beyond economic aggregates. In some countries, households and workers are being impacted directly. For example, Egypt's quarterly growth fell to 4.1% in Dec 08 (compared to 7.7% 2007) and job creation fell by 30% (unemployment rose to 8.8%). Due largely to the cancellation of several construction projects in Dubai and the resulting job loss, it was reported that in March several hundreds of migrant workers left the emirate daily. The economic impact of global slowdown varies depending on the degree of

economic integration with highly impacted regions and commodities. And countries ability to react will depend upon initial fiscal and external account positions, public indebtedness, and institutional capacity to implement sound macroeconomic and structural policies.

Countries across the region can be grouped in four categories for the sake of discussing. First, there are the GCC oil exporters with large financial capacity and relatively small populations – Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and United Arab Emirates. This group is in the best position to absorb the economic shocks. They entered the crisis in exceptionally strong position. This gave them a significant cushion against the initial impact of the global financial crisis. Although their stock markets were hard hit in the second half of 2008, their governments were able to respond by relaxing monetary policy, by providing capital, and guaranteeing deposits in national financial institutions. However, because of the sharp decline in oil prices since mid-2008, GCC countries will experience a significantly lower economic growth in 2009 than the previous year, with the exception of Qatar whose GDP is projected to grow at an outstanding 29% in real terms with the coming on stream of major LNG plants. In a few GCC such as Saudi Arabia, Kuwait and the UAE, growth is likely to be near or below zero. The oil-rich states have predictably, almost from beginning of crisis in August 2008, experienced a sharp decline. According to the U.S. government's Energy Information Agency, oil income for MENA members of OPEC fall from \$ 678 billion in 2008 to \$ 268 billion in 2009. Saudi Arabia's export revenues decline from \$ 285 billion to \$ 111 billion and Iraq's from \$ 59 billion to \$ 23 billion. This has a direct impact on the economies of the large oil producers in first group of MENA countries.

There are three distinguishable immediate effects of the crisis, namely the contagion effects on financial markets, foreign exchange markets and commodity markets. MENA relatively liquid financial markets not only suffered from the contagious effect but also faced amplification thereof, possibly attributable to the over-valuation of stocks and the outflow of portfolio investments. African investors, in general, and Egyptian and Saudi investors in particular, recorded within six months an average loss of more than half the wealth invested at the end of July 2008. This is higher than the losses recorded on American, French and Japanese markets. Although MENA banking systems were not directly exposed to the sub-prime crisis, there were strong indications of increased asset price and risk premium volatility on African financial markets as early as the summer of 2008. For some African markets (e.g. Egypt), the impact was much higher than for markets in developed countries.

The effects of the global crisis on MENA was mostly indirect. Indirect effects as declining in remittances to MENA countries and unemployment rises in North America, Europe and other places. North Africans who live in USA, Canada, Europe and regularly sends monies home were less likely to be in a position to send home these monies. In addition as Western governments try to pay for their billion-dollar rescue packages they reduced foreign aid programs. Private humanitarian groups, facing a drop in donations, do the same reducing. Some experts were worried that the crisis could delay large-scale agriculture and infrastructure projects and could even threaten social programs to improve health, education and sanitation. Nevertheless, the experts say there could be some positive effects. Interest rates were declined. Another financial crisis benefit were lower prices for petroleum, food and other basic goods due to a decline in demand.

3. FINANCIAL CRISIS IMPACT ON THE MENA'S BANKING SYSTEM

MENA's low level of financial integration meant that their economies were relatively isolated from the direct impact of the financial crisis. Thus, MENA found itself shielded from the impact of the 2007 subprime and the summer 2008 banking crises, thereby avoiding the effects of a financial crisis that affected the very foundations of international financial markets. Compared to emerging countries, MENA's external financing (bond issue, stocks and private borrowing) is low, representing only 4% in 2007 of overall issue for emerging economies. In 2007, bond issues stood at only USD 6 billion, compared to USD 33 billion for Asia and USD 19 billion for Latin America. Furthermore, in terms of access to private resources, Africa received only USD 3 billion in 2007, compared to USD 42 billion for Asia.

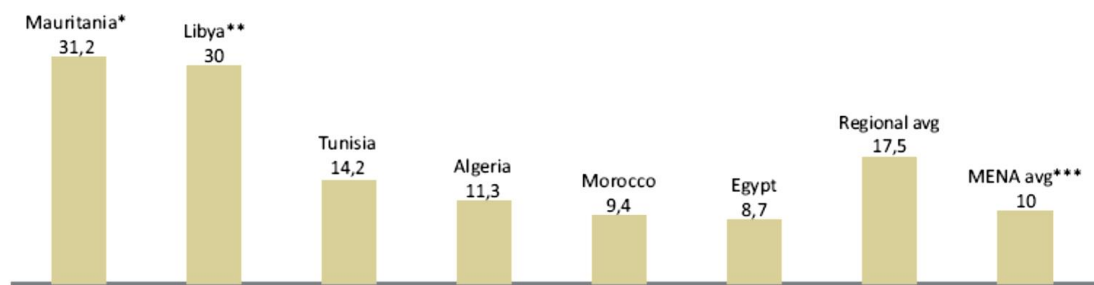
The direct impact of the financial turmoil on MENA has so far been less severe than in advanced economies, since North Africa's countries are less integrated in the global financial system and their financial institutions are relatively inactive in the derivatives market, relying mainly on domestic market resource mobilisation rather than on foreign borrowings to finance operations. Nevertheless, North Africa is not immune to the global financial crisis and it is already feeling the secondary effects, like the drying up of financial inflows.

Generally, MENA banks have not engaged in complex derivative products and are not heavily dependent on external financing. The contagion effects may be amplified by foreign bank presence, which is high in some countries. For example, North Africa's stock market capitalization is still very low, representing only 2.09% of world capitalization. Furthermore, North African banking assets represent only 0.87% of global banking assets, compared to 58.15% for the 15 countries of the Euro zone and 15.09% for the United States. MENA's financial globalization ratio is comparable to Latin America's, at 181.3% and 176.4%, respectively, far behind that of Asia at 369.8%. MENA financial systems are dominated by the banking sector, and the role played by financial markets is weak, or in some cases non-existent. Borrowing from foreign banks is regulated in the context of exchange control regulations. Off-balance sheet exposure is not widespread in MENA, which is in contrast to industrialized countries that have complex financial securization instruments such as the ones that triggered the sub-prime crisis. The accumulation of reserves following the commodities boom has supported the expansion of sovereign wealth funds in Libya, Algeria and Sudan. While these funds represent only 2% of the sovereign funds' global assets, the accumulated volume amounted to more than USD 124 billion, before the 2008 financial crisis.

4. IMPACT OF THE FINANCIAL CRISIS ON MENA'S MARKETS

The economic crisis in the MENA world has not affected everyone in the same way. In fact, the macro-economic figures do not reflect the real impact the recession has had on the citizens of MENA countries. A 10% drop in the growth of the United Arab Emirate's GDP has not been translated into a lower standard of living or less social peace for Emirate citizens; however, a reduction of 0.1% in the growth of the Algerian economy could pose significant social challenges. The World Bank has warned about this situation and the risk various MENA countries run of the economic crisis becoming a social crisis. Not all MENA countries started off from the same position when coming up against the

crisis. The per capita incomes allow an estimation of citizen's general living standards, though they do not guarantee a fair distribution or balance of wealth. In some GCC countries we can see how the per capita incomes are found at the same level, or even higher, than member countries from the OECD. Therefore, although the financial crisis has significantly reduced the level of reserves, liquidity accumulated during the years of economic expansion, levels of infrastructures and capital, as well as little demographic pressure has allowed them to face the recession from a high standard of living.



Source : for Algeria, Egypt, Morocco and Tunisia : ILO Labor Statistics, <http://laborsta.ilo.org>

Notes: *Mauritania CSLP 2011-2015.

**World Bank estimate, Libya Country brief

***Angel-Urdinola and Kuddo 2010.

Figure 1. Unemployment (%) in North Africa, 2008 [5]

Unemployment rates, especially among young people, represent one of the main short and long term challenges for many MENA economies. According to the Human Development Report, youth unemployment “disproportionately” affects MENA countries, with the unemployment average rate among young people reaching around 30%. [6] It is particularly alarming in countries such as Algeria, which reveals a youth unemployment rate of 45%. Although slightly less alarming, the figures are also worrying in other places such as Saudi Arabia or Egypt, which reveal a youth unemployment rate of 25%, but that as Algeria, have higher %ages of population under 15, which could mean an increase in future youth unemployment rates. In June 2009, the newspaper al-Bayan revealed that unemployment rates in Egypt could soar in 2010, an analysis shared by the Union Of Egyptian Workers Abroad, which believes the impact of the crisis on Egyptian labour will be fully felt next year. Hence, one of the greatest challenges a large number of MENA countries face is unemployment and the need to create jobs for an increasing youth population. This socioeconomic situation becomes even more complex in those countries without revenues from hydrocarbon exports and with strong demographic pressure. Before long they will have to create jobs for a predominantly young population. Morocco and Egypt are possibly the clearest example in this situation, with unemployment and illiteracy particularly posing serious problems for the poorest sections of the population, which are, along with immigrants in the Gulf, those that will be most affected by the adjustment of the crisis and the fall in employment and remittances.

The impact on the real economy has been the strongest perhaps in Dubai where the financial crisis has coincided with the busting of the real estate bubble and sharp contractions in the construction sector and financial services. However, Abu Dhabi has come to Dubai's rescue with a \$10 billion issuance and plans to raise another \$10 billion if necessary. In fact, with their significant financial reserves, GCC countries are likely to ride the storm comfortably if oil prices stay around current level of \$50 ppb throughout 2009. However, steadily declining oil prices could force them to draw down reserves and cut down on investments. In such as scenario, the financing of emergency rescue plans, the financing of fiscal stimulus packages, could combine with lower oil revenues intake to cause serious fiscal pressures.

Second, there are the oil exporters with larger populations relative to their oil wealth, than GCC countries – Algeria, Iraq, Iran, Libya, and Syria. Although oil exporters with significant oil revenues, oil provides countries in this group with less wealth per capita. Moreover, these oil exporters with comparatively large populations entered the global financial crisis with weaker fiscal and external positions than GCC countries, and their fiscal and current account surpluses are expected to see a sharp decline in 2009 as fiscal revenues and trade surplus contract with lower oil prices. As governments struggle to meet long-term social commitments such as subsidies and income support programs, countries with sufficient reserves are drawing them down (e.g. Algeria), and countries with limited reserves are implementing fiscal contraction measures (e.g. Iran). Economic growth is projected to decline though not as markedly as in GCC countries [7].

Third, there are the non-oil exporting countries with strong economic linkages with GCC through remittances, FDI and tourism, or with strong dependency on foreign aid, or both. This group includes Jordan, Lebanon, Yemen and Djibouti. Lebanon and Jordan entered the crisis in weak positions in terms of fiscal and external balances. [8] With stock market contraction and lower oil prices ushering in reduced personal wealth in the GCC as well as and reduced employment opportunities for migrant workers, GCC countries are sending out less remittances and FDI. Reduced remittances and FDI, combined with the possibility of fewer tourists from MENA and other countries), will weigh heavily on external balances in Lebanon and Jordan in 2009 and make it difficult to finance their deficits while the return of migrant workers could represent a challenge from the employment and social policy point of view. In Yemen, the coming on stream of LNG plants will support a strong external position and economic activity. In Djibouti, the operation of new port facility by Dubai World and spending by foreign military bases will provide a cushion. However, both Yemen and Djibouti face a challenge in securing foreign aid given the pro-cyclicality of aid and the deteriorated financial situation in source countries. Like in other MENA countries, household in Yemen and Djibouti were hit hard by the food crisis in 2008; and although food prices have declined, they remain high by historical standards and will continue put pressure on household budgets as well as on import bills.

Fourth, there are the diversified countries with strong trade and tourism linkages with Europe and OECD: Morocco, Tunisia and Egypt. This group of countries felt the impact of the crisis on their real economy as early as the last quarter of 2008 as recession spread across Europe and other export markets. [9] Export growth is projected to remain low throughout

2009 in all three countries. This is affecting jobs in export-oriented SMEs. Tourism activity was sharply reduced in January in Egypt and is expected to remain depressed throughout 2009. Public finances are being impacted and it is not clear whether governments will be in a position to issue sovereign bonds given that spreads remain high (although they have declined markedly from their peaks in late 2008). Governments are likely to increase their reliance on domestic borrowing and external borrowing from public sources. Countries in this group can build on their good track record of sound macroeconomic policies and structural reforms to mobilize external and domestic financing needed to implement countercyclical policies. As the crisis persists and affects the financial position of export-oriented SMEs and eventually other domestic firms, there is a risk that the balance sheets of domestic bank might weaken (due to emergence of non-performing loans or shrinking of loan portfolios).

The impact of the global financial crisis on MENA stock markets varied significantly from one country to another. Early impact was visible in countries with strong links to global financial markets. On average, regional stock indices have fallen by about 50%. Stock indices in Gulf Cooperation Council (GCC) countries saw declines of between 30-60% in the last quarter of 2008. In response, GCC countries announced various measures and rescue mechanisms to maintain liquidity and support their stock markets. In non-GCC countries, stock markets also experienced declines. But some indices – including Lebanon and Tunisia – were fairly resilient.

Sovereign funds have taken some losses on their investments in global financial institutions. Some early estimates by the Council on Foreign Relations suggest that sovereign funds with a high allocation into equities, emerging market and private equity may lost as much as 40% in portfolio value between December 2007 and December 2008. [10] However sovereign funds continue to have significant reserves. With the exception of a Kuwaiti bank that suffered significant losses due to trading in currency derivatives in late 2008, the banking sector across MENA has so far been little affected, mainly because of limited integration with global financial institutions. However, many banks are being cautious in their lending decisions, and this is causing a credit dry out in some countries.

5. CONCLUSIONS AND RECOMENDATIONS

Many MENA countries have come through the financial crisis not only better than they did in the past but also better than many other countries throughout the world. The financial crisis hit MENA countries also as Western countries, but not that hard as USA or European countries (Greece for example). The global crisis was influenced to MENA countries in several ways: financial markets (Financial market was destroyed, many banks were bankrupt in USA preferably, but they were connected with global financial market, and domino effect started from USA. The huge losses recorded by both sovereign wealth funds and private MENA capital in financial markets in the United Kingdom and the United States meant that the stock market crash in September 2008 affected the majority of the Middle Eastern stock markets. After the insolvency of Lehman Brothers was announced, on September 15th 2008, the Saudi stock market fell by 6.5%, Doha 7%, Kuwait 3% and Abu Dhabi 4.35%. [11] Certain markets, such as Kuwait, had to close for a number of days to avoid

outbreaks of panic. In contrast, some MENA stock markets were relatively unaffected by these fluctuations, as those in Morocco, Lebanon and Jordan, with accumulated falls from January 2008 to was particularly noteworthy, with an accumulated growth in this period of 18%).), crude oil market (During crisis starting oil prices drop down rapidly in very short period of time, and that was direct effect on economy of OEC`s. Oil prices started to fall in the summer of 2008. However, from September to December that year the price dropped from 100 to 40 US \$ per barrel. As we mentioned before, MENA countries make up 65% of the world's oil reserves. The export of oil products generates more than 50% of the GDP and 80% of its profits. Therefore, the fall in oil prices has particularly affected oil exporting countries - Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, Arab Emirates, Algeria, Iraq, Libya, Sudan and Yemen. [12] Emirate of Dubai has been the worst hit), MENA investments in global asset markets (Even governmental investments was stopped, especially investments in developing projects. Also direct foreign investment was lowered. According to the newspaper Al-Hayat, the company Emaar from Emirets had lost 351 billion US \$ in just three months at the start of 2009), tourism (reduced number of both tourist visitors domestic and foreign), the remittance income of MENA abroad workers (particularly in the non-exporting ones who rely heavily on this revenue. Significant drop in remittances. Collapse of the international markets following the economic crisis has given rise to a serious decline in exports to countries in MENA countries. The drop in demand from markets in Europe, USA and Asia, the leading markets for exporting manufactured products and oil in MENA countries, has brought about an additional economic reversal for economies in the Middle East and North Africa. In some cases, exports to countries in the European Union constitutes almost 80% of the total exports (80% for Tunisia and 78 and 76% for Libya and Morocco respectively).

Thus, effects of financial crisis in MENA countries were different. The relatively closed financial systems for most MENA countries shielded them from the financial crisis and worldwide economic recession. Economic policies were different in region and they had different impact on economy. In general, MENA OEC`s introduced larger fiscal stimulus packages compared with the OIC`s. Among GCC countries, the largest fiscal expansion was implemented by Saudi Arabia. While the global economic crisis has led to recession and negative economic growth in many parts of the world, its impact on the Middle East has been relatively mild. For all MENA countries, with the exception of Kuwait, the impact in 2009 has been limited to growth slowdown rather than economic decline. The economic crisis and the resulting public deficit has put development and public investment plans, industrialization processes, social policies and public employment at risk. The rise in unemployment is probably the most likely way the economic crisis will become a social one, particularly in those countries with a lower income per capita and lower human development conditions.

MENA countries must to try to be more open to global market and to be much more aggressive as competitor on that market. Also, more employment in domestic market (not only in petrol industry, but also in other industries) is more than desired, i.e. in tourism industry that not full developed in some of MENA countries (Libya, Algeria). Non petrol producers must to develop their economys in some other way, in toursim, food industry, industry of reusable energy sources (wind and/or solar), and to lower their dependency of foreign energy imports. Renewable energies have become an important industrial sector in Europe and the North African region provides excellent natural conditions for investment. Water reserves

(beside oil and gas) in Libya are most significant also, and there is also chance for exporting in MENA and other countries. There are lot of chances for MENA countries in future period after financial crisis that was stopped in 2013 in Europe and USA, but they must to act fast. MENA spring first was start as revolt, uprising for better life and must to give results in future

Next, with inflation controlled, many MENA countries restructured and set favorable interest rate policies, which also mitigated the overall impact of the crisis. Where exchange rates enjoyed flexibility, countries encouraged the free market mechanism of adjustment, which softened adverse shocks and contributed to resilience. As a result, MENA countries generally were able to support social spending during the crisis, using a number of strategies. For example, most countries were able to maintain (and oftentimes increased) health and education expenditures at pre-crisis levels; construct and implement conditional cash transfers; and innovate in the area of social protection, including public works programs and food security initiatives. These measures were successful and allowed MENA countries to avoid protectionism, keeping barriers low and continued to pursue policies encouraging foreign investment and increase trade with new partners in the emerging and developed markets. These new partners will continue to demand goods that MENA can supply with comparative advantage, which will provide support to both developed and developing countries and give investors more opportunities to find higher yields in MENA's emerging and frontier markets. Priorities will include negotiating equitable deals with developed country multinational firms, managing revenue windfalls with caution, and finding new ways of putting displaced workers back to work and creating more jobs in the renewable energy sector. Main influences of financial crisis on economy ware in banking sector. Today bank funds available for credits are reduced, severely limiting activities that were financed through that (fictitious) credit structure. Until there is a new financial architecture designed to replace the former one, they will not be able to take off either. In order to overcome the contraction of credit, liquidity must increase so as not to restrict real exchange for lack of means of payment.

REFERENCES

1. <http://www.brookings.edu/>
2. http://en.wikipedia.org/wiki/Troubled_Asset_Relief_Program
3. <http://www.investopedia.com/terms/m/middle-east-and-north-africa-mena.asp#ixzz3ZLvdjTKf>
4. <http://www.afdb.org/en/>
5. <http://laborsta.ilo.org/>
6. <http://web.worldbank.org/>
7. UNDP. Arab Human Development Report 2009. Challenges to economic security
8. IMF. Regional Economic Outlook. Middle East and Central Asia. May 2009
9. <http://www.world-tourism.org/facts/wtb.html>

10. <http://web.worldbank.org/>
11. Casa Árabe Economy and Business Bulletin. N°13. August 2009
12. Moosa, I., 2010. Stock market contagion in the early stages of the global financial crisis: the experience of the GCC countries. *International Journal of Banking and Finance* 7

COMPLEXITY OF INTERNATIONAL MARKETING RESEARCH IN MANAGEMENT

Ljiljana Stošić Mihajlović, Miloš Nikolić

Visoka škola primenjenih strukovnih studija Vranje, Serbia

Abstract: Marketing and management concept relating to: market research, product planning, market planning, sales promotion, sales and distribution, sales, customer service, planning, price and promotion. If the activities of enterprises directed at consumers in several countries, speaks about international marketing. International marketing is one of the important parts of the overall strategy of an enterprise and is sacrificed. In the conditions of today's environment in the world and international marketing gains more importance. It is on such a business concept and based on that operating system which diverts the existing business activities, change the existing company organization and promote a specific approach in the execution of business processes at the international level.

Increased needs of each country in which stronger involvement in international exchange and the increasingly prominent role of the market in favor of the claims on the increase of the importance of marketing in the world. It is undisputed that at that classical forms and contents of international trade to lose importance, and new strategies are taking the lead not only in the flow of products and services, but also capital, knowledge and skills. In this situation, the importance of modern methods and concepts of operations, both in the home country and in foreign markets will be increasing in companies, not only in the organization but also in the conceptual sense of international marketing research in management.

Keywords: international marketing, management, marketing studies in management.

1. UVOD

Istraživanje međunarodnog marketinga u menadžmentu i orijentacija na svetsko tržište svojstvena je svakom preduzeću i tesno je povezana s procesom rasta i razvoja. To znači da uključivanje poslovanja preduzeća u međunarodne okvire nije isključivo stvar odluke rukovodstva preduzeća, nego i posredica rasta i razvoja ekonomije u celini i situacije u međunarodnom i domaćem okruženju. Neke delatnosti (farmaceutika, elektronika, turizam i dr.) zahtevaju velika tržišta radi optimalnog iskorištavanja primenjene tehnologije ili povrata velikih ulaganja u razvoj i istraživanje.

Najveće pojedinačno tržište na svetu jeste tržište SAD-a, koje čini gotovo ukupnog svetskog tržišta. Za preduzeća malih zemalja poput Bosne i Hercegovine, Srbije, Hrvatske, Slovenije, Finske, Belgije ili Švedske situacija je više nepovoljnija. Njihova su tržišta izrazito mala u svetskim okvirima, te su prisiljena na internacionalizaciju poslovanja žele li rast i razvoja, a on je neminovan u sve žešćoj međunarodnoj konkurenciji. Ma kako neko pojedinačno tržište izgledalo veliko, ono je još uvijek malo u poređenju sa globalnim

svetskim tržištem, te je normalna težnja svakog preduzeća da globalizuje poslovanje i proširi ga na svetsko tržište u celini.

Iz dana u dan uočava se sve značajnija uloga koju igra globalno tržište. Prilikom ulaska na svetsko tržište svaka kompanija mora voditi računa o ključnim elementima procesa planiranja: analize mogućnosti koje međunarodno tržište nudi, donošenje odluka da li se ovaj potez zaista isplati, odlučivanju o načinu ulaska na strano tržište, alociranje resursa, razvijanje marketing plana, organizacija međunarodnog marketinga, implementacija odgovarajućih marketing strategija, evaluacija i kontrola.

Kompanije obraćaju malo pažnje na internacionalna tržišta kada je domaće tržište dovoljno veliko i puno mogućnosti. Domaće tržište je takođe mnogo sigurnije: menadžeri ne moraju učiti druge jezike, raditi sa stranim i konstantno menjajućim valutama, suočavati se sa političkim ili pravnim rizicima ili pak prilagođavati svoje proizvode potrebama i očekivanjima stranih kupaca. Ovo je dugo vremena bio stav mnogih zapadnih kompanija, koje nisu videle potrebu da prodaju svoje proizvode na inostranim tržištima jer je njihovo domaće tržište nudilo dovoljno atraktivne mogućnosti za rast.

Ipak, danas se poslovna okolina sve više menja i kompanije ne mogu zanemariti mogućnosti koje međunarodna tržišta pružaju. Međusobna zavisnost između proizvoda i usluga raznih nacija širom sveta se sve više povećava. Međunarodna tržišta su važna jer potpomažu rast kompanija koje radi zasićenja njihovih domaćih tržišta moraju tražiti nove mogućnosti upravo na inostranim tržištima. Ovakvim kompanijama preostaju dve mogućnosti: da razviju konkurentsku sposobnost i konkurentsku prednost kojom će se odbraniti od konkurencije na domaćem tržištu, ili da traže nove poslovne mogućnosti na stranim tržištima.

Sa razvojem komunikacija, transporta i protoka finansijskih sredstava, prostor i vreme gube na svom nekadašnjem značaju. Proizvodi razvijeni na jednom kraju sveta su toplo prihvaćeni kod kupaca na drugom. Sa svakodnevnim porastom globalne konkurencije, lokalne kompanije koje nikad nisu razmišljale o inostranim konkurentima, susreću konkurenciju na svom vlastitom terenu. Dakle, one kompanije koje ostaju na sigurnom domaćem tržištu ne samo da propuštaju priliku na inostranom tržištu nego riskiraju da izgube i svoje vlastito tržište. Upravo sada, više nego ikada, kompanije moraju da nauče kako da izvrše svoj prodor na strana tržišta i pritom povećaju svoju međunarodnu konkurentnost.

2. REALNE ISTRAŽIVAČKE BARIJERE I OPERATIVNI ISTRAŽIVAČKI PROBLEMI U MEĐUNARODNOM MARKETINGU

Realne barijere MM istraživanja. U praktičnoj realizaciji, suočavamo se sa nekoliko značajnih barijera koje problem istraživanja u međunarodnom marketingu čine mnogo složenijim nego u domaćem marketingu. Nailazimo na: geografske, informativne, kulturne,

komunikativne istraživačke barijere, kao i specifične barijere i probleme otežane uporedivosti, zbog nejednake razvijenosti zemalja i nejednake veličine tržišta i preduzeća.⁵³



Slika br. 1. Realne istraživačke barijere u međunarodnom marketing;

Geografske barijere su objektivno uslovljene i vezuju se za uvećanu udaljenost preduzeća od pojedinih stranih tržišta, na kojima ono želi da posluje. U prevazilaženju geografskih barijera mora se voditi računa o organizacionim, personalnim, vremenskim i troškovnim aspektima realizacije procesa MM istraživanja.

Informativne barijere se odnose na raspoloživost, dostupnost i pouzdanost podataka po pojedinim izvorima i zemljama. Ove istraživačke barijere postaju uočljivije i kritičnije kada je neophodno vršiti komparativna istraživanja i komparativnu analizu, što je čest slučaj u međunarodnom marketingu. Prilikom vrednovanja nivoa informativnih barijera, kao i njihovog prevazilaženja, neophodno je voditi računa i o kvantitetu, tj. evidentiranju svih raspoloživih i alternativnih izvora i o kvalitetu pojedinih izvora podataka, tj. o tome ko stoji iza određenog izvora i koja metodologija iza određenog podatka.

Kulturne barijere proizilaze iz činjenice da je preduzeće manje srodno ili familijarno sa stranom društvenom i kulturnom sredinom nego sa domaćom. Nivo kulturne distance se nalazi u direktno proporcionalnoj vezi sa nivoom poteškoća koje prate realizaciju ukupnih međunarodnih marketinških aktivnosti, ali i realizaciju procesa MM istraživanja. Postojanje kulturne distance otežava pravilnu interpretaciju podataka, kao i mogućnost uspostavljanja kontakta i međusobnog razumevanja istraživača i ispitanika. U prevazilaženju kulturnih istraživačkih barijera neophodno je: afirmisati komparativni istraživačko-analitički pristup, negovati kroz-kulturnu senzibilnost i empatiju, saradivati sa lokalnim ljudima i agencijama.

Komunikativne barijere se odnose na suočavanje sa jezičkom heterogenošću i razlikama u kolokvijalnom i poslovnom sporazumevanju. Svaka komunikacija na stranom ili nematernjem jeziku je suočena sa: reaktivnim, intuitivnim, opažajnim i interpretativnim barijerama. Kao logična posledica tih barijera, javlja se otežano sporazumevanje.

Komunikativne barijere su mnogo izraženije, a njihove posledice mnogo vidljivije u istraživačkim procesima i procesima prikupljanja preciznih informacija i podataka, nego u uobičajenim kolokvijalnim i poslovnim razgovorima. U prevazilaženju komunikativnih barijera, potrebno je primenjivati slične pristupe kao i kod prevazilaženja kulturnih barijera.

Specifični problemi otežane uporedivosti. Osnovni problem sa prikupljanjem međunarodnih marketinških informacija se odnosi na obezbeđivanje njihove uporedivosti i ekvivalentnosti u različitim kulturnim kontekstima. Uporedivost podataka podrazumeva isto

⁵³ Dr. Branko Rakita "MEĐUNARODNI MARKETING - Od lokalne do globalne perspektive", Centar za izdavačku delatnost Ekonomskog fakulteta u Beogradu, Beograd 2009.

ili slično značenje ili interpretaciju podataka, jednak nivo njihove tačnosti, preciznosti i pouzdanosti u svim zemljama i kulturama. Uporedivost podataka je važna, bez obzira na to da li se istraživanje sprovodi u jednoj zemlji ili u kontekstu više različitih zemalja. Ako se istraživanje sprovodi samo u jednoj zemlji, važno je da se računa sa tim da se slična istraživanja mogu sprovoditi i u drugim zemljama naknadno i sa sličnim predmetom istraživanja. Ako je proizvod uspešno uveden na jednom tržištu, menadžment može brzo poželeti da testira i tržišta u drugim zemljama. Uporedivost podataka je svakako značajnija kada se sprovodi simultano istraživanje većeg broja inostranih tržišta, uz jedinstvenu koordinaciju. Insistiranje na uporedivosti podataka može da stvori niz metodoloških problema u pripremanju i planiranju formalnog procesa MM istraživanja.

U međunarodnim marketinškim istraživanjima se nailazi na dve vrste specifičnih problema otežane uporedivosti, zbog nejednake razvijenosti i nejednake veličine.

3. POLITIČKA DIMENZIJA MEĐUNARODNOG OKRUŽENJA

Poslovanje međunarodno orjentisanih kompanija je pod uticajem spoljne i unutrašnje politike domaće zemlje, ali i zemlje u koju se kompanija internacionalizuje. Politička struktura ciljnog tržišta može biti manje ili više različita u odnosu na političku strukturu domaće tržišta kompanije. Industrijske i razvijene zemlje uglavnom imaju parlamentarnu političku strukturu (demokratija ili parlamentarna monarhija). Apsolutističke političke strukture su apsolutna monarhija i diktatura. Političko okruženje zemlje ciljnog tržišta može biti dvopartijski, jednopartijski i višepartijski sistem vlasti. Ekonomski cilj spoljne politike treba da bude ubrzan ekonomski razvoj, koji će se ostvariti globalnim širenjem zakonitosti tržišne ekonomije i poštovanjem pravila Svetske trgovinske organizacije u međunarodnoj trgovini. Spoljna politika koju zemlja vodi može biti pokretač povezivanja sa drugim zemljama istog ili različitih regiona, ali ga može i ograničavati.

Manje razvijene zemlje kao ciljna tržišta međunarodno orjentisanih kompanija restriktivnom državnim politikom sprečavaju prerastanje ekonomske i tehnološke zavisnosti u političku zavisnost od domaće zemlje međunarodno orjentisanih kompanija. U uslovima globalizacije svetskog tržišta nacionalna ekonomija gubi na značaju. Pred manje razvijenim zemljama ne stoji izbor da li će se uključiti ili ne u globalne tokove poslovanja, već kako adekvatno odmeriti opasnosti i šanse koje im dato uključjenje pruža. Međunarodna politika je i pod uticajem institucija, grupacija i organizacija.

4. PRAVNA DIMENZIJA MEĐUNARODNOG OKRUŽENJA

Različitost pravnih sistema u kojima kompanija posluje nalaze menadžmentu poznavanje: izvora prava, pravnih filozofija i specifičnosti pojedinih grana prava i pravnih normi.⁵⁴

⁵⁴<http://www.citaonica.org/citaonica/22-fakultet-za-kulturu-i-medije/213-medjunarodni-marketing.html>;

U domaćem marketingu se izučava pravni sistem domaće zemlje, dok u MM pored poštovanja domaćeg pravnog sistema, izučava se i poštuje pravni sistem ciljnog tržišta. Međunarodnu marketing praksu opredeljuju pravni sistemi zasnovani na jednom od sledećih prava:

Anglosaksonsko pravo – spor ce biti rešavan uz dominaciju uvažavanja prethodnog iskustva i sudske prakse, a manje pisanih pravnih normi. Pravo prvog- prve upotrebe. Primenju ga SAD, Kanada, V. Britanija.

Evropsko kontinentalno pravo – spor ce biti rešavan uz dominaciju uvažavanja pisanih pravnih normi, a manje prethodnog iskustva i sudske prakse. Pravo prvog - zaštićenog. Primenjuju ga skoro sve evropske zemlje, oko 70.

Islamsko pravo - kombinacija prethodna dva prava uz posebnu pravnu filozofiju, čiji su koreni u islamskoj veri. Primenjuju ga oko 27 zemalja sveta.

Socijalisticko pravo – produkt i nasleđe dugogodišnjeg egzistiranja socijalističkih država, uređenih po marksističkoj i komunističkoj filozofiji. Ostaci su jos vidni u Kini i na Kubi.

Komparativana analiza pravnog okruženja ima za cilj da ustanovi sličnosti i razlike pojedinih ciljnih tržišta. Ona ne isključuje pojedinačnu analizu.

Pored kompanija, subjekti u međunarodnom pravu su i države, ali i:

- Međunarodne organizacije – UN, WTO, MMF, WB
- Regionalne međunarodne vladine organizacije – EU, organizacija za evropsku ekonomsku saradnju, zajednica zemalja izvoznica nafte.

5. ORGANIZACIJA MEĐUNARODNOG MARKETINGA I MENADŽMENTA

Organizacija marketinga je menadžment aspekt koji je vrlo često neadekvatno tretiran, površno posmatran i formalno rešavan bez ulaženja u njegovu suštinu koja se kao bumerang vraća preko neefikasnosti realizacije ukupnog marketing napora i serije konflikata. U isto vreme, rešavanje problema marketing okruženja je kompleksno, multidimenzijalno i specifično pitanje konkretnog preduzeća koje se ne može jednostavno rešiti samo izborom strukturne mape firme jer ne postoji „prava“ šema sama po sebi kao što je nemoguće da marketing organizacija efikasno funkcioniše na tržištu ako preduzeće nema odgovarajuće postavljenu i razvijenu strategiju, ciljeve i kultruru firme.

Međunarodne aktivnosti ili međunarodna orijentacija još više utiču na složenost i kompleksnost organizacione strukture preduzeća zbog strateškog značaja međunarodnih operacija za firmu sa jedne i potrebe da se omogući kontrola, odnosno upravljanje u uslovima postojanja različitih operativnih i geografskih dimenzija poslovanja, sa druge strane.

Pojačavanje međunarodnog poslovanja realno stvara pritisak ka centralizaciji radi postizanja optimalne koordinacija, integracije i kontrole, a u isto vreme sve prisutnija ratličitost i obimnost uticaja iz okruženja u kome se nalazi preduzeće zahteva prilagođavanje strategija pa samim tim i pritiske ka decentralizaciji (Toyne i Walters, 1989.).

U kreiranju organizacije međunarodne firme nužno je pojasniti ključne momente kao što su:

- koja će strateška dimenzija (ili dimenzije) u poslovanju firme biti naglašena,
- koji tip formalne strukture će se koristiti u organizovanju aktivnosti firme,
- do kog stepena će se centralizovati odlučivanje,
- koji će se sistem odnosno proces planiranja koristiti.

U principu, marketing organizacija je uslovljena organizacionim ciklusom preduzeća kao i nizom eksternih faktora.

Ovo je bitno jer organizaciona mapa firme mora da odgovara ili da bude u funkciji ostvarivanja osnovnih strateških usmerenja firme. Jasno se, da kompanije koje imaju globalni strateški fokus po logici stvari teže integralnoj organizaciji, a kompanije koje su prihvatile nacionalne (multinacionalne) okvire strateškog fokusiranja opredeljuju se za koordinaciju u organizaciji po ciljnim tržišnim ili strateškim segmentima.

Bez obzira što u oba slučaja postoji razlika u pristupu, to ima implikacije u značajnom stepenu na definisanje funkcionalnih aktivnosti, aktivnosti u vezi proizvoda, regionalnih aktivnosti ili angažovanja po zemljama i tržištima, itd. Tako uspostavljena struktura određuje i formalne veze koje postoje u okviru sistema preduzeća, oblikuje takozvanu kulturu firme (corporate culture), pa i neformalne veze koje se uspostavljaju između menadžera, ali i pitanje da li će odlučivanje biti centralizovano ili decentralizovano.

Brojni su faktori koji utiču na izbor formalne orijentacione strukture međunarodne firme:

- faktori okruženja
- profil i stanje tržišta na koje je orijentisana firma,
- specifičnost faktora unutar firme (profil)

Njihov uticaj definiše fokus aktivnosti firme i stepen osposobljenosti za uspostavljanje odgovarajućeg organizovanja.

Mada je uticaj spoljnjih faktora (okruženje i tržište) bitan, ipak su presudni faktori u okviru firme (spoljni faktori su isto za sve učesnike na tržištu). Među njima Toyne i Walters (1989.) posebno ističu:

- strateški značaj sadašnjih i budućih međunarodnih aktivnosti za firmu,
- osnova (poreklo) firme i njeno međunarodno iskustvo,
- stepen diversifikovanosti proizvoda i tržišta u međunarodnom poslovanju firme,
- karakteristike i filozofija (pristup) menadžmenta prema međunarodnim aktivnostima,
- međunarodno iskustvo, veština i sposobnost menadžmenta firme,
- mogućnost i sposobnost prilagođavanja postojeće organizacione kulture u skladu sa zahtevima novih organizacionih prilagođavanja.

Tri su strateški najvažnije dimenzije aktivnosti međunarodnih kompanija koje se mogu identifikovati kao okviri sa postavljanje organizacije:

- funkcije (proizvodnja, finansije, marketing, kadrovi, R&D),
- proizvod (grupe proizvoda ili poslovna područja svrstana po sličnosti na bazi tehnologije, primene, potrošača),
- geografska raširenost (usmerenost na pojedina tržišta, segmente ili po ostalim kriterijumima: globalne potrebe, globalna tražnja itd.).

Na toj osnovi ili kombinacijom strateških dimenzija formira se organizacioni okvir. Kod iskusnih firmi ili firmi koje su se potupno uključivale u međunarodni marketing aktivnosti prsutna je evolucija i organizaciono prilagođavanje kako su međunarodne aktivnosti dobijale na intenzitetu. Većina velikih ili međunacionalnih kompanija su uglavnom preko strukture majka – ćerka razvijale globalno poslovanje tj. divizionu organizaciju po proizvodima, dok su američke jednostavno zadržavale međunarodni divizionalni pristup (poseban deo kompanije zadužen za međunarodno poslovanje) koji je obično bio proširivan određivanjem posebnih rukovodstava po proizvodnim ili regionalnim karakteristikama u okviru tako izdvojenih divizija.

Za globalne korporacije kao naslednike multinacionalnih kompanija karakterističan je integralni pristup, što znači sinhronizovanje ukupne organizacije firme vodeći računa o sve tri pomenute strateške dimenzije aktivnosti gde je jedino geografska dimenzija tretirana istovetno kod svih – svetsko tržište se uzima kao kriterijum.

Organizaciona pozicija marketinga u različitim fazama međunarodne uključenosti preduzeća opredeljena je pristupom ili odnosom prema međunarodnim marketing aktivnostima. Sa tog stanovišta bi mogli razlikovati tri osnovna vida pojavnih oblika organizacije u međunarodnom marketingu prvenstveno sa stanovišta marketing strategije koje sledi organizaciona struktura:

- izvozno orijentisana organizacija marketinga (subsidijarna struktura)
- multinacionalno orijentisana organizacija (divizionna struktura)
- globalno orijentisana organizacija

Izvozno orijentisana organizacija marketinga je karakteristična za početne faze međunarodnog marketing angažovanja kod firmi koje su uglavnom napustile pasivni (spoljno-trgovinski) pristup i opredelile se za razvijanje izvoznog marketing koncepta. Odeljenje izvoza može biti deo marketinga (varijanta b) ili odvojena služba (varijanta a). Međutim, međunarodne marketing aktivnosti se mogu realizovati i osnivanjem stalnih ogranaka ili svojih kompanija zaduženih sa poslovanje i razvijanje pojedinih tržišta. To nisu samostalne firme pošto odgovaraju rukovodstvu matičnog preduzeća, i ovaj nešto razvijeniji tip izvozno orijentisanog marketing organizovanja često se naziva i subsidijarnim tipom organizacije međunarodnog marketinga.

Suština ovog modela organizacije marketinga je realizovanje ciljnog, odnosno ukupnog tržišta preduzeća na domaće i inostrano sa naglašenijim značajem razvijanja proizvodnje na domaćem tržištu. Uključivanje u licencne aranžmane se više shvata sa tehnološkog aspekta a manje kao međunarodna marketing strategija. Širenjem mreže subsidijarnih organizacija odeljenje izvoza gubi smisao, a korišćenje mogućnosti za razvijanje

zajedničkih ulaganja polako počinje da vrši pritisak ka reorganizacijama koje obuhvataju ne samo marketing nego i proizvodnju i ostale funkcije.

Divizionna organizacija znači centralizovanje međunarodnih operacija u jednom organizacionom delu firme zaduženom za sve poslove koji se obavljaju van nacionalnog tržišta. Međunarodni marketing je u domeni ove dimenzije, mada se može ostvariti koordinacija u marketing planiranju i sprovođenju strategija sa delom firme koji je zadužen za matično tržište. Kod preduzeća koja imaju širi proizvodni program postoji divizionna organizacija i kod proizvodnje u zemlji, tako da lociranje međunarodnog marketinga u međunarodnoj diviziji vrlo često omogućava koordiniranje međunarodnih marketing aktivnosti za divizije u zemlji. Takve organizacije podsećaju na federaciju nacionalni organizacija kompanije zaduženih za pojedina nacionalna tržišta. U narednoj fazi divizione organizacije kompanije, razvijaju se divizije po proizvodima (grupama proizvoda) u kombinaciji sa međunarodnom divizijom koja okuplja ogranke firme po zemljama ili regionima.

Divizionna organizacija je svrstana u grupu multinacionalne marketing organizacije jer se međunarodna divizionna struktura u koordinaciji sa delovima firme u matičnoj zemlji usmerava na više tržišta i zadužena je za međunarodne marketing operacije. U mnogim evropskim firmama međunarodna divizija je najznačajniji deo firme, jer je potencijal marketing tržišta mali i ekspanzivne firme su našle prohodnost za svoje programe na drugim tržištima (primer su Nestle i Philips). Sličan je slučaj i sa japanskim firmama. Američke velike firme su bile u drugom položaju i svoju međunarodnu ekspanziju su uglavnom valorizovale uspešnije sa otvaranjem procesa globalizacije svetskog tržišta uz zadržavanje ili proširivanje međunarodnog divizionog pristupa (u ukupnoj, ali i marketing organizaciji).

Globalno orijentisana organizacija marketinga javlja se kroz oblike koji podrazumevaju integraciju aktivnosti na domaćem i ostalim tržištima za razliku od prethodna dva vida organizacije. Kompanije ne prave takvu razliku već se marketing napor posmatra na nivou svetskog tržišta.

Moguće je razlikovati pet osnovnih tipova organizacione strukture:

- po proizvodima (gde su proizvodne divizije zadužene, kako za proizvodnju, tako i marketing širom sveta),
- geografska organizacija (gde su formirane divizije po geografskom principu i one kao delovi firme preuzimaju sve poslove u vezi sa proizvodnjom i marketingom na teritoriji koju pokrivaju),
- funkcionalna organizacija (funkcionalna područja kao marketing, finansije, proizvodnja itd. su razvijena za ukupno svetsko tržište),
- Organizaciona struktura po potrošačima (firma definiše posebne grupe potrošača na svetskom nivou),
- Kombinovana (hibridna) organizacija.

Organizacija po proizvodima je najčešće korišćen oblik od strane velikih međunarodnih firmi posebno multinacionalnih i globalnih korporacija. One su obično organizovane po strateškim poslovnim jedinicama (SBU) i ovakav pristup omogućava da svaka ovakva jedinica vodi računa o marketingu svoje linije proizvoda na svetskom nivou.

Posebno je zastupljena kod robe široke potrošnje s obzirom da svetske firme imaju širok asortiman ponude, a prihvaćena je i u industrijama gde je za ostvarivanje konkurentne pozicije značajno tržišno učešće. Na nivou kompanija koje koriste ovakvu organizaciju vrlo je bitna koordinacija aktivnosti u vezi različitih proizvodnih grupa da bi se izbeglo dupliranje nekih suštinskih aktivnosti (marketing istraživanje, promocija). Takvu organizaciju imaju Ciba-Geigy, J&J, Black & Decker itd.

Geografski pristup organizaciji je po učestalosti primene odmah iza prvog i obično ne podrazumeva da se prednost daje regionu ili zemlji gde se nalazi formalno sedište firme već odabrane geografske destinacije imaju svoja definisana mesta.

Planiranje, istraživanje i kontrola aktivnosti je obično zadatak koji se obavlja u sedištu top-menadžmenta. Organizacija marketinga po ovom principu omogućava koncentraciju po specifičnosti pojedinih regiona ako je to bitno sa stanovišta firme. Mnoge firme su, čak menjale svoje sedište zbog značaja pojedinih regiona za njihovo poslovanje.

Ovaj pristup praktikuju međunarodne firme koje imaju proizvodne kapacitete širom sveta po nekakvoj specijalizaciji od ranije, pa svaki region ima i posebnu proizvodnju. Međutim, u praksi ima slučajeva da se kapaciteti za pojedine linije razvijaju na svetskom nivou uz poštovanje regionalnog pristupa (uključujući pojedine države). Kod ovog tipa organizacije bitna je jasna podela zaduženja u poslovima marketinga, istraživanja i razvoja, pa i finansija između vrhunskog menadžmenta i regionalnih ogranaka.

Funkcionalna organizacija se javlja obično u slučajevima kada firma ima ograničen broj proizvoda ili potrošača, odnosno kupaca. Vrlo je bitna interakcija između pojedinih funkcija. Ovaj tip organizacije se javlja kod svetskih firmi u rudarstvu ili energetici što je povezano sa dugoročnim ciklusima rada i trajanja poslovnih operacija (npr. istraživački radovi u naftnoj industriji, itd.) ukoliko firma ima razvijene i neke druge proizvodne linije. Funkcionalna organizacija podrazumeva jedinstveno funkcionisanje marketing funkcije na nivou firme.

6. ZAKLJUČAK

Marketinški pristup tržištu je uvek preventivnog, usmeravajućeg i strategijskog karaktera. Marketinški odgovor na tržište je uvek kreativnog, programskog i sinergetski-efektivnog karaktera. Osnovna poslovna preokupacija marketinga jeste kreiranje i ostvarivanje tržišnog uspeha. Pošto tržište i tržišni zakoni imaju univerzalno značenje u svetskim razmerama, neophodno je razvijati i jedinstvenu koncepciju njihovog korišćenja pri ostvarivanju određenih ciljeva. Opšti cilj i misija marketinga bi se mogli označiti kao – kreiranje vrednosti za sve zainteresovane učesnike, pri čemu je ključni učesnik potrošač. Uvažavajući navedene osnovne orijentire, sasvim je razumljivo da se teorija, koncepcija i metodologija marketinga jedinstveno tretiraju, izučavaju i unapređuju.

Preciznija definicija bi bila sledeća – međunarodni marketing predstavlja strategijsko usmeravanje, instrumentalno kreiranje i efektivnu realizaciju tržišnih aktivnosti, radi što uspešnije internacionalizacije privrednih subjekata i njihovog što adekvatnijeg uklapanja u inostranu sredinu, od lokalnog do globalnog nivoa. Strategijsko-planska i preventivna uloga se realizuje preko međunarodnog usmeravajućeg marketinga, programsko-kreativna uloga se realizuje preko međunarodnog instrumentalnog marketinga, a sinergetsko konkurentna uloga

se realizuje kroz međunarodni efektivni marketing. Ovakvim definisanjem međunarodnog marketinga afirmišu se polazni stavovi: da je marketinški pristup tržištu uvek preventivnog, usmeravajućeg i strategijskog karaktera, a da je marketinški odgovor na tržište uvek kreativnog, programskog i sinergetski-efektivnog karaktera. Integrativna i strategijska pozicija međunarodnog marketinga se može preciznije sagledati preko sastavnih elemenata navedene definicije.

Međunarodni marketing je dio marketinga, ali različitost se očituje u načinu delovanja, a ne području delovanja (domaće ili strano tržište). Gdje se može primenjivati međunarodni marketing?

Npr. u poslovanju lokalnih poduzeća, jer za njegovu primenu nije potrebno fizičko kretanje proizvoda ili usluga.

Savremena faza međunarodnog marketinga – globalni marketing- nema nacionalnog tržišta- područje djelovanja globalno – svetsko tržište u celini.

Internacionalizacija poslovanja – menjaju se zahtevi s obzirom na resurse, kadrove, ciljeve, strategije i taktike pa tako i koncepciju MRKTG.

U suvremenim ekonomskim uslovima nisu sva preduzeća niti globalna, a niti lokalna pa prema tome ne primjenjuju sva preduzeća standardizirane ili prilagođene programe marketinga.

“*MEĐUNARODNI MARKETING DANAS* “ - složen kao i svetska ekonomija, sastavljen od različitih koncepcija, strategija, taktika i politika koje koriste mnogobrojna međunarodna preduzeća s različitim ciljevima.

REFERENCE

- 1.<http://www.marketing.com/201007241994/MARKETING/marketing-medjunarodni-marketing.html>.
2. Dr Branko Rakita “*MEĐUNARODNI MARKETING - Od lokalne do globalne perspektive*”, Centar za izdavačku delatnost Ekonomskog fakulteta u Beogradu, Beograd 2009.
- 3.<http://www.citaonica.org/citaonica/22-fakultet-za-kulturu-i-medije/213-medjunarodni-marketing.html>.

FINANCIAL CONTROL AND OVERSIGHT IN FINANCIAL MANAGEMENT OF COMPANIES

Ljiljana Stošić Mihajlović, Miloš Nikolić

Visoka škola primenjenih strukovnih studija Vranje, Serbia

Abstract: The Role of Finance in maintaining the financial stability of companies and organizations can never be overemphasized. Of all the areas in an organization, no there is no greater responsibility for ensuring a constant focus on value creation in the organization. This fact became particularly important in today's era of global competition where external factors such as the dramatic competition among enterprises, rapid and constant technological changes, volatility in interest rates and inflation, exchange rates, the general atmosphere of economic uncertainty finance manager imposing the need to manage finance from a new perspective. This new perspective requires expansion focus objectives and functions of financial management, and a significant deviation from its previous traditional role that until recently was reduced to the security and reporting of financial information on cost control, spending and cash flow management. Today, financial manager plays a dynamic role in the development of modern companies, and finances are starting to build more functional concept of value creation.

Keywords: financial control, financial planning, internal control, oversight, audit, auditor, accounting records and controls.

1. UVOD

Preduzeće ne propušta svoj budući razvoj stihiji, već nastoji da ga zasniva na dobrom projektovanju (dugoročnom, srednjoročnom, kratkoročnom) svih svojih pojedinačnih vrsta aktivnosti i njegove individualne reprodukcije. Bolje rečeno, ono sačinjava čitav niz svojih poslovno-materijalnih planova (nabavke, proizvodnje, prodaje, kadrova, uvoza, izvoza, unutrašnjeg transporta, investicija itd.). Finansijsko planiranje se javlja kao metod i instrument finansijskog upravljanja, jer ono treba vrednosno da sintetizuje i uskladi sve naturalno iskazane materijalne planove, odnosno da od svih njih napravi konzistentnu finansijsku celinu. Stručno i objektivno konstruisan finansijski plan, treba da predstavlja sigurnu polaznu osnovu za odvijanje svih projektovanih finansijskih aktivnosti u preduzeću, koje su prilično složene.

Prema tome, finansijsko planiranje predstavlja predviđanje, odnosno unapred projekcionirano usmeravanje, usklađivanje i raspoređivanje elemenata finansijske funkcije preduzeća. Za razliku od poslovnog i računovodstvenog planiranja, ono ima za predmet planiranje finansijskih tokova i finansijskih struktura i konstrukcija.

Povezanost planiranja i kontrole je stoga neminovna, jer ona u stvari predstavlja proveru, nadzor i odstranjivanje odstupanja u realizaciji tih planova.

Menadžment savremenog privrednog društva suočen je sa potrebom donošenja poslovnih odluka u vezi sa ostvarivanjem poslovnih ciljeva. Dobrim delom odluke koje menadžment donosi zasnivaju se na informacijama produkovanim u računovodstvenom informacionom sistemu.

Sistem internog nadzora koji uključuje sve mere pažnje usmerene na sprečavanje grešaka prekomernih troškova i prevare, proverava i obezbeđuje pouzdanost informacija. Ključni zadatak internog nadzora jeste da kontroliše sve delove preduzeća da li dosledno redukuju poslovnu politiku usvojenu na početku poslovnog perioda, kao i da o tome podnose informaciju menadžmentu privrednog društva.

U uslovima delovanja sila slobodnog tržišta pojačava se uloga internog nadzora. Za pojačano interesovanje za uspostavljanje internog nadzora razlog više su i prisustvo neloyalne konkurencije, povećane korupcije i erozije poslovnog morala. Strukturu sistema internog nadzora čine, u prvom redu, interna kontrola i, s druge strane, interna revizija. Finansijsko planiranje se pojavljuje kao metod i instrument finansijskog upravljanja i predstavlja osnovu poslovanja. Dok finansijska kontrola predstavlja praćenje, ispitivanje, ocenjivanje i korigovanje procesa realizacije tih planova.

Ova vrsta kontrole ima dva aspekta: eksterni i interni.

Interna kontrola označava skup mera koje preduzima menadžment u smislu ostvarivanja poslovnih ciljeva. Pomenute mere se mogu definisati i grupisati na sledeći način, i to: zaštita imovine (sredstava) od preteranog trošenja, obezbeđenje pouzdanosti računovodstvenih podataka; dosledna realizacija poslovne politike u svim delovima privrednog društva i ocenjivanje rada sektora, zaposlenih i menadžmenta. Može se podeliti na administrativnu i računovodstvenu kontrolu.

Informisanje i uveravanje menadžmenta da se svi delovi preduzeća pridržavaju osnove poslovnog plana i poslovne politike u analiziranom poslovnom periodu, smatra se temeljnim zadatkom internog nadzora. A interni nadzor nikako ne sme obavljati jedna osoba od njenog početka do kraja kako ne bi došlo do zloupotrebe i prevare. Za internu kontrolu odgovorni su svi u organizaciji: menadžment, upravni odbor, interni revizori i ostalo osoblje.

Interna kontrola se sprovodi od strane revizora i to kroz dve faze: studiranja i ocenjivanja.

U fazi studiranja revizor pribavlja dokaze putem tri forme, i to: standardni upitnici za internu kontrolu, zatim, tekstualno prikazivanje i šematsko prikazivanje. Zatim daje ocenu na osnovu prikupljenih podataka i sastavlja izveštaj.

Finansijska kontrola može biti: preventivna i naknadna.

Kod preventivne kontrole stižu se informacije ne samo o tome kakve poslovne radnje treba obaviti, na koji način i u koje vreme, već kod nje postoje mogućnosti da se u slučaju negativne ocene takve radnje mogu sprečiti, ili kod već započete radnje tok izvršavanja te radnje može obustaviti.

Naknadna kontrola omogućuje da se na osnovu pribavljenih informacija sagledaju nedostaci u utvrđivanju i sprovođenju finansijske politike u proteklom periodu. Na osnovu toga saznanja odgovarajući organi u obavljenim finansijama koriste naknadnu kontrolu kao osnov za donošenje poslovnih odluka o budućim poslovima i, drugo, koriste je radi korekcije već obavljenih poslova, odnosno radi otklanjanja njihovih posledica, ukoliko je to nužno i moguće.

2. FINANSIJSKO PLANIRANJE U FINANSIJSKOM MENADŽMENTU PREDUZEĆA

Na globalnom planu gledano planiranje predstavlja definisanje ciljeva koji se žele ostvariti. U finansijskom menadžmentu to posmatramo kao prvu fazu u procesu upravljanja koja predstavlja predviđanje sa planiranje. Finansijsko planiranje predstavlja vid iskazivanja raznih vrsta planova u vrednosnim pokazateljima. Plainiranje finansijskih sredstava sintezuje se u finansijskom planu preduzeća, koji obuhvata celokupan sistem proširene reprodukcije. Finansijski plan je instrument poslovne politike. Funkcije planiranja su informativno kordinirajuće funkcije, na bazi informacija o finansijskom poslovanju preduzeća, kordiniraju se sve finansijske aktivnosti u procesu donošenja ključnih finansijskih odluka.

Obično svaki posao koji se planira ima i svoju finansijsku stranu i valja je na vreme predvideti i planirati. Ukratko kazano, finansijsko planiranje je predviđanje i planiranje priliva i odliva novčanih sredstava.

Finansijsko planiranje obuhvataju izradu mesečnih, kvartalnih, godišnjih, petogodišnjih (srednjoročnih) i dugoročnih finansijskih planova, utvrđivanje planova materijalnih troškova i amortizacije, planova realizacije, planova prihoda i rashoda, planova investicija, kreditnih planova, zatim, raznih predračuna. Kratkoročno planiranje se odnosi na finansiranje likvidnosti, dok se dugoročno planiranje odnosi na investiciona ulaganja. Plan novčanih tokova obuhvata stanje novčanih sredstava na početku godine, prilive i odlive novčanih sredstava tokom godine i stanje novčanih sredstava na kraju godine. U oblasti finansijskog planiranja jedan od bitnih instrumenata finansijskog menadžmenta je ste planski bilans uspeha i planski bilans stanja. Ako se želi doći do takvog planskog bilansa uspeha i stanja koji će maksimalno približiti potrebno mogućem, ovo planiranje mora biti u takvom procesu da se ispituju sve mogućnosti ostvarenja što boljeg finansijskog položaja. Finansijsko planiranje u procesu izrade finansijskih planova obuhvata sve relevantne ekonomske i finansijske pokazatelje, obim i strukturu finansijskih sredstava, troškove, amortizaciju, cene, investicije, akumulaciju, finansijske tokove, udruživanje sredstava itd.

3. FINANSIJSKO RUKOVOĐENJE U FINANSIJSKOM MENADŽMENTU PREDUZEĆA

Menadžeri rukovode (komanduju ili daju instrukcije) zaposlenima. Rukovođen je alokacija ponašanja pojedinaca i grupa u toku rada ka definisanom cilju. Menadžeri ne samo da moraju biti eksperti u oblasti kojom rukovode već moraju posedovati veštine komuniciranja, efikasno povezivati motivaciju i rukovođenje.

Finansijsko rukovođenje kao funkcija je znatno uži pojam od upravljanja ali bez obzira na obim posla jako bitna funkcija. Njen zadatak je da usmerava sve zaposlene koji rade na poslovima sa novcem ka ostvarenju finansijskih ciljeva. Upravljanje je proces čiji zadatak jeste da kreira i ostvaruje poslovnu politiku optimalnog finansijskog plasmana uz očuvanje pune likvidnosti, tj. sposobnosti preduzeća da sve dospele obaveze isplaćuje na način i u rokovima koji su utvrđeni ugovorima ili zakonom. Kao optimalno plasiranje finansijskog kapitala smatra se ono koje u datim uslovima obezbeđuje da se ovaj oplođava po najvišoj

mogućoj stopi rentabilnosti uz najniže troškove i rizik. Dok rukovođenje kao funkcija koja proističe iz upravljanja ima za potrebno da usmerava i podstiče zaposlene u sektorima koji svojim radom donose potrebne informacije za kvalitetno upravljanje. Iz tog razloga rukovođenje ima saradnju sa računovodstvom i ona se ogleda kroz aktivnu i pasivnu saradnju.

Da bi osoba raspoređena na poslove finansijskog rukovođenja uspešno obavljala svoj posao potrebno je da poseduje tehničke, konceptualne i humane veštine. Odnosno da poseduje osnovna tehnička znanja u radu sa finansijama odnosno novcem, poznavanje organizacijskih poslova i rad sa ljudima.

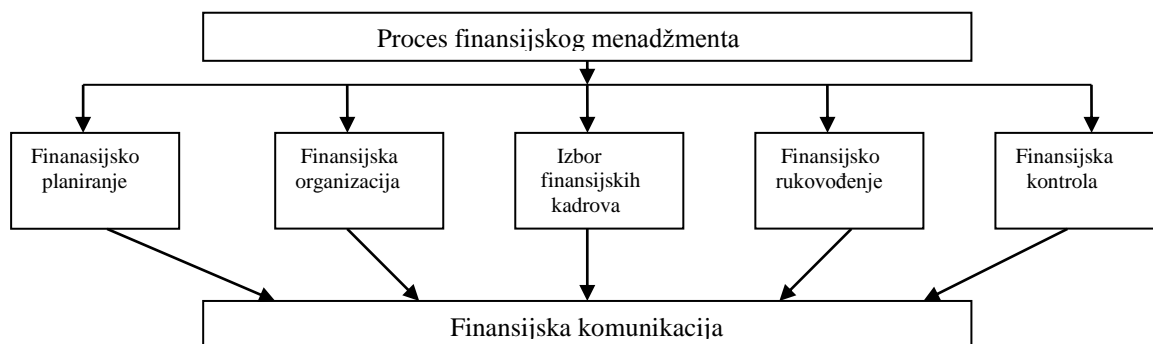
4. FINANSIJSKA KONTROLA U FINANSIJSKOM MENADŽMENTU PREDUZEĆA

Kontrola je element menadžmenta kojim se upoređuju planirani tokovi i procesi u sistemu sa njihovim ostvarenjem. Njom se u stvari proverava učinak u odnosu na postavljene ciljeve. Svaki zaposleni koji zna da se njegov posao ne kontroliše sklon je devijantnom ponašanju. Smisao kontrole nije da pronađe grešku već da se ona ne bi desila. Bez obzira koliko bila mala ili beznačajna kasnije može da izazove veliku komplikaciju. Sa stanovišta finansijskog menadžmenta kontrola se posmatra kao institucija, služba, sektor ili komisija zakonski definisana.

Finansijska kontrola i računovodstvena funkcija su neminovnost savremenog načina poslovanja, od njihovog rada zavisi funkcionisanje svih ostalih funkcija. Finansijska kontrola se najčešće deli na: internu i eksternu; stalnu periodičnu i povremenu; predhodnu i naknadnu; predkontrolu, kontrolu u toku i kontrola po završetku rada.

Na osnovu prethodnog opšteg pristupa kontroli, finansijska kontrola je plansko, organizovano i stručno proveravanje/kontrolisanje finansijskog poslovanja i istovremeno utvrđivanje stanja. Finansijska kontrola je organizovana stručna delatnost usesređena na ispitivanje i ocenjivanje poslovanja firme, stanja kretanja finansijskih sredstava i odstupanja u procesu plasiranja/korišćenja, tj. sagledavanje ne/pravilnosti u finansijskom poslovanju.

Tabela 1. Proces finansijskog menadžmenta preduzeća



Kontrola finansijskog poslovanja (finansijska kontrola) u preduzeću je onaj vid društvene i interne stručne kontrole, čije zadatke su praćenje, ispitivanje, ocenjivanje i korigovanje svih poslova koje obavlja finansijska funkcija u njoj. Prema tome, predmet (objekt) ove kontrolne funkcije je celokupno finansijsko poslovanje organizacije. To praktično znači da ona treba da podvrgne svome ispitivanju i ocenjivanju sledeća poslovna područja u preduzeću:

- blagajničko poslovanje,
- finansijsko knjigovodstvo,
- poslovanje sa bankama,
- proces finansiranje investicije (kontrola investicionih zajmova),
- proces finansiranja redovnog poslovanja (kontrola kratkoročnih kredita),
- korišćenje deviznih kredita
- korišćenje finansijskih inostranih kredita,
- korišćenje zajedničkih ulaganja,
- proces samofinansiranja (korišćenje dobiti i amortizacije),
- načine međunarodnih plaćanja (u stranoj valuti),
- proces novčanih finansiranja poslovnih partnera,
- proces robnih finansiranja poslovnih partnera,
- proces poslovanja na finansijskom tržištu.

Ova vrsta kontrole ima dva aspekta: eksterni i interni.

a. Eksternu finansijsku kontrolu obavljaju sledeći društveni organi:

- i. finansijske inspekcije,
- ii. devizne inspekcije,
- iii. Službe platnog prometa,
- iv. carinska kontrola
- v. zavodi za cene,
- vi. organi Narodne banke i
- vii. kontrolni organi banaka.

b. Internu finansijsku kontrolu vrše tzv. finansijski kontrolori koji ovu funkciju obavljaju u sklopu integralne, interne kontrole poslovanja.

Inače, za internu finansijsku kontrolu važe sve karakteristike kompleksne interne kontrole, kao što su: da je tekuća, da je parmanentna, da je iznenadna, da je simultana, da je kontinuelna, da je odgovorna, itd.

5. INTERNA KONTROLA I NADZOR

Osnovni i najvažniji oblik kontrole u preduzeću, s obzirom na njen karakter, predstavlja interna kontrola, koja nije samo važna za vođenje računovodstvenih i finansijskih evidencija preduzeća, već i za upravljanje preduzećem. S obzirom na navedeno, za interne kontrole su zainteresovani skoro svi, od eksternih revizora do uprave, borda direktora, akcionara velikih javnih kompanija do države.

Prema ISA 400, sistem interne kontrole podrazumeva sve politike i postupke (interne kontrole) koje je usvojila uprava nekog preduzeća kako bi joj pomogli u postizanju cilja uprave vezanog za obezbeđenje, koliko je to praktično moguće, redovnog i efikasnog obavljanja njenog poslovanja. uključujući poslovanje politike uprave, zaštitu sredstava, sprečavanja prevare i greške, tačnost i kompletnost računovodstvenih evidencija i blagovremenu pripremu pouzdanih finansijskih informacija.

U sve poslovne aktivnosti preduzeća je utkan sistem interne kontrole i njegovo postojanje je usko vezano za obavljanje poslovne delatnosti. Efikasno poslovanje, finansijsko izveštavanje i uskladenost su tri osnovne kategorije ciljeva menadžmenta preduzeća. Važni ciljevi kontrole operacija, aktivnosti redovnog poslovanja, su precizne informacije radi donošenja internih odluka i zaštite sredstava. Ako nisu adekvatno zaštićeni kontrolama, fizička sredstva, nematerijalna sredstva, važni dokumenti i evidencije kompanije mogu da budu ukradeni, zloupotrebljeni ili slučajno uništeni. Polazeći od činjenice da menadžment kompanija ima zakonsku i profesionalnu odgovornost da obezbedi da informacije budu pripremljene pošteno, da budu tačne i u skladu sa računovodstvenim standardima, važne su i finansijske kontrole. Preduzeća su u obavezi da postupaju u skladu sa raznim zakonima i propisima, uključujući i zakon o preduzećima, zakon o porezima, kao i propise o zaštiti prirodne sredine.

Za internu kontrolu odgovorni su svi u organizaciji: menadžment, upravni odbor, interni revizori i ostalo osoblje. Najodgovorniji je izvršni direktor koji treba da preuzme nadležnosti nad sistemom interne kontrole, tj. da vodi i daje direktive višim menadžerima. Najveću mogućnost da identifikuje i ispravi pokušaje menadžmenta da se stavi iznad kontrole i zanemari ili spreči komunikaciju sa potčinjenima ima upravni odbor, čija je glavna obaveza da obezbedi rukovođenje, davanje direktive i nadgledanje.

Nešto jednostavnija definicija internih kontrola ih označava kao skup mera koje preduzima menadžment u smislu ostvarivanja poslovnih ciljeva. Pomenute mere se mogu definisati i grupisati na sledeći način, i to:

- zaštita imovine (sredstava) od preteranog trošenja, neefikasne upotrebe i mogućih prevara;
- obezbeđenje pouzdanosti računovodstvenih podataka;

- dosledna realizacija poslovne politike u svim delovima privrednog društva;
- ocenjivanje rada sektora, zaposlenih i menadžmenta.

Informisanje i uveravanje menadžmenta da se svi delovi preduzeća pridržavaju osnove poslovnog plana i poslovne politike u analiziranom poslovnom periodu, smatra se temeljnim zadatkom internog nadzora. Da bi bila sposobna informisati menadžment preduzeća o tome da li svi segmenti preduzeća deluju u skladu sa politikama i planovima menadžmenta, interna kontrola mora da bude organizaciono i lično ciljno strukturirana. Interna kontrola je, u stvari, svojevrsni studij računovodstvenog sistema koji sadrži raznovrsnost i bogatstvo evidencija, izveštaja, dokumenata i postupaka o poslovnim transakcijama o preduzeću.

Od pet međusobno povezanih komponenti, proisteklih iz načina na koji menadžment vodi preduzeće, sastoji se interna kontrola, i to: kontrolno okruženje, procena rizika, kontrolne aktivnosti (procedure), informacija i komunikacija i nadgledanje i praćenje

6. VRSTE INTERNE KONTROLE

S analitičke tačke gledišta interna kontrola se može podeliti na dve široke kategorije nadzornog delovanja, i to: administrativnu kontrolu i računovodstvenu kontrolu.

I jedna i druga kontrola su funkcije upravljanja, a u većini slučajeva se prepliću tako da se između njih ne može povući neka precizna granica. Međutim, u postupku revizije naročito kada se radi o eksternoj reviziji, revizor se mnogo više bavi internom računovodstvenom nego administrativnom kontrolom. Iz navedenog razloga, težište u daljim razmatranjima će da bude na internoj računovodstvenoj kontroli.

Na aktivnosti koje nisu direktno finansijskog karaktera odnosi se administrativna interna kontrola, sa zadatkom da obezbedi efikasnost u poslovanju i da se to poslovanje u svim sektorima i odelenjima preduzeća odvija u skladu sa proklamovanim poslovnim politikom. Efikasne administrativne interne kontrole imaju uticaja na uspešnost poslovanja, jer obezbeđuju stabilan ritam personalnog servisiranja poslovne aktivnosti i ostavljaju utisak bezbednosti kod poslovnih partnera.

Računovodstvena, odnosno finansijska kontrola uključuje finansijske aktivnosti i obuhvata organizaciju, metodologiju i evidenciju s ciljem obezbeđivanja zaštite sredstava i verodostojnosti finansijskih izveštaja, a koncipirana je na taj način da pruži pouzdane dokaze: da su transakcije obavljene prema ovlašćenjima menadžmenta; da su transakcije evidentirane na taj način da je, u prvom redu, omogućeno sastavljanje finansijskih izveštaja (u skladu sa opšteprihvaćenim računovodstvenim principima ili drugim kriterijumima koji se odnose na te izveštaje), i, potom, da je obezbeđeno prikladno iskazivanje vrednosti sredstava; da je pristup i raspolaganje sredstvima dopušteno samo po ovlašćenju menadžmenta; da je knjigovodstveno stanje sredstava upoređivano sa postojećim stanjem u odgovarajućim intervalima, kao i da su preduzimane adekvatne mere u pogledu utvrđenih razlika (manjkova i viškova).

O internoj računovodstvenoj kontroli se može govoriti i kao o internoj finansijskoj kontroli, kao što je to slučaj u Cadbury izveštaju (Cadbury Report), koji internu kontrolu definiše kao kompletan sistem kontrole, finansijskih i drugih, ustanovljenih da pruže razumno uverenje o

efikasnosti i uspešnosti poslovanja, internoj finansijskoj kontroli i usklađenosti sa zakonima i propisima.

Naknadni izveštaj Cadbury komiteta o internoj kontroli i finansijskom izveštavanju, je definisao internu finansijsku kontrolu kao, interne kontrole koje su ustanovljene da bi pružile razumno uverenje o zaštiti sredstava od neovlašćene upotrebe ili prodaje i o vođenju odgovarajućih računovodstvenih evidencija i pouzdanosti finansijskih informacija koje se koriste unutar preduzeća ili se objavljuju.

Definicija finansijske kontrole, u principu, isključuje pitanje uspešnosti poslovanja, vrednosti novca i usklađenosti sa zakonskom regulativom. U praksi, međutim, razmatranje efikasnosti interne finansijske kontrole može zahtevati i razmatranje određenih kontrola poslovanja i usklađenosti, koje se odnose na aktivnosti koje imaju, ili bi mogle imati, potencijalno značajan finansijski uticaj na istinit i objektivan prikaz finansijskih izveštaja.

Da bi interni nadzor mogao odgovoriti svojoj nadzornoj funkciji (da informiše menadžment o tome da li se poslovne aktivnosti preduzeća realizuju prema utvrđenom planu), moraju mu se stvoriti na uvid elementi za upoređivanje. Svaka poslovna transakcija, u navedenom kontekstu, treba da prođe kroz četiri odvojene faze: u prvoj fazi treba da bude označeno ko odobrava transakciju; u drugoj, transakcija treba da bude odobrena (parafirana); u trećoj, treba da bude izvršena; i, u četvrtoj, sledi evidentiranje.

Pravilno razdvajanje dužnosti i odgovornosti predstavlja snažan element nadzora, ili, konkretno, poslovnu transakciju diferenciranu u navedene četiri faze ne sme provoditi jedna osoba od početka do završetka. Drugim rečima, pomenute faze imaju kontrolnu ulogu, tako da osoba odgovorna za sledeću fazu transakcije kontroliše rad izvršen u prethodnoj fazi, a kontrolni učinak se sastoji u tome što se eventualne greške mogu otkriti, i otkloniti pre završetka transakcije.

Procedura odvijanja transakcije sadrži elemente kontrole. Svako odeljenje prima pismeni dokaz o tome šta se dogodilo u prethodnoj fazi, pregleda dokumente koji prate transakciju i uverava se da su prethodne radnje korektno obavljene. Tako, na primer, ako odeljenje kredita nije odobrilo kupca, onda odeljenje otpreme neće izvršiti isporuku.

U finalnoj fazi deluje računovodstvo i evidentira prodaju kada primi pisane dokaze: porudžbinu kupca, odobreni kredit, otpremnicu i fakturu.

Nadzor insisitra na primeni principa nespojivosti (inkompatibilnosti), dužnosti i ovlašćenja. Glavna tačka nespojivosti nalaže da lica koja imaju pristup sredstvima nemaju pristup računovodstvenim evidencijama, čime se sprečavaju mogućnosti za različite mahinacije.

7. VRSTE FINANSIJSKE KONTROLE

Finansijska kontrola može biti:

- preventivna i
- naknadna.

Preventivna kontrola - Preventivnom kontrolom kao prethodnim nadzorom postavlja se cilj da se pre izvršenja nameravanog posla utvrde činjenice u vezi sa izvršenjem toga posla i da se na osnovu informacija koje se tako pribavljaju ocene da li je u pitanju smišljeno ili plansko postupanje, dakle celishodne radnje. U tom smislu preventivna kontrola može se

koristiti kao metoda u upravljanju finansijama jer se time obezbeđuje da u nameranim poslovima nema neceleshodnosti.

Preventivna kontrola se u savremenom poimanju kontrole smatra najefikasnijim oblikom kontrole. To proizilazi iz činjenice da se ovim oblikom kontrole stiču informacije ne samo o tome kakve poslovne radnje treba obaviti, na koji način i u koje vreme, pa se na osnovu ovih može prosuđivati o pravilnosti i celishodnosti takve radnje, već zahvaljujući tome što postoji mogućnost da se u slučaju negativne ocene takve radnje, ista može sprečiti, ili kod već započete radnje tok izvršavanja ove radnje obustaviti. Ovaj način omogućuje poslovanje bez nepravilnosti i bez ikakvih negativnih posledica koje mogu proizilaziti iz nepravilnog poslovanja. Prema tome, preventivnu kontrolu treba s pravom smatrati najefikasnijim pomoćnikom u upravljanju finansijama.

Razmatrajući ulogu preventivne kontrole u upravljanju finansijama, može se uopšteno zaključiti da se preventivnom kontrolom sprečavaju nepravilne i neceleshodne finansijske dipozicije, odnosno nepravilno raspolaganje sredstvima. Pošto je kontrola u celini komponenta upravljanja, što znači da je to i preventivna kontrola, onda sledi da u samom upravljanju postoji mehanizam za pribavljanje informacija na osnovu kojih se mogu preduzimati korektivne radnje u finansijskom disponiranju.

Uobičajni oblik organizacije preventivne kontrole u finansijskom poslovanju jeste kontrola u okviru likvidature. Postojanje likvidature predstavlja metodološko rešenje koje obezbeđuje da se obavljaju samo one platne operacije koje su ispravne. A to znači, da su takve platne operacije usaglašene sa smišljenim planskim postupanjem pri radu, odnosno da vode ka ostvarivanju opštih upravljačkih ciljeva organizacije.

Predpostavka je da je kontrola već u prethodnom radu detaljno upoznata sa stvarnim kapacitetom i mogućnostima pojedinih sektora, službi, odeljenju. Na osnovu toga kontrola može primenom metoda upoređivanja da pruži informacije o tome da li su planirane veličine u okvirima mogućih veličina ili su ispod tih veličina, odnosno da li prelaze ove veličine. U slučajevima kada su iskazane veličine manje od objektivnih, što znači da postoje namere ili nenamere ili nenamerne ili skrivene rezerve, kontrola je u stanju da na ove ukaže i da na taj način omogući njihovo objektiviziranje. Na taj način kontrola omogućuje da se na vreme spreči neobjektivno ostvarivanje prebačaja plana i stim u vezi ostvarivanje neophodnih preimūstava. Sem toga, preventivna kontrola stvara uslove da se iskoriste svi objektivno postojeći kapaciteti i mogućnosti u onom slučajevima kada su skrivene rezerve nastale nenamerno, usled nedovoljno proučenog utvrđivanja postojećih kapaciteta.⁵⁵

Prema tome, može se zaključiti da preventivna kontrola obezbeđuje uslove za objektivno utvrđivanje mogućih ciljeva i sredstva za njihovo ostvarivanje; stvara uslove za otklanjanje subjektivnih nedostataka i namernih propusta u procesu sastavljanja poslovnih i finansijski poslova i za objektiviziranje svih skrivenih rezervi. Na taj način, preventivna finansijska kontrola predstavlja, kao što je već rečeno, jednu od aktivnosti finansijskog upravljanja.

⁵⁵ *Primer dat u knjizi Tepšić R.: Poslovne finansije, Informator, Zagreb, 1974., str.243.*

Naknadna kontrola - Naknadna kontrola kao naknadni nadzor ima za cilj da posle obavljenog posla utvrdi činjenice u vezi sa izvršenjem toga posla i da tako pribavljenim informacijama omogući donošenje zaključaka o tome da li je postupanje u vezi sa ispitivanim poslom bilo smišljeno i plansko, odnosno da li je obavljena radnja bila celishodna. Naknadna kontrola se u tom smislu može koristiti kao metoda upravljanja finansijama pošto omogućuje da se na osnovu pribavljenih informacija sagledaju nedostaci u utvrđivanju i sprovođenju finansijske politike u proteklom periodu. Na osnovu toga saznanja odgovarajući organi u obavljenim finansijama koriste kao osnov za donošenje poslovnih odluka o budućim poslovima i, drugo, da donese korektivne odluke radi korekcije već obavljenih poslova, odnosno radi otklanjanja njihovih posledica, ukoliko je to nužno i moguće.

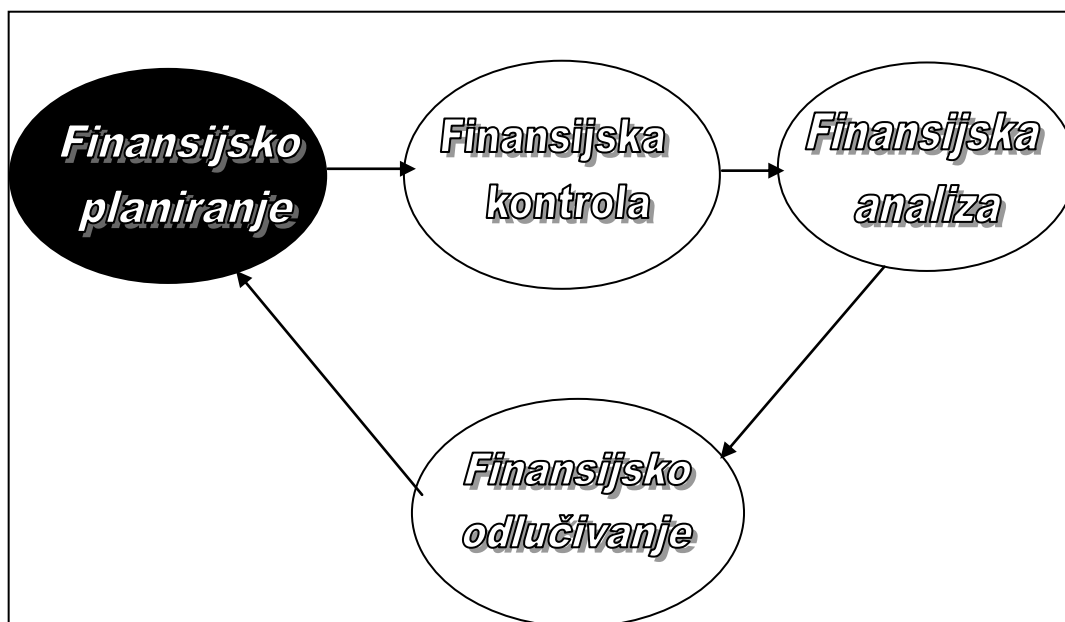
Da bi naknadna kontrola mogla da obavi tu funkciju i da njene informacije budu korišćene u tom smislu kao metod upravljanja finansijama, postavlja se kao jedan od bitnih zahteva blagovremenost kontrolnih informacija. Treba napomenuti da svaka informacija ima svoj kontrolni značaj, jer informiše o načinu na koji je posao obavljen i rezultatima koji su ostvareni. No, pri tome treba ipak rizikovati one informacije koje pruža sam organ koji posao obavlja i koji snosi odgovornost za pravilnost obavljenog posla i za ostvarene rezultate, od onih kontrolnih informacija koje prezentira poseban kontrolni organ koji nije bio zadužen za izvršenje posla niti odgovora za rezultate i posledice. Naime, kvalitet ovih informacija za donošenje korektivnih odluka može se bitno rizikovati. Tako na primer, informacije koje pruža organ koji je posao izvršio mogu biti u većoj ili manjoj meri pod uticajem subjektivnih stavova, znači nedovoljno objektivno za donošenje poslovnih odluka u vezi sa budućim poslovanjem. S toga takve informacije mogu u datim uslovima da imaju samo relativnu vrednost.

Najveći problem i slabost naknadne finansijske kontrole je obično njena zakasnelost (docnja), koja onemogućava pravovremeno dejstvo u smislu ispravljanja ili poništavanja počinjenih grešaka.

No u svakom slučaju i ona je neophodna iako post factum utvrđuje nepravilno i nedomaćinsko korišćenje sredstava. Zbog toga se vrši naknadno, a mnogi autori ovu vrstu kontrole nazivaju internom finansijskom revizijom.

Finansijska kontrola predstavlja, kako je već rečeno jednu od aktivnosti u sistemu upravljanja finansijama, kojom treba pored obezbeđenja efikasnog nadzora nad obavljanjem svih poslovnih postupaka, da se obezbedi i upravljanje finansijskim aspektom svih poslovnih procesa. Da bi se neposrednije sagledalo kako je došlo do toga da takva delatnost bude od značaja u preduzeću i da ona predstavlja neophodnost, može se videti iz sledećeg teksta: „Dok su preduzeća bila još jednostavna a radni procesi nisu bili komplikovani, odgovornost za upravljačke odluke nosio je po pravilu samo jedan čovek – preduzetnik. Problemi kontrole tada, jedva su se i nazirali. Industrijskim razvojem pak u znatnoj meri je povećana količina informacija koje je trebalo prerađivati. Tako je preduzetnik došao u položaj da je određene funkcije morao da delegira, a delegiranje je potom zahtevalo i kontrolu, tako da se obim kontrolnih informacija povećava.“⁵⁶

⁵⁶ Vieweg R: Organisation und Revision, das Rechnungswesens bri automatisierter datenverarbeitung, Neue Wirtschafts-Briefe + GMBH Herne, Berlin 1972., str.20.



Slika 2. Veza finansijske kontrole sa finansijskim planiranjem i finansijskom analizom

Iz ovakvog shvatanja kontrole finansijske funkcije, razvila se pored pomenute klasične finansijske kontrole koja stavlja naglasak na formalni aspekt, i druga vrsta finansijske kontrole vezana za upravljački pristup finansijama u preduzeću.

Preciznije rečeno, ovaj vid finansijske kontrole sastoji se u stalnom praćenju ostvarenja planiranih finansijskih veličina, utvrđivanju veličine odstupanja, te omogućavaju, analize uzroka odstupanja i donošenja kvalitetnih odluka, kako bi se ciljane planirane veličine ostvarile.

Ovako shvaćena aktivnost finansijske kontrole je zapravo delatnost informacionog značaja. Kontrolom se obezbeđuju kontrolne informacije koje su potrebne radi donošenja određenih odluka u pogledu načina izvršenja poslova, te uspešnosti u poslovanju.

8. ZAKLJUČAK

Kontrolisanje se mora obavljati zbog toga što menadžer nije u stanju da u potpunosti predvidi budućnost. Kada bi menadžer mogao da predvidi takve stvari kao što su tražnja na tržištu, opšti ekonomski uslovi, dostupnost i troškovi resursa, kao i ljudski rad i tehnološki procesi, potreba za kontrolisanjem bi nestala. Pošto se ne mogu u potpunosti predvideti budući događaji, potreba za kontrolisanjem je sasvim jasna. Kada se neki sistem pokrene da bi ostvario neke ciljeve, spoljašnji i unutrašnji događaji koji se neprestalno javljaju teže da izbace sistem iz ravnoteže tako da iz jednog ili drugog razloga ciljevi ne budu ostvareni.

U idealnom slučaju, kontrolisanje „gleda unapred“. To znači da će menadžeri pokušati da spreče moguća odstupanja od planiranih aktivnosti, ako je to moguće, i/ili da spreče ponavljanje ranijih grešaka.

Ciklus ontrole u sistemu upravljanja finansijama, sastoji se iz tri glavna dela, a to su:

- izrada standarda poslovanja,
- merenje i poređenje stvarnog poslovanja prema standardu i
- preduzimanje korektivnih mera, ako je to potrebno.

Finansijski menadžment je deo opšteg menadžmenta, učenje koje se bavi svim pitanjima vezanim za probleme novca, njegovo stvaranje, tokove, ulaganje, trošenje, brojna i složena delovanja u privredi, tokove profita uopšte, a pre svega za njegovu raspodelu, preraspodelu, oblike, instrumente i subjekte njegovog trošenja, za brojna i složena delovanja u privredi i društvu.

Nepoznavanje finansija može uništiti bilo koju kompaniju, a menadžment može doći u sukob sa zakonom. Zato se kroz finansije, menadžeri uče kako da zarade novac, ali i kako da ga zadrže. Kroz finansije se može zaraditi mnogo više, nego u bilo kojoj drugoj sferi proizvodnje ili pružanja usluga. One pokazuju kako se može raditi manje, a zaraditi mnogo više.

Finansijski menadžment je velika šansa za savremeni poslovni svet. U budućnosti ova vrsta menadžmenta će sve više dobijati na značaju. Već se danas pokazuje da se u svetu troši preko dvadeset puta više na finansije nego na trgovinske transakcije. Finansijski menadžeri su ti koji danas dominiraju svetom, dok su ostali menadžeri u drugom planu. Ako se uzme u obzir kompleksnost funkcije i mogućnosti koje pruža kvalitetan finansijski menadžer on mora da poseduje osobine i preduzetnika i stručnjaka.

Kod nas to još nije zaživelo u tolikoj meri kao u razvijenom svetu i funkcija finansijskog menadžera i menadžmenta još nije na potrebnom nivou, vremenom će se stvari promeniti jer sva kretanja ne pitaju dali mi hoćemo ili nećemo.

REFERENCE

1. Vujović, S. „Osnove Finansijskog Menadžmenta“ Beograd 2005.
2. Dedović, M., Milačić, S. „Finansijski Menadžment“ Leposavić 2005.
3. Ristić, Ž., S. Komazec, „Finansijski Menadžment“ Beograd 2000.
5. Radosavljević, Ž., R. Tomić, „Menadžment u modernom biznisu“ Novi Sad 2006.
6. Vieweg R: Organisation und Revision, das Rechnungswesens bri automatisierter datenverarbeitung, Neue Witschafts-Briefe + GMBH Herne, Berlin 1972.
7. Tepšić R.: *Poslovne finansije*, Informator, Zagreb, 1974.
8. Krasulja D.: *Finansijsko planiranje u preduzecu*, Ekonomski fakultet, Beograd, 1974.

SOME CONSIDERATIONS ON MODERN CONCEPTS OF KNOWLEDGE MANAGEMENT AND E – BUSINESS

Aleksandar Krstić

Univerzitet u Beogradu, Tehnički fakultet u Boru, Serbia

Abstract: This paper considers some of the most important aspects of the broad issues of knowledge management and the electron business. The examination primarily relates to the characteristics of the implementation of e-business in terms of knowledge management, as well as some of the most important technologies support organization focused on managing the knowledge. Presents the concepts of the current trend in the integrated application of KM integrated concepts and illustrated by example.

Keywords: knowledge management, e-business.

1. UVOD

Globalizacija tržišta u prvi plan ističe znanje kao osnovnu vrednost uspešnih kompanija. Kvalitetno upravljanje znanjem skrivenom u kompaniji zato postaje imperativ uspešnog poslovanja. Uspešno korporativno upravljanje zavisi od efikasne upotrebe resursa i automatizacije proizvodnih procesa. Razvoj informatičke tehnologije u znatoj meri je uticao na redefinisane poslovnih procesa, aktivnosti i da korporativno znanje bude dinamički resurs koji će se neprestano koristiti u svrhu što kvalitetnijeg poslovanja. Kao rezultat ovakvog razvoja, transformacije postojećih poslovnih procesa i potrebe menadžera za informacijama sa ciljem efektivnijeg i efikasnijeg poslovanja, formirano je proširenje problematike efikasne elektronske poslovne strategije, integrisanjem menadžmenta znanjem i elektronskog poslovanja . Postoji veći broj definicija menadžmenta znanjem (KM) koje bi se mogle sumirati u sledećem obliku [15]:

KM je skup procesa koji regulišu stvaranje, strukturiranje, širenje i korišćenje znanja; za adekvatno upravljanje organizacijom kroz navedene procese , sa ciljem unapređenja organizacionih performansi i konkurentnosti; omogućuje automatizaciju poslovnih procesa i unapređuje komunikaciju i saradnju između internih i eksternih konstituenata.

Upravljanje znanjem je neizbežan proces ukoliko se želi uspešno poslovanje. Efektivno upravljanje znanjem (KM) i kvalitetna eksploatacija korporativnog znanja, njegovo lociranje i sistematizacija, može biti presudno za generisanje novih ideja. Samim tim i za kompleksan proces transformacije znanja, povećanje operativne efikasnosti, brzinu raspoređivanja resursa, adekvatno donošenje odluka, veći profit ili plasman na tržištu. Menadžment znanja obezbeđuje u bitnim pitanjima organizaciono prilagođavanje, opstanak i stručnost uprkos povećanim diskontinuitetima promena okruženja.

Elektronsko poslovanje u užem smislu je opšti koncept koji obuhvata sve oblike poslovnih transakcija ili razmene informacija primenom informacione i komunikacione tehnologije, omogućuje kompanijama da na efikasniji i fleksibilniji način povežu svoje sisteme

prikupljanja internih i eksternih podataka. Širenje informacionih sistema i tehnologija sada omogućava kompanijama akumulaciju velikog broja podataka i korisničkih informacija.

Savremene komunikacione tehnologije (Internet, Intranet) dovele su do stvaranja pojma „umrežavanja znanja“. Reč je o procesu distribuiranju znanja između zaposlenih, timova, razvojnih grupa i eksternih korisnika. Razmenom informacija i intenzivnom komunikacijom, proširuju se postojeća znanja ali i stvaraju nove ideje. Navedene komunikacione tehnologije predstavljaju podršku saradnji, odlučivanju i upravljanju kompanijama. Razmatranje integracione primene i KM i E – poslovanja kao i karakteristikama primene je tema nastavka rada.

2. KARAKTERISTIKE KM I E-POSLOVANJA I POTREBA ZA INTEGRACIJOM

Informacije i znanje, kao i informacione tehnologije, zajedničke su za elektronsko poslovanje i menadžment znanjem. Većina stručnjaka saglasna je da su najveći izazovi za sticanje i održavanje konkurentne prednosti na tržištu efikasno korišćenje blagovremenih informacija i donošenje poslovnih odluka. Ali informacije su, same po sebi, prilično besmislene ukoliko se ne prikupljaju, klasifikuju / kategorišu, organizuju, a zatim prema potrebi dostupne kao znanje, jer kvantitet nije jednak kvalitetu. Efikasna upotreba znanja je ključna komponenta u svakoj uspešnoj organizaciji. Najvažniji imperativ kompanijama je da njihov fokus bude na sinergiji podataka i kapaciteta obrade informacija, informacionih tehnologija i stvaralačkom i inovativnom karakteru njihovih članova. Unapređene informacione tehnologije mogu da povećaju ostvarivanje planiranih zadataka koje tradicionalno obavljaju zaposleni. Informacije i kontrolni sistemi u organizacijama su namenjeni za ostvarivanje programiranja optimizacije i efikasnosti. KM omogućuje da se na naučno zasnovanim metodama i tehnikama pristupi prikupljanju i proceni informacija da li je dosadašnja poslovna praksa u saglasnosti sa promenama u poslovnom okruženju. Adekvatnim reznovanjem implikacije promena u poslovanju preduzeća, primena KM omogućuje u sinhronizaciji dobre poslovne prakse sa realnošću spoljnog okruženja. Ostati u koraku sa dinamičkim promenama i potreba poslovnog okruženja, organizacionih potreba za kontinuiranim procenjivanjem njihovih unutrašnjih ideja o poslovanju za povećanje organizacionih poslovnih performansi. Takođe, efektivna primena KM može rezultirati povećanom efikasnošću, većom produktivnošću i povećanim prihodima, praktično u svakoj poslovnoj funkciji. Međutim, adekvatno korišćenje znanja u organizaciji podrazumeva da menadžment organizacije prepozna da sama dostupnost nepovezanih informacija ili disperzija informacija nije znanje [14].

Sistemskim pristupom za upravljanje i korišćenje informacija sa ciljem da se obezbedi kontinuiran protok znanja pravim ljudima u pravo vreme omogućava efektivno i efikasno donošenje odluka u njihovom svakodnevnom poslovanju [5].

Razvoj koncepcije elektronskog poslovanja uslovljen je dejstvom ekomoskih sila, uticajem potrošača i promenama u tehnologiji. Elektronsko poslovanje možemo definisati na sledeći način [6] : elektronsko poslovanje je pristup postizanju poslovnih ciljeva u kome se tehnologija koristi radi upravljanja znanjem, sa ciljem da se omoguće i preduzmu aktivnosti u lancu vrednosti, kao i donošenje odluka koje bi naglasile značaj navedenih aktivnosti.

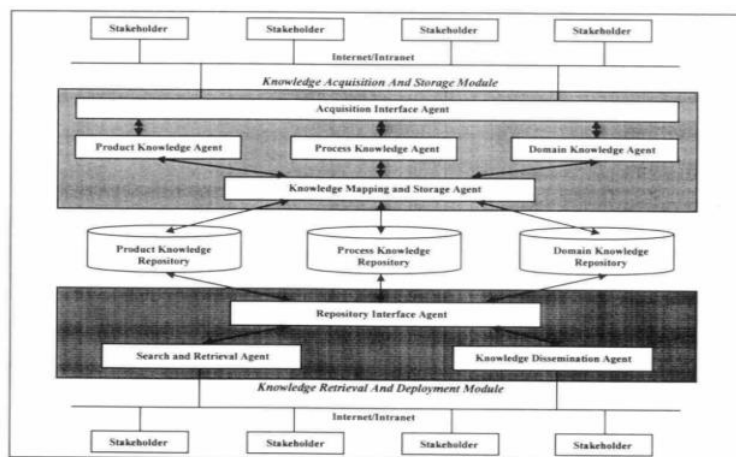
Taksonomija e-poslovanja, najčešći oblici interakcije pri čemu autor [1] navodi :

Business-to-business (B2B), Consumer-to-Consumer (C2C), government-to-government (A2A), business-to-employee (B2E), Business-to-consumer (B2C), consumer-to-business (C2B), Business-to-administration (B2A), board-to-business (A2B), Consumer-to-administration (C2A), board-to-consumer (A2C) i opseg sistema razmene informacija.

E-commerce uključuje aktivnosti kao što su elektronska razmena, isporuku i / ili transakcije informacija, roba, usluga, i isplate preko telekomunikacionih mreža, pre svega Web-a. Reč je o korišćenju moćnih digitalnih informacija za razumevanje potreba želja svakog kupca i svakog partnera i prilagođavanje proizvoda i usluga u skladu sa njihovim zahtevima, a zatim da se isporuče proizvodi i usluge u što kraćem vremenskom periodu [18].

U novom milenijumu, većina preduzeća je inkorporirala i primenila ili unapredila e-commerce sisteme, što je rezultiralo proširenjem problematike i iznalaženje novih mogućnosti za upravljanje Web-baziranim interakcijama sa svojim dobavljačima, partnerima i klijentima. Primarna upotreba personalizovane, automatizovane usluge nude preduzećima potencijal da poveća prihode, jedna od funkcija e-commerce sistema je da obezbedi efikasnu koordinaciju između kupaca i dobavljača, logistiku i transport, sigurno distribuiranje informacija, organizaciju prodaje i korisnički servis. Jedan od faktora uspeha navedenih koordinacionih zahteva je kontinuirana dostupnost, pristupačnost i primena odgovarajućeg organizacionog znanja u okviru e-commerce sistema. Realizacija navedenih aktivnosti obuhvata različite vrste znanja, kao što su poslovni procesi, pravila poslovanja, potrošači profila, informacije o proizvodima, rešavanje problema stručnosti i stručnog uvida. Radi održivosti ili sticanja konkurentne prednosti, organizacionim znanjem neophodno je upravljati i integrisati u svoje korporativne e-commerce sisteme [12, 18]. Činjenica da je vrednost propozicija elektronskog poslovanja obuhvata stvaranje novih tržišnih mogućnosti putem elektronskih kanala, a ne treba zanemariti da se na navedeni način kanališu tržišne prilike, koje omogućavaju kompanijama niže transakcione troškove, kraće vreme isporuke, poboljšanje usluga klijentima. Međutim, savremeno poslovanje obavlja se u nestabilnom, dinamičnom poslovnom okruženju. Navedeni uslovi poslovanja nalažu da je težište organizacije usmerno na tome na efektivnost ishoda nego na efikasnost procesa [10]. Neophodno je da se organizacije fokusiraju na stalno obnavljanje postojećih znanja, stvaranje novih znanja, i efikasno korišćenje tog znanja u e-poslovanju. Navedeni pristup ističe racionalost u odnosu na predhodne koncepte arhiviranja podataka i informacija u organizacionim bazama podataka koje imaju tendenciju da ignorišu pridružene ljudske interpretacije konteksta i sadržaja [10]. Sa organizacionog aspekta, inicijativa perspektive KM u najvećem broju slučajeva manifestuje se u obliku poslovnih sistema primenom standardnih paketa elektronske pošte, sofisticiranih sredstava saradnje specijalno dizajniranih kako bi podržala izgradnju i indentifikaciju zajednice. Uopšteno govoreći, repozitori znanja, metode i tehnike pristupa ekspertizi, aplikacije za elektronsko učenje, tehnologije za diskutovanje i četovanje, sinhronizovani interaktivni alati, i savremeni koncepti informacionih tehnologija za istraživanje i traženje podataka. Konvergencija upravljanja znanjem i poslovna inteligencija (BI) je u toku u mnogim organizacijama. KM omogućuje primenom informacionih tehnologija implementaciju Customer Relationship Management (CRM) sistemima [2]. Jedno od najznačajnijih dostignuća u KM primenom informacionih tehnologija, u poslednjih nekoliko godina predstavljaju informacioni portali preduzeća EIP. Business-to-employee (B2E) EIP ubrzano postaje neophodan faktor organizacije današnje E-

poslovne infrastrukture. Enterprise information Portal (EIP) predstavlja skup Web aplikacija koje konsoliduju, upravljaju, analiziraju i distribuiraju informacije u okviru organizacije i van nje. XML i Web servis tehnologije proširuju okvir portala kroz automatizovanu interakciju sa aplikacijama na eksternim sistemima [8,11]. EIP omogućava svakom akteru u sistemu, bilo da je to kupac, partner, dobavljač, zaposleni, deoničar, pristup informacijama u svakom trenutku i sa bilo kog mesta personalizovanu jednu pristupnu tačku svim relevantnim informacijama, koje za uzvrat treba da omogući efektivno i efikasno donošenje odluka. Pored navedne karakteristike, primenjuje se za usklađivanje intelektualne imovine organizacije u okviru jednog Web baziranog interfejsa. Istraživanja ukazuju da su za unapređenje i podršku KM aktivnosti e-commerce preduzeća, kao aktuelni koncept primene, identifikovani korporativni portali [4]. Portali pružaju jedinstvenu tačku pristupa u distribuiranim izvorima znanja unutar organizacije. Oni takođe olakšavaju prikupljanje znanja pružajući jedinstven interfejs, a dostupni su uvek i svuda. Autor [16], u studiji ilustruje tipičnu arhitekturu nakon tradicionalnih tronožskih klijent-server dizajna, sastoji se od HTML klijenata, web 426 S.A. servera, i repozitorijuma znanja povezanih preko Interneta i korporativnog Intraneta, prikazane na slici 1.



Slika 1. Integralna struktura upravljnja znanjem okruženja [16]

U praksi, može postojati nekoliko varijacija ove arhitekture u zavisnosti od posebnih potreba e-commerce organizacije, ali najčešće je server proširen inteligentnim agentima za podršku različitih aktivnosti zainteresovanih strana, uključujući i stvaranje znanja, skladištenje, distribuiranje. Klijent je osnovni Web pregledač koga učesnici koriste za realizaciju različitih aktivnosti. Na primer, zaposleni mogu da koriste portal za kreiranje i skladištenje srodnih eksponata ili da biste preuzeli relevantno znanje domena koji bi se mogao koristiti u rešavanju problema. Klijenti mogu da koriste portal za skeniranje okoline i pružaju relevantne informacije o različitim ponudama proizvoda, kao i slanje i primanje informacija u vezi sa zahtevima za proizvode i usluge [16]. Informacije sa servera obuhvataju dva modula visokog nivoa: (1) sticanje znanja i modul skladištenja i (2) preuzimanje znanja i primenu modula. Sticanja znanja i skladištenje, koristi modul inteligentnih agenta koji omogućuju da sticanje znanja i kreiranja procesa na način da neprimetno izvrše integraciju u dnevnu rutinu. Modul sadrži sledeće agente: akvizicija interfejs agenta, proizvod znanja agenta, proces

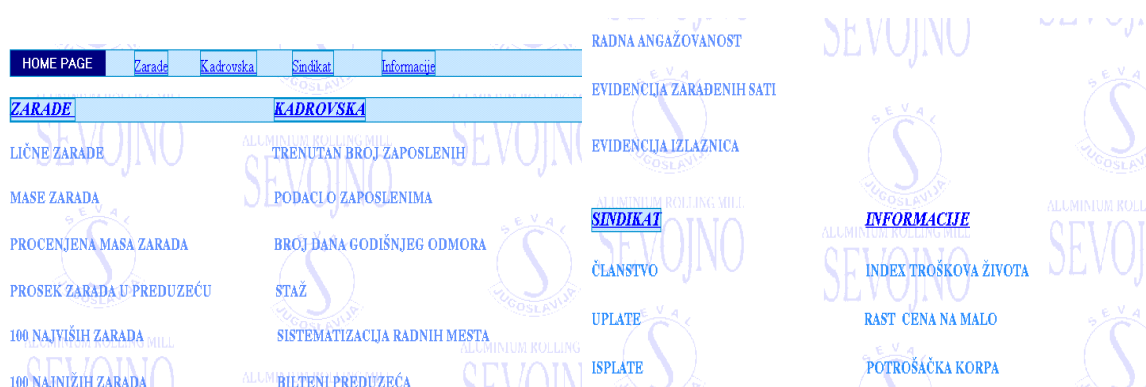
znanje agenta, domen znanja agenta, i znanja i mapiranje skladištenje agenta. Navedeni modul deluje kao interfejs znanja repozitorijuma i omogućava korisnicima pretragu repozitorijume za specifične informacije sa ciljem iznalaženja rešenja definisanog problema. Modul je takođe odgovoran za sadržaj isporuke (znanje koje predstavlja potencijali interes određenih grupa) koje se publikuju periodično. Opremljen je sa tri inteligentna agenta : skladište interfejs agenata, pretraživanje i pronalaženje agenta, i širenje znanja agenta, videti [16].

3. PRIMER RAZVOJA B2E PORTALA ZA PODRŠKU POSLOVANJA PREDUZEĆA VALJAONICA ALUMINIJUMA SEVOJNO

Imajući u vidu značaj B2E portala za uspešno poslovanje i unapređenje poslovnih performansi, predloženo rešenje razvoja Internet/intranet portala, biće prikazano na jednom konkretnom primeru. Fokus portala predstavljaju korisnici, tako da je portal dizajniran kao centralizovano mesto gde bi kooperativnost zaposlenih bila ostvarena na adekvatan način. Trenutna mreža omogućava pristup velikom broju podataka. Međutim, nije preporučljivo, da se omogući pristup navedenoj mreži većem broju zaposlenih, jer se radi o vrlo osetljivoj bazi podataka. Iz navedenog razloga, deo ovih podataka, kao i veliki deo statističkih podataka koji se dobijaju na osnovu informacija koje pruža postojeća mreža (matematičko-statističkim putem), trebalo sažeti u jedan Web portal unutar Preduzeća, kako bi se omogućio pristup podacima većem broju zaposlenih i ujedno, zaštitila postojeća mreža. Pored velikog broja informacija koje pruža postojeća mreža, nedostaju mnogi podaci koji su nepohodni. Zahtevi su u upućeni i od top menadžmenta, kao i od samih zaposlenih. To se prvenstveno odnosi na informacije o kretanju prosečne zarade u Preduzeću, o kretanju koeficijenta za revalorizaciju stambenih kredita, o kretanju prosečne zarade u privredi Republike, o indeksima troškova života, indeksima cena na malo, itd. Ključne funkcionalnosti portala obuhvatile bi sledeće: interfejs prema Web-u, menadžment korisničkog interfejsa, mehanizme pristupa eksternim podacima, servise upravljanja podacima, sigurnost, autentifikaciju i personalizaciju, alate za razvoj portala, alate za administraciju i upravljanje portalom. nPotreba za pomenutim funkcionalnim komponentama, pri čemu svaka od njih poseduje logične i veoma specifične veze sa ostalim komponentama, omogućava da svi korporativni portali inicijalno imaju istu strukturu. Navedeno strukturalno okruženje moguće je lako modifikovati tako da posluži kao osnova za stabilnu ali i nadograđivati arhitektonsku referencu za buduće portale. Neke od osnovnih karakteristika Web portala bile bi sledeće : unapređena produktivnost pojedinaca i timova – korisnici imaju centralizovano mesto koje mogu da koriste za komunikaciju, razmenu dokumenata, i slično, unapređenje poslovnih procesa – skraćenje vremena za pristup podacima sa različitih platformi uz manji napor, skraćenje vremena ciklusa procesa usled izbegavanja dupliranja podataka i smanjenja grešaka i dorade usled manuelnih procesa za prikupljanje podataka i izveštavanje, optimalnije upravljanje resursima – portal pruža mesto za vođenje evidencije o određenim resursima organizacije: ljudskim, materijalnim, intelektualnim. Posebene karakteristike portala : online poslovna analitika, povezivanje na različite izvore podataka, vizuelizacija informacija, integracija informacija – na portalu se mogu povezati informacije iz različitih izvora i formata. User-friendly korisničko okruženje – profesionalni dizajn, unificirani interfejs, pristup web pretraživačem.

3.1. SKICA PORTALA

Integritet podataka organizacije je krucijalan. Portal bi trebalo da obezbedi podršku za autentifikaciju i kriptografiju, kako bi bitne korporativne informacije bile zaštićene od konkurenata i ostalih neovlašćenih korisnika. Pri samom ulasku na Web portal, unosile bi se lozinke zaposlenih preduzeća. Portal kontroliše različite nivoe pristupa unutar organizacije za različite korisnike, tako da samo autorizovani korisnici mogu da vrše pregled, dodavanje i izmenu informacija. Korisnici portala pri logovanju pristupaju samo onim informacijama koje su im neophodne za završavanje poslovnih obaveza ili za koje postoji određeno interesovanje. Kastomizacija je značajna za portal, budući da postoji značaj broj dostupnih informacija, a jedan deo informacija koji je bitan određenoj grupaciji ili sektoru korporacije nije od značaja za drugi sektor. Obezbeđenjem jedinstvenog pristupa portalu, korisnicima se omogućava da uz samo jedno logovanje pristupaju svim internim i eksternim aplikacijama i dostupnim informacijama. Informacije na portalu bile bi logički strukturirane, tako da zaposleni ne bi nailazili na prepreke prilikom pristupa željenim informacijama. Sinteza informacija omogućava prikupljanje informacija iz različitih internih i eksternih izvora kao što su ERP sistem, Internet, intranet, relacione baze podataka i ostali dostupni izvori.



Slika 2. Prikaz početne strane portala

Na slici 3. dat je prikaz pregleda u oblasti zarada, top menadžment bi imao pristup sledećim informacijama: isplaćene mase zarada i procenjena masa za naredni mesec, prvih

100 zaposlenih sa najvišim zaradama, kao i poslednjih 100 zaposlenih sa najnižim zaradama, izlaznice zaposlenih, na osnovu kojih se može videti koliko zaposleni sedmično obustavljaju rad za obavljanje privatih poslova, informacije o zakašnjenjima na posao, itd., podaci o sopstvenim zaradama, radna angažovanost (tabelaran podatak koji se dobija na osnovu mesečnih rekapitulacija sati). Ostali zaposleni bi u oblasti zarada imali pristup podacima o ličnim zaradama, (znači pojedinačna lozinka svakog zaposlenog bi omogućila uvid o visini sopstvene zarade), podacima o zarađenim satima, kao i podacima o visini prosečne mesečne zarade u Preduzeću.



Slika 3. Pregled zarada iz baze podataka

Iz oblasti kadrovske evidencije, predstavljenoj na slici 5., top menadžment bi imao pristup, podacima o sistematizaciji radnih mesta (šifre radnih mesta, sa nazivima bodovima i brojem izvršilaca) prosečnom stažu zaposlenih, i dr., a zaposleni bi imali pristup podacima o personalnom radnom stažu (u Preduzeću i van Preduzeća), o broju dana godišnjeg odmora, biltenima, trenutnom broju zaposlenih.



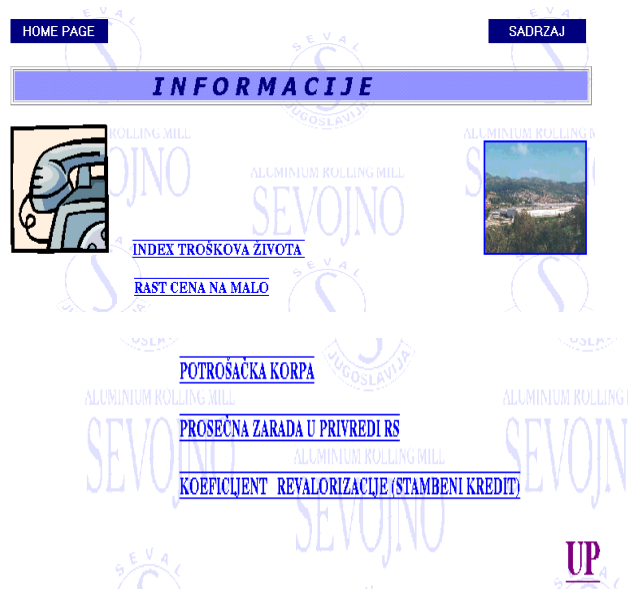
Slika 4. Treći nivo pretrage - informacije kadrovske evidencije

Portal bi sadržao i podatke vezane za Sindikalnu organizaciju Preduzeća Valjaonica aluminijuma. Ti podaci bi bili dostupni članovima Sindikata, kako bi članovi imali uvid u rad Sindikalne organizacije. Takođe, jedan segment bi bio posvećen i listu "Seval" (List DP Valjaonice aluminijuma). Svim zaposlenima u Preduzeću Valjaonica aluminijuma bilo bi omogućeno da pregledaju sve prethodne brojeve ovog lista, kao i da budu informisani o sadržaju narednog broja. Portal bi sadržao i dodatne informacije koje se odnose na određene indikatore privrede Srbije.



Slika 5. Pristup podacima sindikalne organizacije

Na slici 6 dat je prikaz petog nivoa pretrage, podaci bi bili dostupni svim zaposlenima.



Slika 6. Prikaz strukture petog nivoa pretrage

Prikazani koncept razvoja Web portala omogućio bi efikasnije poslovanje eliminacijom papirne dokumenatacije i bez neposrednog kontakta između učesnika u procesu poslovanja. Navedeno predstavlja kratak sadržaj Web portala u ovoj oblasti poslovanja. Naravno, portal bi se mogao upotpuniti i drugim dodatnim informacijama. Dizajnirani su i moduli koji se povezuju sa eksternim aplikacijama preko web servisa i imaju automatsko osvežavanje sadržaja. Struktura portala je razgranata, tako da svaka organizaciona celina ima svoje portale, sa svojim korisnicima, aplikacijama, modulima i sadržajem.

Objavljuvanjem informacija na portalu omogućuje se upravljanje znanjem organizacije i pristup raznim sadržajima. Zaposlenima se pruža mogućnost ličnog profesionalnog razvoja i unapređivanja sposobnosti, znanja i veština, omogućava i podstiče efikasnija razmena iskustava zaposlenih, čuva i primjenjuje postojeće znanje, generiše novo znanje unutar organizacije i snažnije povezuje zaposlene. Intranet, upotpunjen sa portalom znanja pruža mogućnost pristupa različitim vrstama informacija sa svrhom edukacije korisnika te pristup informacijama prema individualnim preferencijama zaposlenih.

4. ZAKLJUČAK

U radu su razmatrane karakteristike KM i E- poslovanja i na osnovu karakteristika navedenih koncepta koji sinergijskim povezivanjem daju veći učinak nego što ih svaki od njih poseduje parcijalnom primenom. S obzirom na značaj ovih konceptata, oni mogu predstavljati kriterijume za utvrđivanje poslovnih performansi organizacije. Vrednost proizvoda ili usluge neke kompanije se bazira ne samo fizičkim resursima, već i na nematerijalnoj intelektualnoj imovini. Neke kompanije su uspešnije od drugih samo zato što poseduju bolje znanje o tome

kako stvarati, proizvoditi i isporučivati dobre proizvode i usluge. Znanje navedenih kompanija je teško limitirati, ono je specifično i jedinstveno, i može se svrstati u dugoročnu stratešku korist kompanije. Dinamična poslovna okruženja u sve većoj meri postavljaju zahtev za implementacijom integrisanog koncepta. KM primenom savremenih tehnologija i razvojem aplikacija, predstavlja strategiju poslovanja koja podstiče konstantnu potragu za iznalaženjem rešenja poslovnih problema koji su uslovljeni promenama nestabilnom poslovnom okruženju.

REFERENCE

1. Anumba, Chimay J., Ruikar, K., *E-Business in Construction*, Wiley, Hoboken, NJ, USA, 2008, E-book ISBN: 9781444302479 , Print ISBN: 9781405182348 , pp. 6- 23.
2. Anon, Humming Bird-enterprise information portals: enabling knowledge management in today's knowledge Economy, 2001, Journal of the Knowledge Economy, ISSN: 1868-7865.
3. Bose, R. , *Knowledge management capabilities and infrastructure for e-commerce*, Journal of Computer Information Systems, 2002 Special Issue, Vol. 42 Issue 5, ISSN: 0887-4417, pp. 40-49.
4. Caldwell, N., Clarkson PJ., Rodgers P., Huxor A., *Web-based knowledge management for distributed design*, IEEE Intelligent Systems , 2000, vol.15 issue 3, ISSN : 1541-1672, pp. 40–47.
5. Dalkir, K., *Knowledge Management in Theory and Practice* (2nd Edition), MIT Press 2003, E-book ISBN: 9780262295383, Print ISBN: 9780262015080, pp. 5-45.
6. Ђорђевић – Бољановић, J., *Менаџмент знања*, Дата Статус, Београд, 2009, ISBN : 978-86-7478-096-1, st.48-52.
7. Firestone, Joseph M., *Portal progress and KM: The Plumtree portal system*, KM World, Vol. 12, Issue 1, Information Today, Inc., 2003, ISSN: 10998284, pp. 19 – 37.
8. Guruge, A. *Corporate Portals Empowered with XML and Web Services*, Digital Press, 2003.
9. Knorr, Eric., *THE NEW ENTERPRISE PORTAL*, Information Knowledge Systems Management, Vol. 26 ,Issue 2, 2004, InfoWorld 2004, ISSN : 1389-1995 ,p 42-48.
10. Malhotra, Y., *Knowledge management for e-business performance: advancing information strategy to Internet time*, Information Strategy, The Executive's Journal, 2000, Vol. 16 Issue 4, ISSN: 07438613, pp. 5 -16.
11. Mercy, J. S. *A Better Understanding of the Enterprise Information Portal Market*, 2005.
12. Nissen ME., Kamel MN., Sengupta C., *A framework for integrating knowledge process and system design*, Information Strategy, The Executive's Journal, 2000, Vol. 16 Issue 4, ISSN: 07438613, pp. 17 - 32.
13. Paliwoda, S., *E-Business*, Emerald Group Publishing Ltd, 2004, E-book ISBN: 9781845444082, Print ISBN: 9780861769209 ,pp. 48-58.

14. Ryan, J., editor. *ServiceWare: the strategic benefits of knowledge management*. <http://www.techguide.com>.
15. Rapoza, Jim., *Portals & Knowledge Management ; Portals and knowledge management systems have proved their worth to enterprises through their ability to find and centralize all the important applications*, eWeek, Ziff Davis Enterprise Inc, 2003, Vol. 20, Issue 4, ISSN : 15306283.
16. Stephen, A., Oppong, David C., Yen, Jeffrey W., Merhout., “A new strategy for harnessing knowledge management in e-commerce”, *Technology in Society*, Vol. 27, Issue 3, ISSN : 0160791, pp. 413-435.
17. Sugumaran, V., *An agent-based knowledge management framework for the e-commerce environment*, *J Comput Inf Syst* 2002, Vol. 42, Issue 5), ISSN: 0887-4417, pp.63 - 73.
18. Thierauf, Robert J. , *Knowledge Management Systems for Business*, Greenwood Press, 1999, Print ISBN: 9781567202182, E - book ISBN: 9780313003714 , pp. 70 – 96.
19. Vacca, John Loshin, Peter., *Electronic Commerce*, 4th Edition, Charles River Media , 2002, E- book ISBN : 9781584500643, Print ISBN : 9781584500643, pp. 3 -35.
20. Waltz, E., *Knowledge Management for the Intelligence Enterprise*, Artech House, 2003, E – book: ISBN: 9781580534864, Print ISBN: 9781580534949, pp.1- 51.

HUMAN CAPITAL IN FUNCTION OF THE COMPETITIVENESS OF IMPORTANCE COMPANY

Petronije Jevtić¹, Ljiljana Stošić Mihajlović¹, Jasmina Starc²

¹Visoka škola primenjenih strukovnih studija, Vranje, Serbia; ²Fakultet za poslovne in upravne vede, Novo Mesto, Slovenia

Abstract: This paper wants to stress the importance of intellectual capital, especially in the time varying business environment. Relatively little is known in the literature about the impact of intellectual capital on the competitive advantage. Author of the article believes that intellectual capital is "knowledge" and "experience", which directly contribute to the survival and sustainability of the organization, as well as its competitiveness. Intellectual capital includes knowledge and competencies that "live" with the employees in the company. Organizations use special forms of strategies to consolidate their internal capabilities. However, very few studies dealing with the assessment of the relationship between the vital capacity of the organization; intellectual capital and business strategy. In the future, knowledge will be the key factor in corporate growth and development. Companies increasingly depend on the ability to evaluate and develop their knowledge and skills and to manage them. In the modern knowledge-based economy, it is widely recognized by managers and theorists that people (human resources) are the most critical assets of an organization. This paper seeks to identify the existence of a link between the organization's operations, its strategy and management of intellectual capital. The literature argues that the difference between the market value of the organization and its "book value" depends on its intellectual capital. To be able to cope with the conditions of constant changes of the market and technologies, companies need to develop skills and competencies necessary for realignment and adaptation to their environment.

Keywords: intellectual capital, competitive advantage, knowledge-based economy, strategy.

1. UVOD

Konkurencija primorava mnoge kompanije da akumuliraju intelektualnu imovinu i da ih koriste efikasno kako bi pokrenule profitabilne akcije (Bismuth and Tojo, 2008). U dvadesetom vijeku pojavljuju se novi koncepti „informaciono društvo", "društvo znanja", i "ekonomija znanja", koji ističu ulogu znanja kao ključnog faktora privrednog rasta (Lavanderos, 2008.). Za razliku od ostalih primarnih resursa, znanje se korištenjem ne umanjuje, već dobija na dubini i deli sa drugima. Iz tog razloga, snažne firme se oslanjaju na upravljanje znanjem koje će obezbijediti dodatne vrednosti znanju zaposlenih, proizvodnji i interakciji.

U budućnosti, sve manje ljudi će obavljati fizičke poslove, a sve više ljudi će koristiti mozak za rad. To je intelektualni kapital. On se ne pojavljuje u bilansu stanja kompanija, ali

ima veću vrednost za organizacije od fizičke imovine. Sve više i više firmi identifikuju svoje jezgro kompetentnosti kao nevidljivu aktivu nego vidljivu (Bizmuta i Tojo, 2008; Hsu i Fang, 2008). Sve je rašireniji stav da performanse bilo koje organizacije, u suštini zavise od znanja zaposlenih, primjene i integracije tog znanja u strukturama organizacije i njihovih veza odnosa (Silvi i Cuganesan, 2006.).

Ekonomsko bogatstvo sve manje zavisi od korišćenja zemljišta, prirodnih resursa, opreme i kapitala, a sve više zavisi od informacija, znanja i njegove primjene. Efikasnim upravljenjem znanjem poboljšava se intelektualni kapital organizacije.

Društvo ne može da napreduje bez jačanja i razvoja intelektualnog kapitala, posebno u periodima nepovoljne ekonomske situacije i poslovnog okruženja. U savremenoj ekonomiji znanja, ljudi (ljudski resursi) su najkritičnija sredstva koja organizacije imaju. Međutim, u praksi, ljudski resurs (HR) često postaju prvi resurs koji bude marginalizovan zbog dominacije troškova. Intelektualni kapital je "znanje" i "iskustvo" koji direktno doprinose krajnjem rezultatu kompanije i koji direktno doprinose preživljavanju i održivosti organizacije. Intelektualni kapital obuhvata znanja i kompetencije koje posjeduju zaposleni u kompaniji. On uključuje „nematerijalni“ intelektualni kapital znanja koji se odnosi na zaposlene, kupce, prodavce, vlasnike, investitore, konkurente i sve druge partnerske veze koje utiču na uspješnu održivosti organizacije.

Znanje je postalo najznačajniji ekonomski resurs i zamenjuje finansijski i fizički kapital kao najvažniji kapital u novoj ekonomiji (O'Donnell et al , 2003, Demediuk, 2002,). Eksplozivni rast informacija u novoj ekonomiji usmerava pažnju na važnost upravljanja sredstvima u organizacijama zasnovanim na znanju. Mnoga ranija istraživanja su utvrdila da prilagođavanje poslovne strategije i unutrašnjih mogućnosti organizacije vode ka superiornim performansama (Finney , Kembel i Pael, 2004; Pits i Lei, 2003).

Interne mogućnosti organizacije obuhvataju široka korporativna znanja, veštine i aktivnosti. U novim ekonomijama sredstva su zasnovana na znanju, tako da znanja ugrađena u pojedince i organizacije čine većinu internih sposobnosti organizacije. Dakle, organizacioni uspeh i performanse zavise od toga koliko dobro organizacija upravlja svojim sredstvima zasnovanim na znanju.

Prema Stevart (2002), nova ekonomija stoji na tri stuba:

- 1) znanje postaje ono što kupujemo prodajemo i radimo.
- 2) sredstva zasnovanih na znanju postaju najvažnija za organizaciju.
- 3) u cilju razvijanja novih tehnika menadžment tehnike, novih tehnologija i novih strategija, potrebno je objasniti na znanja zasnovana sredstva.

2. POJAM INTELEKTUALNOG KAPITALA

Pojam intelektualnog kapitala još uvek nema jedinstvenu definiciju. Jedno od često korišćenih pojmovnih određenja intelektualnog kapitala navodi da je to sposobnost da se nevidljiva imovina poput znanja pretvara u proizvode i usluge koji imaju vrednost. Posmatrano u poslovnom kontekstu, kapital se odnosi na bilo koju imovinu koja će proizvoditi buduće novčane tokove. To su dobro poznate vrste aktive koje su „opipljive“ u

praksi. Dakle, materijalni kapital se odnosi na fizička i finansijska sredstva organizacije. Vrednost te imovine može se videti u bilansu stanja finansijskih evidencija društva. Pod fizičkom imovinom podrazumeva se zemljište, mašine, inventar, biljke, kamioni, i dr., dok finansijska sredstva označavaju vlasnički udio kapitala, zadržanu dobit, obrtni kapital, pripremne troškove, potraživanja, i dr.

U poslednjim decenijama, sve veću važnost dobijaju nematerijalna ulaganja, kao što su veštine radne snage i njena organizacija, koja postaju od ključne važnosti za određivanje budućnosti profita. Problem je kako kvantifikovati nematerijalne vrijednosti. Zato ove vrste imovine ostaju uglavnom nevidljive za spoljašnji svet. U računovodstvenom smislu ne postoje parametri kojima se meri suština ljudskog kapitala pojedinca. Termin "intelektualni kapital" (Sullivan, 2000) generalno se odnosi na sve resurse koji određuju vrednost neke organizacije, kao i konkurentnosti preduzeća. Ovaj pojam nije lako prevesti u finansijskom smislu. Iz tog razloga, često se koristi termin "nefinansijska imovina". Paolo Magrassi definiše ljudski kapital kao "znanja i kompetencija koje žive sa zaposlenima u preduzeću" i definiše organizacioni intelektualni kapital kao "kolektivno znanje, čak i izvan mogućnosti pojedinih zaposlenih, koji doprinosi organizaciji" (Magrassi, 2002).

Intelektualni kapital obuhvata znanja i kompetencije koje poseduju zaposleni u kompaniji. On obuhvata, ne samo organizaciona znanja, već je takođe i industrija znanja. Predstavlja kombinaciju kognitivnih i intuitivnih znanja i iskustava.

Znanja ugrađena u pojedinca i organizaciju, mogu se nazvati "intelektualni kapital" (Demediuk, 2002 ; Saliven , 1999 ; Stjuart , 1997). Iako ne postoji konsenzus o tome šta je intelektualni kapital, postoji široko prihvaćena njegova definicija. Intelektualni kapital se može povećati povećanjem kapaciteta svakog zaposlenog. Prema teoretičarima intelektualnog kapitala, intelektualni kapital se sastoji od tri glavne komponente:

- 1) ljudski kapital,
- 2) relacioni (trenutni) kapital, i
- 3) organizacioni kapital.

Ljudski kapital predstavlja znanje, kompetentnost zaposlenih, iskustva, intuicije i stavovi radne snage. On se odnosi na sposobnost osoblja organizacije da svoje znanje, veštine i iskustvo tokom poslovnog procesa transformišu u nove dodatne vrednosti.

Ljudski kapital je kolektivna sposobnost firme da, na osnovu poznavanja svojih ljudi, izvuče najbolja rešenja, koja su često izvor inovacija i strategija. Individualne kompetencije su važne za organizacije. To su sposobnosti ljudi da se adekvatno ponašaju u različitim situacijama. To uključuje vještine, obrazovanje, iskustvo, vrijednosti i socijalne vještine. Na taj način kompanija dobija na konkurentnosti. Ljudi su jedini pravi faktori u poslovanju. Sva sredstva i strukture, bez obzira da li su u pitanju materijalna ili nematerijalna, rezultat su ljudskog djelovanja i zavise od ljudi. Ljudi stvaraju znanje, nove ideje i nove proizvode, čime se uspostavljaju odnosi koji omogućavaju da procesi zaista rade. Za organizaciju nastaje problem kada ljudi napuštaju organizaciju. Oni sa sobom odnose svoja znanja, kao i unutrašnje, spoljašnje, formalne i neformalne odnose. Intelektualni kapital - posvećenost i kompetentnost radnika - je ugrađen u organizaciju. On postaje ključan za firmu iz više razloga (Ulrich, Dave, 1998, p. 15-26.):

· Intelektualni kapital je jedina značajna imovina jedne organizacije. Većina drugih sredstava (zgrade, postrojenja, oprema, mašine, i tako dalje) počinju da se amortizuju, počevši od dana njihovog pribavljanja. Sa druge strane, kako firma napreduje, intelektualac kapital raste. Menadžer ima zadatak da znanje učini produktivnim i da intelektualni kapital preokrene u vrijednost klijenta.

· Znanje se radom ne smanjuje, već se povećava. Kvalitet usluga obično dolazi iz odnosa zasnovanim na stručnosti i posvećenosti pojedinaca.

· Zaposleni sa najvećim intelektualnim kapitalom u suštini postaju volonteri. Oni su emotivno vezani za firmu.

· Još uvijek, mnogi menadžeri ignorišu ili umanjuju značaj intelektualnog kapitala.

· Zaposleni koji posjeduju najviše intelektualnog kapitala često su najmanje cijenjeni.

· Sadašnji ulaganja u intelektualni kapital su često pogrešno usmerena.

Obukom i obrazovanjem profesionalaca, kod njih se postiže razumevanje kako ljudi uče, dele znanje i rade zajedno. Na taj način kod njih se razvija svest kako kultura organizacije može da utiče na inicijative za učenje, koliko je teško promeniti kulturu jedne organizacije i kako se mudrim upravljanjem može iskoristiti ljudski potencijal (Bassi, Laurie, J., 1997.) Učenje će sve više biti ugrađivano u tehnologije, kako bi nam omogućavalo da radimo svoj posao. Učenje kroz rad će postati praksa, a ne izuzetak. Aktivnost nastavnika i pasivnost učenika će biti prošlost. Učenje će biti osnovna radna veština (Plott, 1996,). Učenje postaje kontinuirani proces, nikada se ne završava i uvek se menja. Ono postaje temelj i prilagodljivosti inovacija.

Relacioni (spoljni) kapital je vezan za odnose eksternim, posebno interorganizacionim okruženjem, sa kupcima, dobavljačima, distributerima i drugim povezanim licima. On se odnosi na mreže organizacija i saradnika i njihovo zadovoljstvo i lojalnost kompaniji. To uključuje poznavanje marketing kanala, sadašnjih i potencijalnih kupaca i odnosa sa dobavljačima.

Organizacioni (strukturni) kapital određuje organizacione sisteme, kulturu, praksu i procese, kao što su organizacija poslovanja, strategija, planovi, sistemi komunikacije i sl. Obuhvata intelektualno vlasništvo preduzeća u pogledu patenata, licenci, autorskih prava. Sastoji se od širokog spektra patenata, koncepata, modela, računara i administrativnih sistema. Ovaj oblik kapitala se kreira od strane zaposlenih i na taj način postaje „vlasništvo“ organizacije. Organizacioni (strukturni) kapital može biti stečen izvana. Odluke da se takva sredstva razvijaju ili investira u njih, može se doneti sa određenim stepenom poverenja, jer rad se može obavljati u kući ili naručiti izvana. Takođe, unutrašnjoj strukturi pripada neformalna organizacija, unutrašnja mreža, "kultura " ili" duh "organizacije. Unutrašnja struktura i ljudi zajedno čine ono što mi generalno zovemo „*organisation*“ (Sveiby, 1998).

Strukturni kapital obezbeđuje kompaniji organizacionu sposobnost da zadovolji zahteve tržišta. To podrazumeva rutine i strukture organizacije koje olakšavaju zaposlenima da urade zadatke koji će omogućiti postizanje optimalnog intelektualnog učinka, kao i ukupnog poslovnog učinka. Ako organizacija nema dobre sisteme i procedure, onda njen ukupan intelektualni kapital neće dostići svoj puni potencijal, bez obzir na intelektualni nivo njenih pojedinaca (Bontis, Nick 1996). Prema Van Buren, strukturni kapital se sastoji od

inovacija kapitala (sposobnost organizacije da inoviraju i stvaranja nove proizvodne i usluge) i procesa kapitala (procesi organizacije, tehnike, sistemi i alati) (Van Buren, Mark E., 1999).

Strukturni kapital se sastoji od neke organizacione strategije, internih mreža, sistema, baza podataka i datoteka, kao i legalnih prava na tehnologiju, procese, pronalazke, autorska prava, pečate, poslovne tajne, brendove i licence. Ulaganjem u, nove inicijative, tehnologije i nove procese razvoja, strukturni kapital se poboljšava (Knight, Daniel J., Performans 1999). Strukturni kapital firme se sastoji od četiri elementa (Saint-Onge, Hubert, Tacit Knowledge 1996):

- *Sistemi* - način na koji se procesi organizacije (informacije, komunikacije, donošenja odluka) i izlaza (proizvoda / usluga i kapitala) provode .
- *Struktura* - raspored obaveza i odgovornosti koje definišu položaj i odnos između članova organizacije.
- *Strategija* - ciljevi organizacije i načini kojima nastoje da ih ostvare.
- *Kultura* - zbir pojedinačnih mišljenja, stavova, zajedničkih vrednosti i normi u organizaciji.

U organizaciji treba da postoji jaka veza između strategije i kulture. Kultura kompanije doprinosi efiksnijoj realizaciji poslovne strategije. Ako nema stalne veze između strategije, strukture i kulture organizacije, to može predstavljati najveću prepreku za uspeh u sprovođenju promena. Organizacija neće steći konkurentsku prednost koja potiče iz novih strategija i pratećih organizacionih promena ako to nije podržano od strane organizacione kulture.

Neke studije su pokazale da je osobina prakse ljudskih resursa da pomaže u stvaranju prilika za obezbeđenje konkurentnosti (Pehrson, 2001; Kapelli i Kroker-Hefter, 1996). Ljudski resursi se odnose na zalihe akumuliranog znanja, veština i sposobnosti koje pojedinac posjeduje (Kamoche, 1996) i upravljanje ljudskim resursima koje se koristi da se poveća vrednost ljudskog kapitala i vrednost povrata, kao što je produktivnosti (Russells sar 1993, Boudreau i Berger, 1985). U većini literature koja se bavi intelektualnim kapitalom, istraživači se slažu da ljudski kapital ili *know how* zaposlenih predstavlja deo intelektualnog kapitala (npr. Edvinsson i Malone, 1997). Bez obzira na uverenje da je ljudski kapital najvažniji resurs u novoj ekonomiji, isti argument treba da se primeni na druge dve dimenzije intelektualnog kapitala: relacioni kapital i organizacioni kapital.

3. UPRAVLJAČKI INTELEKTUALNI KAPITAL

Sadašnja debata o intelektualnom kapitalu je postavljena u kontekstu promene modela upravljanja i organizacione strukture. To govori da se organizacija kreće od komandovanja i kontrole prema delegiranju, osnaživanju i obuci. Na taj način, svaka organizacija ima priliku da oblikuje način na koji radi.

Menadžment ima zadatak da iskoristi i maksimizira taj potencijal (Devis, Waddington; 1999.). Jasno je da menadžeri koji žele da uvećavaju intelektualni kapital svog preduzeća treba da budu sposobni da povećavaju inteligenciju, podstiču inovacije i integritet obuke. Ovo su tri ključne kompetencije intelektualnog kapitala. Razvijanje ove tri osnovne kompetencije

kapitala predstavlja izazov za menadžere. Znanje se kreira i prenosi kroz razgovor, a lideri moraju ovladati veštinom podsticanja dijaloga između članova tima.

Ako menadžeri efikasno upravljaju znanjem, njihova organizacija će poboljšati svoj intelektualni kapital. Kod intelektualnog kapitala postoje dva nivoa znanja: Eksplicitno i prećutno znanje. Eksplicitno znanje je ono znanje koje može da se kodifikuje u informacije koje su dostupne i sistematski se šire. Prećutno znanje predstavlja iskustvo i intelektualna kreativnost i učenje koje počiva na ljudskim resursima firme.

4. KARAKTERISTIKE INTELEKTUALNOG KAPITALA

Iako je intelektualni kapital u svom potencijalu za generisanje budućih novčanih tokova sličan materijalnoj imovini, on je radikalno drugačiji od opipljivog kapitala u sledećim aspektima:

- Intelektualna imovina nije rivalska.
- Ljudski kapital i Relacioni kapital ne mogu biti u vlasništvu, već moraju da se dele sa zaposlenima, dobavljačima i kupcima. Respektovanje ovog kapitala zahteva negovanje.
- Strukturni kapital je nematerijalna imovina koja može biti u vlasništvu i pod kontrolom menadžera. Međutim, ne može se lako sa njim trgovati pošto za njega nema tržišta.
- Firme koje iskoriste svoj intelektualni kapital su u stanju da generišu veći profit.
- Ljudski, strukturni i relacioni kapital često deluju zajedno u razumnim kombinacijama, te iz tog razloga, nije dovoljno da se investira u ljude, sisteme i kupce odvojeno, već u kombinacijama koje proizvode krajnju vrednost .

5. OČUVANJE INTELEKTUALNOG KAPITALA

U velikom broju organizacija postoji problem očuvanja kapitala. Zaposleni se osipaju kroz otpuštanja, ostavke, penzionisanja i druge oblike odlaska zaposlenih iz kompanije. Menadžment organizacije treba da predviđa odlaske najuspešnijih zaposlenih iz organizacije, kako bi se ublažili ili otklonile negativne posledice tih odlazaka. Zaposleni imaju veliko znanje o svom poslu i poslovnim procesima, poseduju informacije koje su značajne za njihove poslove, znaju kako se stvari odvijaju i šta najbolje funkcioniše. Nažalost, danas u većini slučajeva njihovo većina znanja odlazi sa zaposlenima i ono nije preneto ili stavljeno na raspolaganje drugima.

U vreme ekonomske krize, usled stalnih otpuštanja, smanjenja i/ili eliminacija, smanjuje se lojalnost zaposlenih, koji traže prvu priliku da pronađu nove mogućnosti zaposlenja. Poslodavci koji ne pridaju puni značaj zaposlenih ne bi trebalo računati na njihovu lojalnost. Mnogi poslodavci ne mogu u potpunosti shvatiti šta je potrebno da se zadrže dobri radnici.

6. ZNAČAJ IMPLEMENTACIJE INTELEKTUALNOG KAPITALA

Danas je od velikog značaja da zaposleni posjeduju znanja o svom poslu, poslovnim procesima, informacije koje podržava njihov posao i te procese, kao i znanje o tome kako na najefikasniji način da se stvari dešavaju i uvid o tome šta funkcioniše, a šta ne. Na žalost, u većini slučajeva, zaposleni nemaju podsticaj da dele svoje znanje. Njihovo znanje nije preneto ili stavljeno na raspolaganje drugima. Ovo znanje je potencijalno izgubljeno u organizaciji. Prema tome, uspešna primena novih tehnologija zavisi od više faktora, uključujući efikasno upravljanje ljudskim resursima sistemima i procesima.

Većina autora smatra da su ljudi (ljudski resursi) najkritičnija imovina organizacije u savremenoj ekonomiji znanja. Oni su ključni za uspeh savremenih poslovnih preduzeća, bilo da se radi o malim i srednjim, ili velikim preduzećima korporacijama.

Globalne korporacije imaju još zahtevnije uslove za razumevanje intelektualnog kapitala s obzirom na razlike u jeziku, kulturi, vremenskoj zoni, kao i svim drugim oblicima komunikacijskih zahteva.

Korporativno znanje je fluidno i ono treba da odgovori na protok potrebnog znanja u celoj korporaciji. Imajući u vidu da se najveći deo intelektualnog kapitala nalazi u glavama zaposlenih, organizacija treba, u cilju preuzimanja znanja da ohrabri ljude da ga dele.

Ljudski kapital se može posmatrati kao primarni alat za organizaciju koja uči, utičući na njenu sposobnost da stekne nova znanja (Kang & Snell, 2009). Fokus je na kompetencijama, stavovima i intelektualnim sposobnostima, jer kompetencije spadaju u najznačajnije delove ljudskog kapitala. Nadležnost zaposlenog se posmatra kao nešto što je pojedinac u stanju da uradi ili deluje u okviru kompanije. Stoga obuhvata znanja i veštine. Znanje nije urođeno i ono mora da se usvoji. Veštine se odnose na praktičnu primenu znanja.

7. OBUKA I RAZVOJ ZAPOSLENIH

Organizacije moraju kontinuirano upravljati sa četiri ključna resursa: novac, oprema, informacije i ljudi. Investicije u savremeniju opremu podstiču bržu i efikasniju proizvodnju. Ulaganje u trening i razvoj zaposlenih može povećati njihovu produktivnost i efektivnost u poslu (Burke and Day's, 1986.). Svrha razvojnih programa obuke i upravljanja je poboljšanje sposobnosti zaposlenih, kao i organizacionih sposobnosti. Organizaciono ulaganje u znanje i veštine zaposlenih, vraća se u vidu povećanja produktivnosti i efikasnosti. U cilju efikasnog upravljanja razvojnim programima, potrebno je imati u vidu da su zaposleni odrasli učenici (Forrest & Peterson, 2006). Knowles's (1990) objavljuje teoriju učenja odraslih ili "Andragogija", baziranu na pet ideja:

- odrasli treba da znaju zašto nešto uče;
- odrasli treba da budu samo – usmereni;
- odrasli donose više iskustva u vezi sa radom u situacijama učenja;

- odrasli unose iskustva u učenje zasnovano na problemima - centriran pristup učenju; i
- odrasli su motivisani da uče (spoljašnji i unutrašnji motivatori).

Pošto je problem u centru pristupa znači da zaposleni će bolje učiti kad mogu videti kako im učenje može pomoći u obavljanju zadatka ili u nošenju sa problemima sa kojima se suočavaju u radu.

8. TEORIJE LJUDSKOG KAPITALA

Izraz intelektualni kapital (IK) je dobio na značaju u istraživanju, prvenstveno zbog jačanja nove "ekonomije znanja" koja se ogleda u širenju masovne proizvodnje zasnovane na ekonomiji koja se oslanja na informacije i znanja (Rastogi, 2000). William Pettyje tvrdi da razlozi za bogatstvo kompanije leže u vrednosti radnika.

Pregled literature intelektualnog kapitala pokazuje da teorija o IC kao koncept evoluirao od strane stvarne poslovne prakse, a ne na teorijski zasnovanom pristupu (Petti & Guthrie, 2000). Oslanjanje samo na tradicionalne finansijske računovodstvene prakse sve više i više može se posmatrati kao neprikladno za procenjivanje ukupne vrednosti firme, jer nema mogućnost da istakne vrednost nematerijalnih ulaganja (Rastogi, 2003; Bontis, 2001). Osnaživanje na osnovu ekonomije znanja čini da je neophodno da se razviju metode koje ističu obe vrijednosti, materijalnu i nematerijalnu imovinu. Neki autori navode ograničenja koja imaju teorijske osnove za praktičare koncepta ljudskog i intelektualnog kapitala (Bontis, Dragonetti, Jacobsen i Roos, 1999, Grasenick i Low, 2004). Bilo je raznih pokušaja teoretičara da se pozabave suštinom ljudskog kapitala. Na primer računovodstvo ljudskih resursa (HRA) posebno je obezbedilo sveobuhvatan model mikro - ekonomske vrednosti pojedinaca u specifičnim organizacijama (Flamholtz, 1985 na osnovu pionirskog rada Hermanso, 1964). HR pokušava da meri HR u finansijskom smislu, kroz primenu računovodstvenih principa za ljude u smislu njihove vrednosti imovine. Sa druge strane, neki autori kritikuju svođenje HR na finansijsku metriku (Bueno, Salmador i Merino, 2008, Pfeffer, 1997). Kada je u pitanju stav da su ljudi (HR) u organizacijama ključni u ekonomiji znanja, može se reći da ne postoji neslaganje. Međutim provođenje retorike u praksu često postaje problematično.

9. ZNAČAJ INTELEKTUALNOG KAPITALA ZA KONKURENTSKU PREDNOST

"Oduzmite mi moje fabrike; oduzmite mi moj novac i sve, - samo mi ostavite moje ljude: i za dve ili tri godine ja ću sve nadoknaditi." (Andrew Carnegie).

Poznati američki industrijalac sa početka XX vijeka

Firma koja razvija karakteristično jezgro kompetentnosti, može obezbediti konkurentsku prednost (Hoffman et al., 2006: 140). U literaturi se navodi da se konkurentna prednost znatno lakše postiže u onim firmama koje uspu da mobilišu svoju nematerijalnu imovinu u vidu znanja, veština, tehnoloških iskustava i strateških sposobnosti u cilju stvaranja novih procesa, proizvoda ili ponuda usluga (Tovstiga i Tulugurova, 2007: 697). Iz tog

razloga, uspešna mobilizacija ovih nematerijalnih sredstava može biti identifikovana kao prepoznatljivo jezgro kompetentnosti za organizaciju. Za neku kompaniju može se reći da ima konkurentsku prednost ako je njena profitabilnost veća od prosečne profitabilnosti u toj industriji u određenom vremenskom periodu. Konkurentska prednost podrazumeva mnogo više nego finansijske performanse i vrednosti za akcionare.

Globalno konkurentsko okruženje koje nas okružuje, zahteva, brze reakcije, dinamičke mogućnosti i fleksibilnost. Glavni organizacioni cilj je pomeren je sa maksimiziranja profita na maksimiziranje vrednosti. Generisanje vrednosti kompanije preko nematerijalnih ulaganja, odnosno kroz intelektualni kapital, nosi veći značaj nego finansijska dobit. Kako bi obezbedila održivu konkurentsku prednost, kompanija treba da veći značaj pridaje unutrašnjim faktorima nego spoljnim. Ovo prvenstveno iz razloga što se spoljašnji uslovi mogu kontrolisati samo do određene tačke, a često se ne mogu uopšte kontrolisati. S druge strane, organizacija može upravljati unutrašnjim resursima, odnosno internom imovinom organizacije. Osnovni strateški pravci organizacije treba da budu usmereni na unutrašnje organizacione faktore. Razvoj tehnologija je doveo do toga da fizička sredstva i finansijski kapital više nisu primarni resursi na kojima se zasniva konkurentna prednost društva zasnovanog na znanju, jedina konkurentna prednost postaje znanje. Znanje ne podrazumeva stvaranje ljudi sami po sebi. Znanje je rezultat interakcije ljudi i grupa koja na kraju rezultira novim organizacionim znanjem. Sve je očiglednije da na opstanak na svetskom tržištu mogu računati samo one kompanije koje budu sposobne da proizvode, upravljaju i kontinuirano uvećavaju svoj intelektualni kapital.

10. ZAKLJUČAK

Znanje danas predstavlja najznačajniji ekonomski resurs, koji zamjenjuje finansijski i fizički kapital kao najvažniji kapital u novoj ekonomiji. Nematerijalna ulaganja, kao što su veštine radne snage i njena organizacija dobijaju sve veću važnost. Ljudi su postali jedini pravi faktori u poslovanju organizacije. Radom se znanje ne smanjuje. Naprotiv, ono se radom povećava.

Ljudi su najkritičnija imovina organizacije. Od njih najviše zavisi uspeh organizacije. S obzirom da se najveći deo intelektualnog kapitala nalazi se u glavama zaposlenih, organizacija treba da ohrabruje zaposlene da dele svoja znanja. Zaposleni koji napuštaju organizaciju sa sobom odnose veći deo svojih znanja. Menadžment organizacije treba da preduzeme mere kako bi se ublažile ili otklonile negativne posledice tih odlazaka.

Tradicionalne finansijske računovodstvene prakse nisu prikladne za procenjivanje ukupne vrednosti firme iz razloga što ne postoji mogućnost prikazivanja vrednosti nematerijalnih ulaganja, zbog čega je neophodno razvijati metode koje ističu i materijalnu i nematerijalnu imovinu.

Sve više se menja stav po pitanju visokog obrazovanja. Ranije je akcenat stavljan na bazno obrazovanje, dok se sada pažnja usmerava na nove investicije u visoko obrazovanje. Jačanjem visokog obrazovanja stvaraju se pretpostavke budućeg ekonomskog i društvenog razvoja u obliku ljudskog kapitala

Kako bi opstale na svetskom tržištu, kompanije će morati da kontinuirano uvećavaju svoj intelektualni kapital. Uspeh organizacije zavisi od sposobnosti stvaranja, otkrivanja,

prihvatanja, širenja i merenja znanja. Unapređenjem organizacionog učenja, organizacija povećava svoje znanje i intelektualni kapital.

REFERENCE

- 1) Bassi, Laurie, J. (1997) Harnessing the power of intellectual capital, *Training&Development*, 51 (12), p. 25-30.
- 2) Bontis, N. (1996) There's a Price On Your Head: Managing Intellectual Capital Strategically, *Business Quarterly*, 60 (4), Summer 1996, p. 40-47.
- 3) Bontis, N. (1999) "Managing Organisational Knowledge by Diagnosing Intellectual Capital: Framing and advancing the state of the field", *International Journal of Technology Management*, Vol 18, 433-462.
- 4) Bontis, N., Dragonetti, N. Jacobsen, K. and Roos, G. (1999) "The Knowledge Toolbox: A Review of the Tools Available to Measure and Manage Intangible Resources", *European Management Journal*, Vol 17, No. 4, pp 391-402.
- 5) Bueno, E., Salmador, M. and Merino, C. (2008) "Génesis, Concepto y Desarrollo del Capital Intelectual en la Economía del Conocimiento: Una reflexión sobre el Modelo Intellectus y sus aplicaciones", *Estudios de Economía Aplicada*, Vol 26, No. 2, pp 43-64
- 6) Burke, Michael J.; Day, Russell R., —A cumulative study of the effectiveness of managerial training. || , *Applied Psychology*, Vol 71(2), May 1986, 232-245.
- 7) Demediuk, P. (2002). Intellectual capital Reporting: New Accounting for the New Davies, Jan; Waddington, Alan, *The Management and Measurement of Intellectual Capital, Management Accounting – London*, 77 (8), p. 34.
- 8) Demediuk, Peter (2002) *Intellectual capital reporting: new accounting for the new economy*. Asian academy of management journal, 7 (1). pp. 57-74. ISSN 1394-2603
- 9) Forrest, S., & Peterson, T. (2006). It's called andragogy. *Academy Of Management Learning & Education*, 5(1), 113-122
- 10) Grasenick, K. and Low, J. (2004) "Shaken, not Stirred. Defining and Connecting Indicators for the Measurement and Valuation of intangibles", *Journal of Intellectual Capital*, Vol 5, No. 2, pp 268-281.
- 11) Hofman, J., Hoelscher, M. and Sorenson, R. (2006), Achieving Sustained Competitive Advantage: A Family Capital Theory, *Family Business Review*, 19 (2), pp. 135-145.
- 12) Edvinsson, L., and Malone, M. (1997). *Intellectual capital: realising your company's true values by findings its hidden brainpowers*. New York: Harper Business.
- 13) Finney, R. Z., Cambell, N. D., and Powell, C. M. (2004). Strategies and resources: pathways to success. *Journal of Business Research*, 11, 1-10.
- 14) Flamholz, E. (1985) *Human Resource Accounting*, Jossey-Bass, San Francisco.

- 15) Kamoche, K. (1996). Strategy HRM within a resource-capability view of the firm. *Journal of Management Studies*, 33(2), 213-223.
- 16) Kang, S.C., & Snell, S.A. (2009). Intellectual capital architectures and ambidextrous learning: A framework for human resource management. *Journal of Management Studies*, Vol. 46, No. 1, pp. 65-92.
- 17) Knight, Daniel J., Performans Measures For Increasing Intellectual Capital, *Planning Review*, 27 (2) Mar/Apr. 1999, p. 22-27.
- 18) Majfud, J. (2009), "Intellectual Capital: External Links", *Political Affairs Journal*, Oct. 13, 2009.
- 19) Miller William, Building The Ultimate Resource, *Management Review*, 88 (1) Jan. 1999, p. 42-45.
- 20) O'Donnell, F., O'Regan, P., Coates, B., Kenedy, T., Keary, B., and Bekery, G. (2003). Human interaction: the critical sources of intangible value. *Journal of Intellectual Capital*, 4(1), 82-99.
- 21) Pehrson, A. (2001). The strategic states model: optimum strategies to reach high performance. *Management Decision*, 39(6), 441-447.
- 22) Petty, R., & Guthrie, J. (2000). Intellectual capital literature review: Measurement, reporting and management. *Journal of Intellectual Capital*, Vol. 1, No. 2, pp.155-176.
- 23) Plott, Curtis E, Humphrey John, preparing for 2020, *Training&Development*, 50 (11) Nov. 1996, p. 46-49.
- 24) Pfeffer, J. (1997) "Pitfalls on the Road to Measurement: The Dangerous Liaison of Human Resources with the Ideas of Accounting and Finance", *Human Resource Management*, Vol 36, pp 357-365.
- 25) Rastogi; P.N. (2000). Knowledge management and intellectual capital – the new virtuous reality of competitiveness. *Human System Management*, Vol.19, pp.39-44.
- 26) Rastogi, P.N. (2003). The Nature and Role of IC: Rethinking the process of value creation and sustained enterprise growth. *Journal of Intellectual Capital*, Vol. 4, No. 2, pp. 227-248. Sullivan, P.H. (2000), "Value-driven Intellectual Capital", Wiley & Sons Publishing.
- 27) Russell, C. J., Colella, A., and Bobko, P. (1991). Expanding the context of utility: the strategic impact of personnel selection. *Personnel Psychology*, 46, 781-801.
- 28) Saint-Onge, Hubert, Tacit Knowledge: The Key To The Strategic Alignment Of Intellectual Capital, *Planning Review*, 24 (2) Mar/Apr. 1996, p. 10-14.
- 29) Stewart, T. (2002). *The wealth of knowledge: Intellectual capital and twenty-first century organization*. London: Nicholas Brealey Publishing Limited.

ORGANISATIONAL APPROACH OF HUMAN RESOURCES MANAGEMENT

Ljiljana S. Mihajlović, Petronije Jevtić

Visoka škola primenjenih strukovnih studija, Vranje, Serbia

Abstract: Good quality and comprehensive regulation of human resources management represents significant base for performance of all process in this field. For this reason, in addition to stipulation of general normative acts which should be in function of achieving of organization's goals it is necessary to adopt also group of organizational acts. Those acts are procedures and guidelines for performing of certain activities within human resources management. Making and applying of both types of normative acts should contribute to improvement of processes in said organization subsystem and increase of quality of decisions on human resources.

Keywords: management, human resources, process, normative act, procedure, guidelines.

1. UVOD

U menadžmentu ljudskih resursa (HRM - *Human Resource Management*), kao poslovnoj funkciji i menadžment procesu, veoma je izražena normativna komponenta, kako organizacije, tako i njenog okruženja. Naime, većina odluka o ljudskim resursima organizacije donosi se u skladu sa normama okruženja (*zakonima i podzakonskim aktima*) a na osnovu internih normi organizacije. Ove interne norme ugrađene su dve vrste akata: (a) opšta (pravna) akta i (b) organizacione akte. U *opšte akte* stvrstavamo: statut, pravilnike i odluke opšteg karaktera, a u *organizacione akte* uvršćujemo procedure za obavljane određenih procesa i uputstva za obavljanje određenih radnih aktivnosti (*kao dela procesa, ili kao sadržaj rada određenog radnog mesta*). Imajući to u vidu, pristup u normativnim uređivanju HRM ima niz specifičnosti, koje u velikoj meri razliku od pristupa koji se primenjuje u normiranju ostalih podsistema organizacije. Zbog toga je pre detaljnije razrade procesa normativnih uređivanja HRM potrebno istaći ključne karakteristike ovog podsistema, jer one u velikoj meri determinišu obavljanje procesa iz HRM koje treba i normativno oblikovati.

Pored opštih pravnih akata, kao tradicionalnih normativa za uređivanje prava, obaveza i odgovornosti zaposlenih, značajnu ulogu u obavljanju HRM treba da ostvare navedeni organizacioni akti. Promena uloge normativnih akata iz navedene oblasti zahteva transformaciju njihovog sadržaja, ali i promenu pristupa u njihovom koncipiranju. Tradicionalnim pristupom normiranju, koji se svodio uglavnom na primenu zakonskim odredbi donošenjem opšteg akta o pravima, obavezama i odgovornostima zaposlenih, ne mogu se ostvarivati rezultati koji se očekuju od savremeno koncipiranog menadžmenta

ljudskih resursa. Potrebno je da za to postoje i odgovarajućih organizacioni alati kojima se direktno utiče na kvalitet odluka o ljudskim resursima. Ti alati su odgovarajuće organizacione procedure i uputstva.

2. KARAKTERISTIKE MENADŽMENTA LJUDSKIH RESURSA KAO OSNOVA ZA NJEGOVO NORMATIVNO UREĐIVANJE

Svaka organizacija je socijalna tvorevina nastala radi ostvarivanja određenih ciljeva. Da li će se i u kojoj meri ostvariti ti ciljevi zavisi od radnog i stvaralačkog potencijala zaposlenih u organizaciji, njihove motivisanosti da upotrebe taj potencijal i ostvarenog radnog angažovanja. Iz tog razloga obavljanje svih aktivnosti vezanih za ljudske resurse spada u najznačajnije delatnosti organizacije, jer poslovni rezultati organizacije i njen razvoj u velikoj meri zavise od organizacije HRM, koja se velikim delom kreira odgovarajućim normativnim aktima.

HRM predstavlja veoma **složen** poslovni podsistem organizacije, i to iz više razloga. U obavljanju različitih aktivnosti u procesima menadžmenta ljudskih resursa učestvuje veliki broj subjekata iz organizacije i njenog okruženja - menadžment organizacije, jedinica za ljudske resurse, druge organizacione celine, sindikat organizacije, služba zapošljavanja, obrazovne institucije, različite istraživačke i konsultantske agencije i dr. Svi ti brojni subjekti obavljaju različite aktivnosti, i to najčešće na osnovu određenih pravnih i organizacionih akata, tako da je složenost posledica velikog broja subjekata, različitih aktivnosti i brojnosti normativnih akata kojima su uređena određena pitanja statusnog i procesnog karaktera.

Pored složenosti, HRM karakteriše i **heterogenost interesa** subjekata, koji sa različitim ulogama učestvuju u kreiranju ili obavljanju normiranih procesa. Svaki od njih ima svoje interese, koji međusobno mogu biti delimično ili u potpunosti usklađeni, ali po nekim pitanjima i u određenim situacijama mogu biti i suprotstavljeni.

Većina procesa HRM je po svom sadržaju i kakarakteristima **višedimenzionalna**. Uporedo sa pravnom i organizacionom dimenzijom, koje su dominantne u normativnim aktima organizacije, u mnogim procesima su zastupljene i sledeće dimenzije: psihološka, andragoška, socijalna, ekonomska, etička ... Tako, na primer, popuna upražnjenog radnog mesta ima pravnu dimenziju (*situacija kada se može pokrenuti postupak za popunu radnog mesta, posebni uslovi za rad na radnom mestu, nadležnost za donošenje odluke o oglašavanju/raspisivanju konkursa, nadležnost za donošenje odluke o izboru kandidata, zaključivanje ugovora o radu ...*), psihološku (*motivisanost kandidata za zasnivanje radnog odnosa, njegove intelektualne sposobnosti i karakteristike ličnosti, stav prema organizaciji i dr.*), andragošku (*znanja i veštine koje poseduje, znanja i veštine koje mu nedostaju..*), socijalnu (*porodični i materijalni status kandidata za zasnivanje radnog odnosa, stav grupe u kojoj se vrši popuna radnog mesta prema novozaposlenom ...*), ekonomsku (*ekonomska opravdanost popune radnog mesta, plata i naknada za ostvarene radne rezultate, materijalni i ostali trškovi vezani za radno mesto ...*), etičku (*savesno obavljanje procesa selekcije, nefavorizovane kandidata na osnovu elemenata koji nemaju veze za njihovim radnim potencijalom i potrebama organizacije. nediskriminacija određenih kandidata ...*).

Imajući u vidu navedene karakteristike HRM, pristup normativnom uređivanju obavljanja ove delatnosti se bitno razlikuje od normativnog uređivanja ostalih podsistema organizacije. Značaj ljudskih resursa i karakteristike HRM (*složenost, heterogenost i višedimenzionalnost*) zahtevaju sasvim nov pristup u normiranju ovog podsistema organizacije, koji u osnovi karakteriše primena principa totaliteta i integriteta u uređivanju svih pitanja koja se odnose na ljudske resurse organizacije.

Totalitet se svodi na sagledavanje svih eksternih i internih elemenata koji utiču na funkcionisanje HRM u konkretnoj organizaciji: propisa koji se primenjuju, normativnog sistema organizacije, procesa, dokumentacije ... Princip **integriteta** podrazumeva povezivanje svih eksternih i internih elemenata, koji su direktno ili indirektno vezani za ljudske resurse, u jednu celinu - *HRM organizacije*.

3. NORMATIVNI AKTI O MENADŽMENTU LJUDSKIH RESURSA

Obavljanje većine procesa u okviru menadžmenta ljudskih resursa je u funkciji donošenja odluka o ljudskim resursima - njihovim radnom statusu i na toj osnovi o pravima, obavezama i odgovornostima. Pravni osnov za donošenje tih odluka sadržan je u odredbama opštih akata organizacije, koji se najčešće donose u formi pravilnika (Učur, M., 2007). Ti akti sadrže materijalno-pravne odredbe o pravima, obavezama i odgovornostima, definišu nadležnost za donošenje odluke i često, ali ne uvek, razrađuju postupak za ostvarivanje tih prava, obaveza i odgovornosti. Ostvarivanje tih prava vrši se donošenjem odgovarajućih pravnih odluka, koje, sa aspekta upravljanja poslovanjem i razvojem organizacije, treba da doprinesu ostvarivanju određenih poslovnih ciljeva organizacije. Deo tih ciljeva vezan je njene ljudske resurse, bez obzira da li su oni formulisani u okviru opšte strategije organizacije ili strategije menadžmenta ljudskih resursa (Coulter M, 2010). Iz tog razloga odluke o ostvarivanju prava, obaveza i odgovornosti zaposlenih su po svom karakteru i poslovne odluke jer se njihovim donošenjem i sprovođenjem obezbeđuje i funkcionisanje organizacije. Za pripremanje i donošenje optimalnih odluka iz navedene oblasti potrebno je da se u procesu njihove pripreme, ali i sprovođenja obavi niz različitih aktivnosti. Način obavljanja tih aktivnosti u velikoj meri utiče na kvalitet tih odluka kao i na rezultat njihovog sprovođenja, pa se iz tog razloga posebna pažnja mora posvetiti sadržaju i načinu obavljanja procesa iz oblasti menadžmenta ljudskih resursa. Da bi se ti procesi uvek odvijali na utvrđen način potrebno ih je normirati pisanim aktima. To se u praksi čini propisivanjem određenih procedura i uputstava (Armstrong M. 2009). Procedure, po pravilu, sadrže spisak svih aktivnosti koje treba obaviti u okviru određenog procesa, određuju nosioce (*izvršioce*) svake od aktivnosti, preciziraju način obavljanja aktivnosti, određuju ulazne dokumente koji služe da bi se određena aktivnost obavila i izlazne dokumente koji nastaju kao rezultat njenog obavljanja. Uputstvima se detaljnije opisuje obavljanje jedne ili više složenijih radnih operacija. Obe vrste ovih akata (*opšta pravna akta i organizaciona akta*) čine ključne elemente normativnog i organizacionog sistema organizacije, od čijeg kvaliteta u velikoj meri zavise i efekti menadžmenta ljudskih resursa.

Opšti akti predstavljaju klasične pravne akte organizacija, sa veoma dugom tradicijom. Organizacioni akti su nova vrsta akata koji su vezani prevashodno za tehnologiju obavljanja

određenih radnih aktivnosti da bi se na najbolji način ostvarili željeni rezultati određenog procesa. Funkcija ovih akata je:

- obezbeđenje svih informacija o tome Šta, Ko, Kada i Kako treba da uradi,
- efikasno obavljanje svih procesa iz oblasti HRM,
- stvaranje osnove za donošenje optimalnih odluka o ljudskim resursima i
- rasterećenje opšteg akta od tehničkih odredbi.

Ovi akti imaju veliku tradiciju u organizaciji osnovne delatnosti organizacije, nastali su u proizvodnim kompanijama koje su procedurama i uputstvima uređivali obavljanje proizvodnih procesa. Njihova funkcija se svodila prevashodno na postizanje maksimalne produktivnosti uz ostvarivanje željenog kvaliteta proizvoda, odnosno usluge. Istovremeno su predstavljali i jako dobru osnovu za trening novozaposlenih i lica kojima se poveravaju poslovi koje ranije nisu obavljali. Time su ovi akti direktno doprinosili postizanju i održavanju određenog kvaliteta rada zaposlenih.

Motiv njihovog donošenja nije bilo izvršavanje neke zakonske obaveze, već zadovoljavanje potreba organizacije. Iz tog razloga oni su sadržali samo odredbe o obavezama zaposlenih da određene radne aktivnosti obavljaju na propisani način, tako da je kod njih dominirala organizaciono-tehnološka komponenta, za razliku od opštih akata u kojima dominira pravna komponenta.

4. PROCES DONOŠENJA NORMATIVNIH AKATA O MENADŽMENTU LJUDSKIH RESURSA

Navedne karakteristike HRM determinišu sadržaj normativnih akata o tom podsystemu, ali i celokupan pristup normativnom uređivanju. Zbog velikog stepena međusobne povezanosti između elemenata zakona, podzakonskih akata, opštih akata, procedura i uputstava neophodno je da se izrada nacrtu normativnih akata, pre svega opštih, zasniva za integrisanom pristupu. Ovaj pristup, pored ostalog, karakteriše:

- uspostavljanje konekcije svake odredbe sa konkretnim odredbama zakona, podzakonskih akata, drugih opštih akata, procedura i uputstava;
- kompletan uvid u sve odredbe propisa, opštih i organizacionih akata koje su međusobno povezane;
- jednostavna i efikasna izmena odredbi i njihovo međusobno usaglašavanje kada dođe do izmena ili dopuna propisa i/ili normativnih akata organizacije;
- povećana efikasnost u primeni odredbi normativnih akata ...

Proces izrade opštih akata je složen, jer se zasniva na primeni različitih pravnih i organizacionih osnova i sastoji se iz niza aktivnosti koje obavljaju različiti subjekti. Rezultat obavljanja tog procesa treba da bude donošenje opšteg akta čijim se sprovođenjem ostvaruju

određeni ciljevi organizacije. Pošto je izrada i usvajanje opštih akata u većini organizacija standardan proces, nema potrebe za detaljnijom razradom faza njegovog obavljanja. Bitno je samo naglasiti da je funkcija teza simplifikacija razmatranja mogućih rešenja, koja mogu biti i alternativno data, da bi se nakon njihovog usvajanja pristupilo formulaciji pravnih odredbi. Zato se u tezama, na jedan maksimalno kondenzovan način, formulišu moguća opredeljenja sa dodatnim objašnjenjem razloga za takvu formulaciju, ukazuje na moguće rizike, formulišu očekivani rezultati ako se teze prihvate, prikazuju posledice ako se one ne prihvate i specificiraju uslovi koje treba obezbediti da bi se ta opredeljenja sprovela. Pre izrade teza i nacrtu opštih akata, a to važi i za organizaciona akta, utvrđuju se ciljevi koji se žele ostvariti sprovođenjem njihovih odredbi i indikatori za praćenje i ocenjivanje njihove realizacije.

Ciljevi zavise od vrste opšteg akta koji treba doneti i potreba i mogućnosti organizacije. Oni su uvek specifični i u biti se svode na potrebu da se promeni ili zadrži određeno stanje u oblasti HRM.

5. UMETO ZAKLJUČKA

Stepen ostvarivanja ciljeva može se utvrđivati samo na osnovu relevantnih indikatora. Iz tog razloga za svaki od utvrđenih ciljeva potrebno je utvrditi jedan ili više indikatora za merenje rezultata ostvarenih obavljanje procesa koji je u funkciji realizacije tog cilja.

Procedurama i uputstvima, kao organizacionim aktima, ne utvrđuju se prava, obaveze i odgovornosti zaposlenih. Iz tog razloga ovi dokumenti ne spadaju u kategoriju opštih pravnih akata. Od njih se bitno razlikuju po funkciji, sadržaju, vezama sa drugim dokumentima, dizajnu, pratećim dokumentima i nadležnosti za donošenje. Zato se i proces njihove izrade i donošenja znatno razlikuje od procesa donošenja opštih akata. Karakteriše ga procesni pristup, projektovanje, modeliranje, primena reinžinjeriniga, inovativnost, dinamičnost u razvoju, naglašen monitoring i evaluacija. Ceo proces se u većini slučajeva svodi na obavljanje sledećih blokova aktivnosti:

Uputstva se donose na osnovu procedura i njihova funkcije je detaljnije objašnjavanje kako obaviti određenu radnu operaciju ili kako obavljati sve radne operacije u okviru određenog radnog mesta. Kao i procedure, uputstva mogu da sadrže određene skice, slike i sl. vizuelne prikaze, ali nemaju algoritam aktivnosti, koji je ključni element svake procedure.

Snimkom načina obavljanja određenog procesa (Radović M., Karapandžić S.,2005) i **analizom** dobijenih podataka stvara se osnova za ocenjivanje kvaliteta njegovog obavljanja, uočavaju se uska grla u procesu, problemi koji se javljaju i njihove posledice, potrebe i mogućnosti za popravljajem određenih elemenata i sl. Na osnovu navedenih konstatacija odlučuje se u kom pravcu će se odvijati naredne aktivnosti i kakav će biti njihov sadržaj. Ako je potrebno izvršiti samo određena poboljšanja u odvijanju procesa, onda je to jednostavan zadatak koji se može brzo realizovati. Kada je potrebno izvršiti velike i korenite promene u obavljanju procesa onda se kao metoda koristi reinžinjerin procesa. Da bi se na taj način ostvario značajan kvalitativni pomak u obavljanju određenog procesa, potrebno je da organizacija raspolaze se izvršiocima koji su kompetentni za obavljanje tog zadatka. Pošto se ovaj zadatak realizuje timskim radom, potrebno je formirati tim odgovarajućih stručnjaka koji ispunjavaju u celini ili većim delom sledeće uslove (Ćamilović S., Vujić V.,2007): dobro

poznavanje organizacije i procesa iz oblasti HRM koji se u njoj obavljaju, stručnost za obavljanje postavljenih zadataka; pozitivna orijentacija prema promenama; objektivnost i savesnost u dosadašnjem obavljanju poslova, komunikativnost i spremnost za timski rad; raspoloženosť za intenzivan rad, često i van radnog vremena i za dane sedmičnog odmora i dr.

Uporedo sa dekomonovanjem procesa na radne aktivnosti i opisom njihovog obavljanja potrebno je uraditi i nacрте svih izlaznih dokumenata. Deo tih dokumenata, kao nosilaca određenih informacija, često se transformišе u ulazni dokument za obavljanje neke od aktivnosti u okviru datog procesa. Kreiranjem i korišćenjem izlaznih, a po potrebi i ulaznih dokumenata, pojednostavljuje se i ubrazava obavljanje radnih aktivnosti, povećava nivo kontrole i smanjuje mogućnosť za nastajanje određenih propusta u radu.

Monotoringom se prati odvijanje procesa, prvenstveno radi uočavanje problema koji se mogu javiti u primeni određene procedure i uputstva. **Evaluacijom** sprovođenja opšteg i organizacionih akata utvrđuje se, i to preko odgovarajućih indikatora, da li se i u kojoj meri ostvaruju ciljevi radi kojih su doneta navedena dokumenta. Da bi se ovaj proces kvalitetno obavio potrebno je utvrditi: vrste podataka koji se prikupljaju, način njihovog prikupljanja, subjekte u čijoj je nadležnosťi njihovo prikupljanje, strukturu izveštaja koji se pripremaju na osnovu prikupljenih podataka, subjekte kojima se dostavljaju ti izveštaji i sl.

Kao rezultat obavljanja monitoringa i evaluacije nastaje inicijativa za izmene i dopune navedenih akata. To se dešava u slučajevima (a) kada se primenom određenog akta ne ostvaruju željeni rezultati, (b) kada se konstatuje da postoje problemi u primeni određene odredbe i (c) kada iz internih ili eksternih razloga dođe do promene ciljeva organizacije.

REFERENCE

- 1) Armstrong M. (2009) Armstrong's handbook of human resource management practice, Kogan page, London
- 2) Coulter M. (2010) Strategijski menadžment na delu, Data status, Beograd
- 3) Čamilović S., Vujić V. (2007) Osnove menadžmenta ljudskih resursa, Tekon, Beograd
- 4) Radović M., Karapandžić S. (2005) Inžinjeriing procesa, FON, Beograd
- 5) Učur, M. (2007) Nomotehnika, Sveučilište u Rijeci, Rijeka

THE STRATEGIC IMPACT OF OPERATIONS AND PROJECT MANAGEMENT ON THE QUALITY SYSTEM IN THE COMPANIES

Toni Soklevski

Business Academy Smilevski BAS – Skopje, Macedonia

Abstract: Operations and project management have a strategic impact on building a quality system in the companies.

The research which was done the last two years included 32 companies from productive activity, whose products are sold on the international market. To be competitive in the world market continuously improve the quality system by redesigning operations processes and products and implementation of investment projects.

This paper covers the most important factors of operations and project management that affect the improvement of quality systems in companies.

Setting the QMS should be a strategic decision of the organization and depends on its different needs and goals, the products and services it provides, the type of process they have, and the size and structure of the companies.

All data is processed with statistical program SPSS which numerical indicators is the best way corresponds to what the methodology is defined as an indicator of a phenomenon.

Worldwide experiences, decades, clearly and unequivocally shows continuing growth of investments related to improving processes and functions. This gives great importance to the operations and projects management, because in itself is a key factor for increasing profits by improving production efficiency. In terms of competitiveness, this combination of higher revenues and lower costs, is the most important for any company.

Keywords: Operations Management, Projects Management, Quality Management.

1. INTRODUCTION

Operations and project management have a huge impact on quality management in any organization. Operations management is defined as the systematic design, direction and control of processes that transform inputs into products and services for both internal and external customers. He is the basis of all departments in a business, why each department performs many processes. (Kraevski, Ricman, Malhotra, 2009: 4).

Project management process of managing the resources, operations and processes. Managing these three important components, though it means satisfying certain personal or organizational needs and expectations, it means dealing successfully with the project scope, time, cost and quality.

Today, all organizations understand the importance and the need for operations and project management connected with the creation of products and services. But even more organizations understand the importance of operations management as direct and systematic

control of processes through which transformation of incoming resources into finished products or services. Worldwide experiences, decades, clearly and unequivocally shows continuing growth of investments related to improving processes and functions. This gives great importance to the operations management, because in itself is a key factor for increasing profits by improving production efficiency. In terms of competitiveness, this combination of higher revenues and lower costs, is the most important for any organization.

The operational strategy is important for any organization. In its framework defines the ways in which the operational management manage the underlying components. The strategy usually defines general principles of management related to the decision making process. Operations management is a part of those principles. That part of the decision making process in the organization. Moreover, the operations management of its way of deciding or more precisely - the operational decisions of operational managers have direct implications for the internal and external customers.

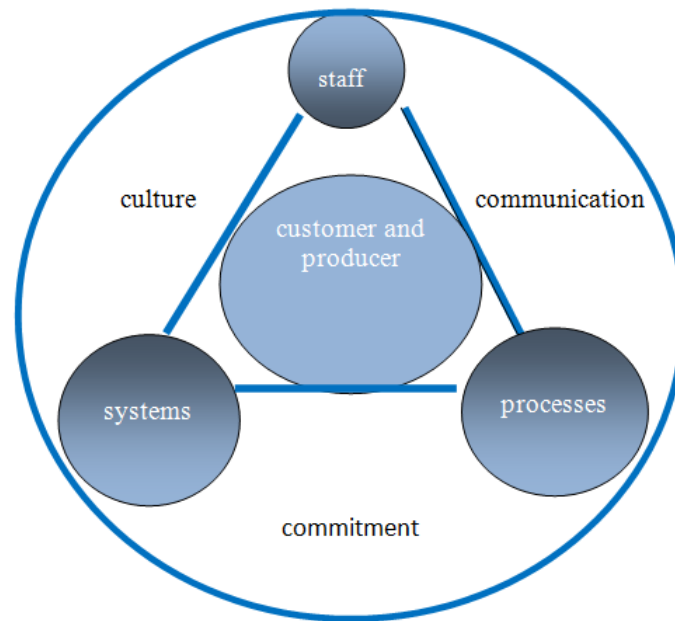
The design is an activity that defines: physical form, shape and composition of products, services and processes. Although direct responsibility for the design of products and services can not be part of the operational function in some organizations, it is essential for other operational activities. Strategically speaking, the design process means designing the whole range of interdependent and related operations that provide transformation of resources and satisfying customer needs. The lower level, operational managers design the plan performance processes, choose the appropriate process technology and personnel. Planning and control activities are making. Decisions concerning the transformation of the resource associated with ensuring quality. Direct responsibility for all operational managers is improving the performance of the operation. Key decisions related to performance usually have a preventive role and relate to the prevention of any possible errors related to the performance of operations.

In every company there is a quality system, but maybe he quality system does not meet the requirements of the ISO 9000 series of standards or the concept of total quality management (TQM). To develop eden quality system must continuously promote the knowledge and practice in the following areas:

- Relationships with customers
- Motivation for quality
- Teamwork
- Communication
- Prevention

TQM consists of activities for continuous improvement process including everyone in the organization and managers and employees in an integrated order that is improving performance at every level. It is a way of managing and is much broader in its application than just to provide a quality product or uslugata. Toa way of managing people and processes to ensure complete customer satisfaction at every level both inside and outside the organization.

TQM-enabled combined with effective leadership, resulting in an organization that makes you do things the right way from the first time.



P 1. Core of TQM

The core of TQM is the mutual relations between the client and the manufacturer, such as external and internal in relation to any such processes exist.

This core must be surrounded by commitment towards quality, communication with the message of quality and acceptance of the need to change the culture of the organization to create overall quality. These are the basics of TQM and they are supported by the key management functions: the people, processes and systems in the organization.

All these elements together can make organization of overall quality.

TQM is an approach to improve the competitiveness, effectiveness and flexibility of the organization for the benefit of all shareholders, owners, etc. raisers. It is a way of planning, organizing and understanding each activity and the removal of any useless effort and energy that routine is spent in the organization. TQM-enabled also allows leaders to adapt a strategic view towards quality and focus on prevention rather than detection of problems.

TQM consists of activities for continuous improvement process including everyone in the organization and managers and employees in an integrated order that is improving performance at every level.

The extent to which the product or service meet the desired goal, there are four primary determinants. They are:

- 1) design;
- 2) adaptability to the design;
- 3) facilitation of use;
- 4) service after delivery. (William J. Stevenson: 1993)

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.

The research which was done the last two years included 32 companies from productive activity, whose products are sold on the international market. To be competitive in the world market continuously improve the quality system by redesigning operations processes and products and implementation of investment projects.

As a result of the research was obtained in all 32 companies quality management is organized into four levels:

1. Strategic (top) level
2. Operating (average) level
3. Routine (basic) level

Here's what specifically how qualitative conclusions were obtained:

- The strategic level is determined by the quality policy of the company and design a strategy for the development of quality.
- At the operational level work it is organized in all departments in accordance with standard operating procedures for the implementation of plans for quality. This level defines the obligations and responsibilities of all employees in the realization of tasks.
- The routine management level make continuous inspection and monitoring of the quality in order to perceive whether realized what is planned and organized. The most useful methods of this level is self-control and Poka-Joka method, because they facilitate the execution of a given operation of the production at no cost.

As a special result of this research is as follows:

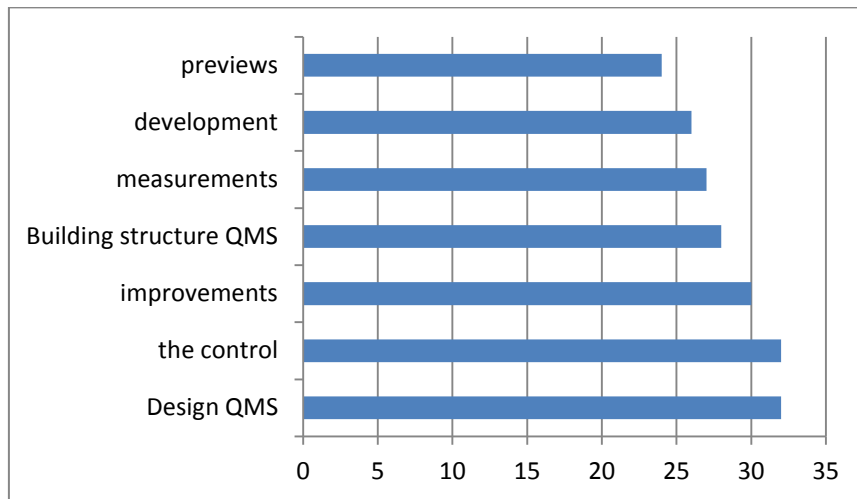
On all these levels used methods and techniques for measuring quality for evaluation of the stability and capability of processes and detect and prevent defects in operation.

There are different types of methods and techniques that could be conditionally divided into:

- method to detect where occur most defects
- method to detect the causes of the creation of defects,
- method monitoring of processes,
- method for decision making,
- method to assess the stability of the process,
- method to assess the dependence between the properties,
- method to assess the dispersion properties and others.

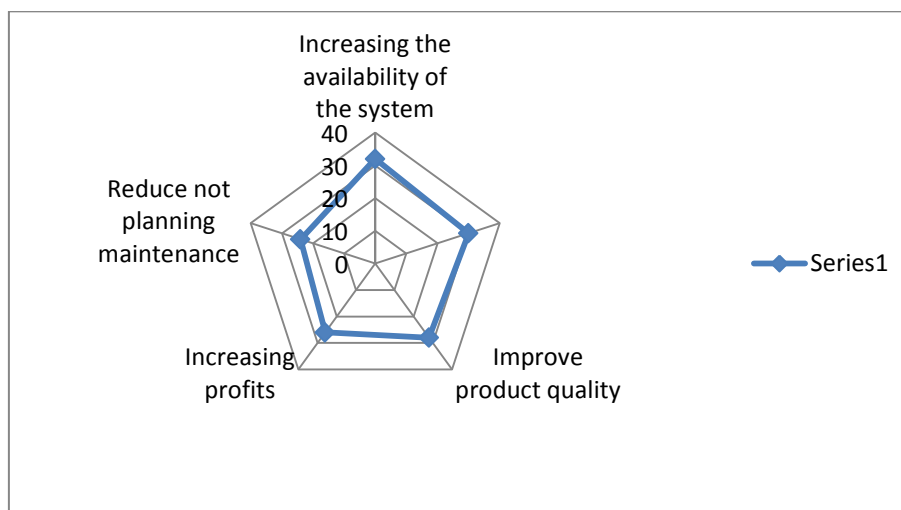
QMS must provide the product to suit the requirements of the buyer and his expectations, on the other hand, to ensure the realization of the objectives of the organization.

The activities covered in these 32 companies when setting a QMS are ranked in the following graph:



G1. Activities of the QMS

Here is how the 32 companies evaluated the impact of strategic operational and project management for the management of quality:



G2. Impact of strategic operations and project management for the management of quality

- TQM-enabled manufacturing process stabilizes, the system works flawlessly, without delays which means increasing production and reducing disadvantage and thus increases the benefit of the company.
- Increasing the availability of the system (reducing time delays and increased operating time), which means a higher percentage of utilization of the technical system.

- Streamlining the procurement of spare parts as well as their representation in the warehouses, which means that due to the reduction in delays and defects and optimize the quantity of spare parts in warehouses. So the company saves by reducing the excessive presence of these parts.
- Improve product quality.(By finding and removing errors that appear on it)
- Increasing profits. Because TQM to collate process increases the production of quality pieces and reduces disadvantage thereby increasing the profits of the firm.
- Reduce not planning maintenance in terms of planning, and thereby reduce manufacturing expense. This means that preventive action is organized planned maintenance system suitable period during weekends so that the emergence of bottlenecks processes or their disturbances during the working week is reduced to a minimum, and thus costs to sudden stoppages over production.

3. CONCLUSION

Experience shows that under the same production technologies and the same machines get different qualities of finished products. As a result of such findings is derived the conclusion that the differences in quality, mostly come from people, not by machines.

Effective and effective way to fix the process and to improve the quality is teamwork. The best teamwork is present in the work of project and operational teams where realized a goal that include design of a new product, new technology and new process. Once the organization's strategic goals for the road to improving quality will be adopted, it should measure what works and srabotuva to see if you are going on the right way to quality and to assess whether the level of performance sufficient to they achieve goals.

The processes must be fully understood and izmenadzhirani also be efficiently used all available resources to ensure that all requirements of customers, employees, shareholders and the community are met.

In every organization there are several very large processes that represent groups of smaller processes, called key business processes. They need to be managed well if the organization wants to achieve its goal and mission.

REFERENCES

1. Lee J. Krajewski and Larry P. Ritzman, (2007). *Operations Management, Strategy and Analysis*, Addison-Wesley Publishing Company, Reading. Massachusetts.
2. Soklevski T. (2014). *The common and special competences of operations managers in Republic of Macedonia*, ISPPI, Skopje.
3. William J. Stevenson (2008). *Operations Management*, Irwin. Homewood. Illinois.

EFFECTS OF STRATEGIC CONTROL IN RELATIONSHIP BETWEEN SUPPLIERS – COSTUMER

Isidora Milošević, Dragana Živković, Sanela Arsić, Ivan Mihajlović

University of Belgrade, Technical Faculty in Bor, Serbia

Abstract: The aim of this paper is to examine relational relationship between supplier and buyers, that has to go through control system as last step in Strategic Management apply. The view of this paper was from the supplier aspect, so that can perform control on consumers and develop relational relationship. This paper is presenting the research results which we conduct using questionnaires among numerous suppliers on the territory of Bor. Data collect in this questionnaires was processed with adequate statistical methods used of software packages SPSS v.18 and LISREL v.8.8 based on we derive appropriate conclusions.

Keywords: Suppliers, Buyers, Relational relationship, Control.

1. INTRODUCTION

In the supply chain, suppliers play an important role, and therefore the selection of the right supplier is of great importance for the success of the company. For this reason it is necessary to find and choose the right supplier that will suit the needs of companies in the supply chain. The supply chain represents a number of approaches that successfully integrate suppliers, companies, warehouses and shops, so as to achieve the required production quantity of goods to be later distributed to the right location at the right time in order to minimize costs and maximize revenues while working on meeting demands of purchaser companies. For this reason, the company which order specific products, services or raw materials in the supply chain is called the client, or customer. The relationship between the supplier and the customer is of the key importance for the efficiency of the supply chain.

The competition is scary, and companies are facing with increasing changes in the supply chains in which buyers and suppliers recognize the benefits that have come from collaborative partnerships [1]. With changing focus, which goes from transactional to collaborative relationships, customers have significantly increased awareness of the strategic importance relating to the development programs to increase the customer's knowledge, skills and insights in the market in combination with effective mechanisms policies in a streamlined connections. For example, because the Toyota buyer is at the top of most suppliers, their firm receives more attention and gets more innovative products from suppliers than their competitors [2]. Most customers require a different form of cooperation which must be accompanied by the control, which is the theme of this paper.

Implementation of the strategic management of the company as a modern management concept that encompasses a global commitment of the company, usually brings down to defining the strategic goals of the company, determining the strategies for achieving these

goals, the application or implementation of the defined strategy and control of the implementation of the strategy [3].

The aim of this paper is to examine the latest step in the implementation of strategic management, management control system, business relationship between suppliers and their customers. It was done from the suppliers' point of view as the main company that goes through all the stages of strategic management in their business. In this way, the supplier can influence customers in developing long-term relationships, and all that in order to achieve long-term competitive advantage. All this is necessary in order to carry out control of consumers, while doing business and developing a relationship.

2. LITERATURE REVIEW

Choosing the right supplier is a very complex process. One of the reasons is that many factors influence the decision on making the choice among supplier companies. Also, companies as suppliers must pay attention while choosing the right associates in business because a wrong partner can adversely affect the business of the supplier [1] to identify superior suppliers, to increase productivity in the supply, to reduce overall operating costs and improve competitive position in target markets "[3].

In considering supplier-customer relationship our approach comes with the assumption that hugely successful products or services suppliers represent an attempt to become more attractive to potential buyers. The phenomenon of customers is reflected through their attempt to get the best resources from sellers and thus tend to become more attractive suppliers, which is counter-intuitive inversion of the classic marketing approach. The ultimate goal of customers themselves reflected in the fact that provide insight into how they can achieve the privileged status with their main suppliers, and thus realize the competitive advantages that are associated with competing buyers by performing major advantage of the supplier's resources and capabilities.

"The company has a privileged status of consumers with the supplier if the supplier offered him a favorable allocation of resources. This can be accomplished in several ways. The supplier can send their best people to the development of new products, in order to make the product according to the wishes of consumers, in order to offer innovation or perhaps even enter into an exclusive agreement. The supplier may also provide preferential treatment if there is a "bottleneck" in the production due to capacity constraints "[4]. The key point, with all due respect to companies that compete, not only in markets, but sales and procurement markets, is that "extremely good" suppliers are in short supply i.e. there are not many of them [5]. Each supplier must make a decision on which consumers have in circulation, and to what extent. Shortage in suppliers was reported in several industries, such as manufacturing luxury cars, in which the manufacturers rely on the 30 suppliers for the components of cars Mercedes E-class, the Audi A6 and BMW 5 [6]; area of biotechnology [7]; production of software [8]; or railway industry. For many types of industrial materials, no more than two to three leading suppliers remain on the market. As the result, these vendors become highly selective and do not share their resources equally to all its customers. Williamson (1991) argues that suppliers

generally "meet the demands of its customers who have privileged status", which are less desirable consumers had to wait in line.

In cases where not all safe, the supplier must first meet its strategic importance to consumers and only after that conduct business with their regular customers. It is clear that to achieve preferential treatment company must have satisfied suppliers. Move one step ahead in the chain of interactions supplier - buyer, buyers - company may have in the first place, to be attractive enough to provoke supplier to start a business relationship.

3. THE FORMATION OF MODELS AND HYPOTHESIS TESTING

For creation of a conceptual model in the literature where from this questionnaire was taken [2], two aspects of the development of the supplier (capacity development, policy supplier) and two dimensions of benefit from the relationship (customer benefits, suppliers benefits) through relational capital are linked. Previous studies have looked at the benefits of these relationships or performance outcomes from the perspective of the customer (rare) or from the perspective of the supplier. The paper merged these two aspects, because it was observed from earlier studies that the privileges supplier direct awards resulting from business with the customer (contract renewal) and customer benefits have been granted preferential treatment to a specific customer in the exchange of past or future loyalty (optional value services, custom procedures). Relational capital mediate and mitigate relate directly related to development between the supplier and the benefits that arise from these relationships. The development of the supplier represents investment in specific relationships that is leaving open the purchaser to choose opportunistic behavior. For example, the effects of the expropriation [9] arise when suppliers and confiscate all the benefits resulting from the investment in the development of supplier. Suppliers may believe that they can avoid the mutual benefits because the buyer has made so many unique investments in their relationship they should not be so easy to break up the relationship. Relational capital instead seeks group solidarity, generalized reciprocity, knowledge sharing and cooperative behavior.

However, the control that needs to be done in all business transactions results in a trial two dimensions: the power of the customer and the dependence of suppliers. The power of the customer depends on the characteristics of the market and the relative importance of their purchases compared to the total business. The power of buyers increases if you are focused and buy large amounts of (value).

Therefore, the selection of the group of customers that will sell your products is of critical strategic decisions for the company. [3] The dependence of suppliers is reflected in their effort (expenditure of time, energy and money) when changing customers, whereby the supplier remains with existing customers. Due to the lack of good alternatives it is too difficult for the supplier to switch to other customers, that's why supplier choose not to change the customer [2]. If the power of the supplier is strong he is able to choose the customer and customer group. The power of supplier itself may be required in their ability to increase prices, and lower the quality of their products and services. They have more significant power if they are in small number and more concentrated than the branch to which they sell products and services. In many branches the state as a buyer or seller can influence

its policy on competition in the industry. In fact the state can influence all five essential forces that shape the competition in the industry [3].

3.1. THE POSSIBILITY OF DEVELOPMENT (CAPABILITY DEVELOPMENT)

Results coming from the collaboration between customer and supplier increase supplier understanding of the nature of their relationship and level of trust, loyalty and reciprocity [10]. Development of the capacity may cause the supplier to see the customer as someone who has a high degree of integrity as well as the trust that is likely to be achieved [11]. Activities related to the development of skills, such as providing training and some technological piece of advice, quite often involve interactions between employees with customers and suppliers that represent different functions (purchasing, production, quality, logistics). Rich communication that takes place in these interactions helps in creating mutual understanding and common vision to enhance the relationship [12]. In light of the preceding arguments following hypotheses are set:

Hypothesis 1. *The development of skills has a positive influence on the policy of the supplier.*

Hypothesis 2. *Development of skills has a positive effect on equity generated from the relationship.*

3.2. SUPPLIER GOVERNANCE

Management and evolution policy tends to increase the concordance between the supplier and the customer's wishes and requirements [13]. Privacy supplier reinforces the need for relational capital due to demands for more complex coordination and greater participation of the company itself. Such activities can take place only when the supplier and the buyer manage from the same foundations that encourage the supplier to develop closer relationships with customers and their representatives. When the supplier management process includes regular visits to supplier sites to assess and familiarize themselves with the operations of the supplier, it ends the interaction of face-to-face and to exchange tacit knowledge of which depends on their relationship [14] and control in such a relationship has a positive outcome.

Privacy supplier also sets standards and procedures for routine supplier leading to a minor misunderstanding, the elimination of double standards and the reduction of divergent interpretations of similar activities and to increase mutual understanding and trust. In the end, politics often requires the supplier to the supplier adapt its communication to the customer. For example, the supplier should adapt to the customer's electronic data system, or web portals. Having completed the exchange of information and control, this significant investment in the form of capital and labor is specific to the relationship between customer and supplier, and lead to greater commitment to the customer. Accordingly, this study presupposes the following:

Hypothesis 3. Supplier policy has a positive effect on the control.

3.3. RELATIONAL CAPITAL

The capital made from the relationship (relational capital) is a reflective, multi-dimensional latent draft of the second line with three drafts of the first line: trust, reciprocity and emotional commitment. This approach is consistent with previous studies [11]. These three factors, or combinations thereof, are common to most definitions of relational capital. Each factor of the first row, although linked, occupies the unique aspects of the relationship; collectively they reflect see how supplier relationships. Emotional commitment is a prerequisite for suppliers to stay in touch. Reciprocity or mutuality represents the sense of independence and commitment to the future work. Trust is in fact the extent to which partners expect from each other not to behave selfishly, but to keep their promises [15]. Alternatively, the policy supplier could have negative implications. Suppliers may become suspicious of the motives of customers, the research also shows that rough, formalized approach, specific control policies often discourage voluntary cooperation. Relational capital should provide a reservoir of good will so these doubts could be overcome and it must mitigate the possible adverse effects of the supplier's performance management strategy related. The presence of relational capital that can mitigate the relationship between the policy of supplier and its benefits, thus reducing compliance costs and increase the effectiveness of monitoring and coordination [15]. Based on consideration of the aforementioned dimensions, the following hypotheses result:

Hypothesis 4. The capital generated from the relationship has a positive effect on the control.

Based on consideration of literature of establishing control in relational supplier-customer relationship, conceptual model shown in Figure 1 was developed. It can be noted that the concept of "developing the capacity of" independent variable that has an indirect impact on control, while two concepts such as "politics of suppliers "and" equity realized from relations "have a direct influence on the control of the supplier. Conceptual model itself consists of 4 latent variables and 34 observed variables, Figure 1.

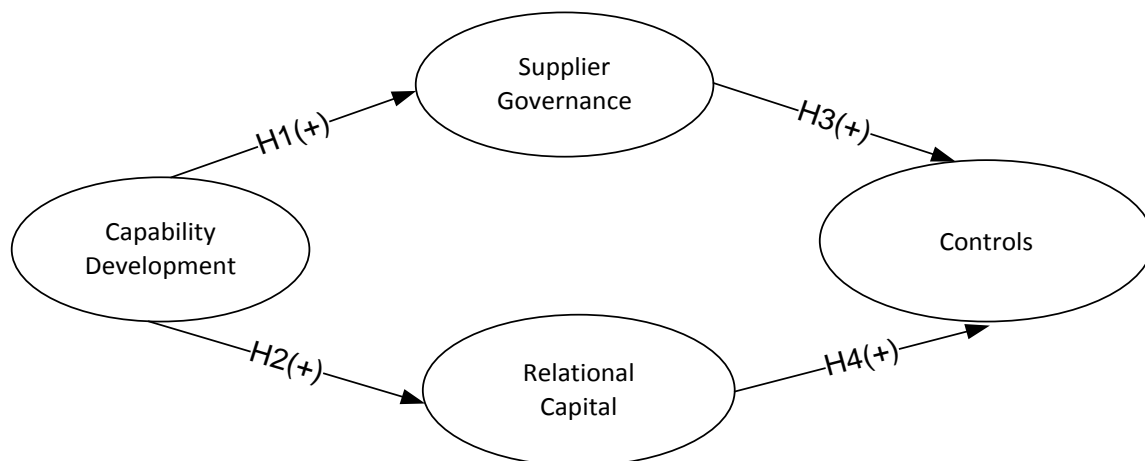


Figure 1. Conceptual model

4. METHODOLOGY

4.1. SAMPLE AND COLLECTION OF DATA

The aim of this study was to examine the effects of the establishment of control in relational link between the supplier and the consumer, when considering the possibilities of development, politics and suppliers of capital generated from the relationship. According to the literature that focuses on the key advantages of consumers and their suppliers can be seen that in many works are mentioned as possibilities for the development and relational capital that can contribute to better business, which can contribute to combining the existing and creation of new knowledge. Measuring instruments involved in the research of this study were reliable scales from previous studies or adapted from existing literature [2]. The research was done by examining the suppliers through questionnaires in a variety of industries and sectors in the municipality of Bor. The questionnaire consists of 38 questions grouped in 4 groups (opportunities for development, suppliers' policy, capital generated from the relationship and control). The survey covered a total of 113 respondents. 100 questionnaires were properly filled (88.49%). For gradation, we used the Likert five-point scale. The proposed hypotheses were tested by using structural equation modeling and by applying software package SPSS v.18 and LISREL v.8.8, so two-phase procedure proposed by Anderson and Gerbing was satisfied (1988) [16]. In the first phase we assessed the measurement model and the subsequent testing of the structural model followed.

4.2. ANALYSIS AND RESEARCH RESULTS

For the empirical validation of the general hypothetical model, the author has used a methodology SEM (Structural Equation Modeling) [17], which consists of two steps. The first step includes the assessment of the measurement model to examine whether the model fits well with data collected on the basis of satisfactory results. After that, the second step is the structural model defining for testing the hypotheses.

By applying the confirmatory factor analysis (CFA) one-dimensionality within two groups of questions considered in the model was confirmed, such as the possibility of developing policy and supplier's policy. While the multidimensionality was confirmed in two groups of questions, capital generated from the relationship and control supplier. The values obtained by using confirmatory factor analysis are presented in Tables 1 and 2. Internal consistency of group claims were tested (Table 1) related to the concepts are included in the research. We used Cronbach's coefficient α to assess the internal consistency [18], Spearman-Brown coefficient and Ω [19]. The obtained values of reliability coefficients for all groups of questions are within the recommended values [18, 19, 20], which can be considered as to have achieved internal consistency.

The evaluation of convergent and discriminant validity was done, in accordance with the recommendations that have defined Fornell and Larcker, (1981) [21]. All load factor indicators on their structures were statistically significant ($p < 0.1$, $p < 0.05$), indicating that the convergent validity was achieved [22]. Values of the load factor and a critical ratio are shown in Table 1 and show that the structures have a high validity of a convergent, approximately

0.5 ($ST \geq 0.5$). Values AVE indicators that go beyond correlation between the concepts squared indicate that requirement discriminant validity was fulfilled. Indexes fitting (Chi-square = 195.47, $df = 113$; $\chi = 1.729$) RMSE = 0.084, RMR = 0.091, NNFI = 0.95 = 0.94 NFI, IFI = 0.97 = 0.91 RFI, CFI = 0.97, indicate adequate fitting model.

Table 1. Results of the Measurement Model

Construct	Stand.fac tor loading	t-value	AVE	Discrimi nant Validity	α	Spearman– Brown Coefficient	Ω
Capability Development	0.26-0.97	2.65-13.30	0.611	0.781	0.881	0.951	0.939
Supplier Governance	0.45-0.91	4.49-11.42	0.514	0.717	0.823	0.703	0.834
Relational Capital	0.73-0.91	8.34-11.22	0.703	0.838	0.917	0.880	0.925
Controls	0.65-0.99	6.88-11.24	0.701	0.837	0.786	0.786	0.648

To quantitatively demonstrate the extent to which two variables are related it is necessary to calculate the correlation coefficient. Correlation coefficient takes on a value of -1 (inverse relationship) to +1 (direct connection). Both of these extremes are the perfect link between the variables, while 0:00 is the lack of connections [23]. If the value is closer to zero, then the connection is weaker or there is no connection. A positive correlation coefficient indicates a proportional relationship between the variables, while a negative correlation coefficient indicates that the interdependence of variables inversely proportional.

Tabela 2. Correlations between the examined variables

Construct	Capability Development	Supplier Governance	Relational Capital	Controls
Capability Development	1			
Supplier Governance	0.638**	1		
Relational Capital	0.539**	0.652**	1	
Controls	0.580**	0.495**	0.650**	1

** level of significance correlation 0.01

In Table 2 we presented the result of correlation analysis for all four variables tested: the possibility of development, supplier policy, capital generated from the relationship and control. The results, summarized in Table 2 indicate that none of the links between the observed phenomena has negative value. Therefore, we can conclude that among all the groups of questions exist correlations with statistical significance level of 0.01.

Given the proper fitting of the measurement model for the next step structural model based on which statistical hypotheses were tested, Figure 2. From the analysis of path it can be seen that the test variable possibility of development has an indirect influence on the management, while the supplier policy and capital gained from the relationship have direct effect on the control.

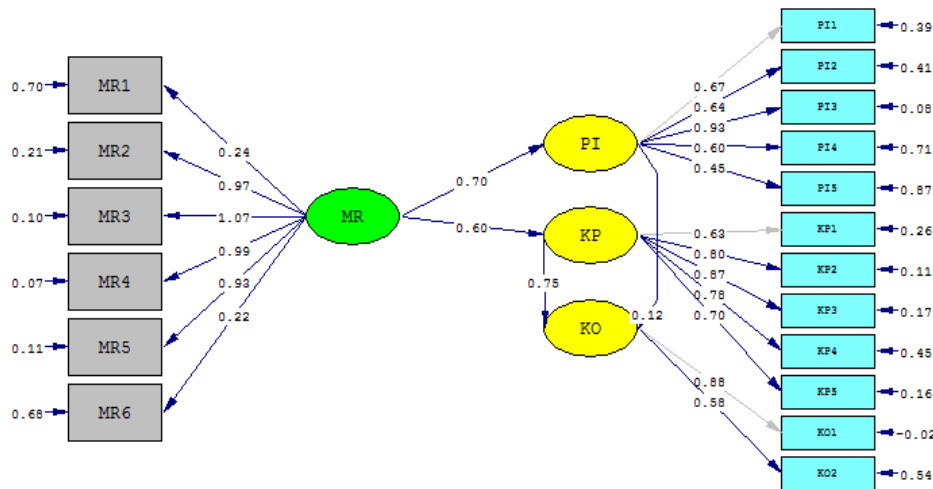


Figure 2. Structural model

Fitting indexes NNFI = 0.93, NFI = 0.91, CFI = 0.95, IFI = 0.95 indicate adequate fitting model and fulfillment of the conditions for the interpretation of structural coefficients. All load factors (Figure 2) as well as chi-square goodness-of-fit statistics of the structural model $\chi^2 = 216.97$, $df = 121$, $p < 0.05$ have statistical significance ($p > 0.5$).

For testing the model regression coefficients (coefficients β) and determination R^2 were used. The regression coefficients (β) explain the strength and character of the relationship between the dependent and independent variables, which are shown in Table 3, the coefficient of determination R^2 shows the share of explained variance in total, and how many variations of dependent variable is explained by the independent variable. The coefficient of determination in this case found that the impact of latent predictors of the intended behavior can be calculated with 48.3% of the variance.

Table 3. Path coefficients and T-values

The relationship or path	Standardized parameters	T-value	Causal relations
Capability Development → Supplier Governance	0.70 (a)	5.96	R1: yes
Capability Development → Relational Capital	0.60 (a)	5.83	R1: yes
Supplier Governance → Controls	0.12 (b)	1.43	/
Relational Capital → Controls	0.75 (a)	6.78	R1: yes

(a) Significant at the 99% level; (b) Significant at the 95% level

5. DISCUSSION OF RESULTS

In order to examine the strategic control in the relationship between suppliers and customers, a research was done that includes measurement of certain scales that are considered to be essential for the establishment of relatively permanent relations with suppliers with customers with full confidence. This research was done by examining the suppliers in a variety of industries and sectors in the municipality of Bor. The obtained data tell us that correlation analysis indicates that no link between the observed phenomena has negative value. Therefore, we can conclude that among all the groups of questions exist correlations with statistical significance level of 0.01. When testing reliability was measured, Cronbah coefficient alpha (α), Spearman-Brown coefficient and Ω were used. All values are within recommended limits so it can be concluded that the measuring scale was reliable and that there is an internal consistency of the scale samples. For testing hypotheses in the conceptual model we used the regression coefficients (β coefficients) and determination R^2 . The analysis results show the following:

The results obtained by analyzing the path show that Beta value between development opportunities and supplier policy is positive and has a very strong influence $\beta = 0.70$, with the existence of statistical significance ($t = 5.96$). This tells us that the Hypothesis 1. *The development of skills has a positive influence on the policy of the supplier* is being accepted. Hypothesis 2. *Development of skills has a positive effect on equity generated from the relationship* is being accepted. In favor of this go Beta values that have a positive and strong influence $\beta = -0.60$ with existence of statistical significance ($t = -5.83$). Hypothesis 3. *Supplier policy has a positive effect on the control* is being rejected because it has positive but very weak effect ($\beta = 0.12$) with no existence of statistical significance ($t = 1.43$). Hypothesis 4. *The capital generated from the relationship has a positive effect on the control*. Is being accepted because it has positive and strong effect $\beta = 0.75$, with the existence of statistical significance ($t = 6.78$).

6. CONCLUSION

In modern business conditions is quite difficult to find the right suppliers, and real customers as well, and then to keep a quality relationship between them and all this in order to achieve competitive advantages and positive results in the company. The relationship between the supplier and the customer is essential for the efficiency of the supply chain, and therefore it is important for the efficiency of the entire business. If the supplier wishes to maintain a better relationship with their customers, it is necessary to implement certain control to determine the power of the customer, i.e. the relative importance of their purchases in relation to total business, and to what extent he himself (the supplier) depends on its customers. If business subjects wish to achieve a positive result they must implement control in supplier – customer relationship. Control is easily and more efficiently implemented if it encourages the development of the capacity of suppliers, which tells us that investments in supplier by customers - firms have relevant results both on the development of relations and control in the relationship. The trust that is gained when developing supplier deepening collaborative

relationship which further contributes to the easier feedback, and thus better and more effective control. The trust and emotional attachment also have positive implications for the relationship between supplier and its customers and if these values are reached control will be minimal.

By investing in relational capital we get effective control and successful results in business. On the contrary, the supplier policy does not have a positive influence on the management, as previous researches have shown. Hypothesis 3. *Supplier policy has a positive effect on the control.* is being rejected, which tells us that the Serbian companies are still not developed awareness of investing in relationship between suppliers and customers. Rough and formal approach that is most often used in the context of the policy of the supplier, because of standard-setting and control within the relationship often discourages voluntary cooperation which badly affects control itself. This is corroborated by Wang's study from 2013, which says that if the trust, put on relational capital is low, although more frequent misunderstandings and defense tend to be high, one can conclude that the needed integration of knowledge for normal management of the supplier does not promise success. Without the effects of mitigation of relational capital, structure of supplier policy only creates transaction costs and frustrations for both parties in the relationship [9].

REFERENCES

- [1] Hales, M., Perrilliat, J., & Bhardwaj, N. (2011). Key supplier collaboration: New way to drive value. *Supply Chain Management Review*, 15(4), 50–51.
- [2] Blonska, A., Storey, C., Rozemeijer, F., Wetzels, M., Ruyter, K.D., Decomposing the effect of supplier development on relationship benefits: The role of relational capital, *Industrial Marketing Management* 42 (2013) 1295–1306
- [3] Živković, Ž., Jelić, M., Popović, N., Muhić, Š., *Strategic Management*, Bor 2004.
- [4] Steinle, C., & Schiele, H. (2008). Limits to global sourcing? Strategic consequences of dependency on international suppliers: cluster theory, resource-based view and case studies. *Journal of Purchasing and Supply Management*, 14(1), 3–14.
- [5] Cordon, C., & Vollmann, T. E. (2008). *The power of two: how smart companies create win: Win customer–supplier partnerships that outperform the competition.* New York: Palgrave Macmillan.
- [6] Wagner, S. M., & Bode, C. (2011). A credit risk modeling approach to assess supplier default risk. Paper presented at the 20th IPSERA conference in Maastricht.
- [7] Powell, W. W., Koput, K. W., & Smith-Doerr, L. (1996). Interorganizational collaboration and the locus of innovation: Networks of learning in biotechnology. *Administrative Science Quarterly*, 41(1), 116–145.
- [8] Lavie, D. (2007). Alliance portfolios and firm performance: A study of value creation and appropriation in the US software industry. *Strategic Management Journal*, 28(12), 1187–1212.

- [9] Wang, Q., Li, J., Ross, W., & Craighead, C. (2013). The interplay of drivers and deterrents of opportunism in buyer–supplier relationships. *Journal of the Academy of Marketing Science*, 41(1), 111–131.
- [10] Anderson, E., & Weitz, B. (1992). The use of pledges to build and sustain commitment in distribution channels. *Journal of Marketing Research*, 29(1), 18–34.
- [11] Palmatier, R.W. (2008). Interfirm relational drivers of customer value. *Journal of Marketing*, 72(4), 76–89.
- [12] Chang, K. -H., & Gotcher, D. F. (2007). Safeguarding investments and creation of transaction value in asymmetric international subcontracting relationships: The role of relationship learning and relational capital. *Journal of World Business*, 42(4), 477–488.
- [13] Rogers, K. W., Purdy, L., Safayeni, F., & Duimering, P. R. (2007). A supplier development program: Rational process or institutional image construction. *Journal of Operations Management*, 25(2), 556–572.
- [14] Krause, D. R., Handfield, R. B., & Tyler, B. B. (2007). The relationships between supplier development, commitment, social capital accumulation and performance improvement, *Journal of Operations Management*, 25(2), 528–545.
- [15] Kaufman, P., Satish, J., & Randall, L. R. (2006). The role of relational embeddedness in retail buyers' selection of new products. *Journal of Marketing Research*, 43(4), 580–587.
- [16] 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
- [17] Byrne, B. M. (2004). Testing for multigroup invariance using graphics: A road less traveled. *Structural Equation Modeling*, 11(2), 272-300.
- [18] Cronbach, L.J., (1951) Coefficient alpha and the internal structure of test, *Psychometrika* 16 (September), 297-334.
- [19] Milijic N, Mihajlovic I, Strbac N., & Zivkovic Z (2013) Developing a Questionnaire for Measuring Safety Climate in the Workplace in Serbia, *International Journal of Occupational Safety and Ergonomics*, Vol.19, No. 4, pp. 631-645.
- [20] Nunnally, J.C., (1978) *Psychometric Theory*, Second ed. McGraw-Hill, New York
- [21] Fornell, C. and Larcker, D.F. (1981). Evaluating structural equation models with unobservable variables and measurement error. *Journal of Marketing Research*, Vol.18, No. 1, pp. 39-50.
- [22] Hair, J.F., Anderson, R.E., Tatham, R.L., Black, W.C., (1998) *Multivariate Data Analysis with Reading*, Prentice – Hall, Englewood Cliffs, NJ.
- [23] Ho, R., (2006) *Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS*, Taylor & Francis Group, LLC, New York.

RISK MANAGEMENT ON STRATEGIC INVESTMENT PROJECTS IN SERBIA

Filip Jovanović¹, Nenad Milijić², Ivan Mihajlović²

¹*Mozzart d.o.o. Belgrade;* ²*University of Belgrade, Technical Faculty in Bor, Management Department, Serbia*

Abstract: Strategic investment projects are the basis of economic development, but also the development of the entire society. For this reason, it is necessary to conduct a studious analysis and approach to manage every element of these types of projects. Particularly significant chapter in this process represents potential risks and their adverse effects, with a view to their elimination or minimization, or an adequate response to them. This paper examines the effect of the main elements of risk management of the strategic investment projects in Serbia on achieving the project objectives, as well as the impact of the characteristics of projects on the risk management process. Statistical data analysis was performed using the software packages SPSS 18.0 and LISREL 8.80. The proposed hypotheses are tested by GLM (*General Linear Modeling*) methodology, as well as using SEM (*Structural Equation Modeling*) methodology on a sample of 74 strategic investment projects on the territory of the Republic of Serbia. The results confirm some hypothesis, while some are rejected, and the basis of that are derived numerous, significant conclusions.

Keywords: Risk management, Strategic investment projects, Project objectives.

1. UVOD

Razvoj poslovnih organizacija nužno podrazumeva definisanje strategijskih ciljeva i strategija za njihovo dostizanje. Strategijski ciljevi se dostižu primenom odabrane strategije, koja se obavlja preko realizacije strategijskih projekata.

Strategijski projekti su projekti koji za određenu organizaciju imaju poseban značaj jer omogućavaju dostizanje strategijskih ciljeva organizacije. To mogu da budu krupni investicioni projekti, kao što je izgradnja nove fabrike ili pogona, uvođenje savremene tehnologije, poboljšanje energetske efikasnosti i sl., ili projekti uvođenja informacionog sistema, kreiranje i uvođenje nove organizacije, uvođenje sistema kvaliteta, i dr.

Asrilhant i saradnici smatraju da su strategijski projekti neophodni kada organizacija želi da postigne svoje dugoročne ciljeve i razvoj [1]. U tom smislu, Schoemaker definiše strategijske projekte kao način na koji se jedna zdrava vizija primenjuje i realizuje [2]. Strategijski projekti su srž korporativnog rasta, promena i stvaranja bogatstva. To su glavne investicije koje često podrazumevaju veliku neizvesnost, nematerijalne koristi i obećavaju aktivne dugoročne finansijske rezultate [3]. Strategijski projekti takođe pokreću stvaranje, sticanje i razvijanje kompetentnosti [4] i obuhvataju čitav niz različitih opcija [5].

Upravljanje strategijskim projektima se obavlja kako bi se oni uspešno realizovali, pri čemu treba uzeti u obzir i finansijske i nefinansijske rezultate i koristi koje projekti donose.

Sam proces upravljanja strategijskim projektima ima dve osnovne faze-vrednovanje strategijskih projekata i kontrolisanje strategijskih projekata [5].

Faza vrednovanja obuhvata izradu strategijskih projekata, planiranje i ocenu strategijskih projekata, kao i autorizaciju projekata. Kontrola strategijskih projekata obuhvata upravljanje strategijskim projektima, proveru i eventualne izmene u strategijskim projektima ako se ukaže potreba za njima [1].

Efikasno upravljanje strategijskim projektima može se ostvariti ukoliko projektni menadžer i projektni tim, koji su zaduženi za njihovo upravljanje, obavljaju sve potrebne aktivnosti u okviru vrednovanja i kontrole strategijskih projekata. Takođe, potrebno je da koriste savremene metode i tehnike, neophodne za efikasno upravljanje strategijskim projektima. U praksi se najčešće koriste sledeće tehnike za ocenu i kontrolu strategijskih investicionih projekata: povraćaj investicije, neto sadašnja vrednost, interna stopa rentabilnosti, rok vraćanja, cost benefit analiza, analiza osetljivosti, drvo odlučivanja, analiza rizika, metode predviđanja, teorija igara, simulacija itd. [1,6,7].

Pri izboru i korišćenju metoda i tehnika za upravljanje strategijskim projektima treba najpre analizirati i proceniti, da li su i koliko, pojedine metode i tehnike pogodne za korišćenje za upravljanje pojedinim vrstama strategijskih projekata [8]. Pri tome je posebno značajno analizirati da li razmatrane metode i tehnike doprinose uspešnoj realizaciji strategijski projekta.

Razmatranje i predviđanje budućih poduhvata, procesa i aktivnosti, opterećeno je neizvesnošću i rizikom. Određene buduće situacije mogu doneti rizik koji nosi negativan, a ponekad i pozitivan uticaj na realizaciju projekta. Zbog toga, upravljanje projektima podrazumeva i adekvatno upravljanje projektnim rizicima. Prema Kerzneru, upravljanje rizikom je delovanje ili vežba za postupanje sa rizikom [9]. Upravljanje projektnim rizicima uključuje nekoliko povezanih akcija kao što su planiranje rizika, identifikacija i analiza rizičnih događaja, razvoj strategija za postupanje sa rizikom i praćenje rizika, a u cilju uspeha projekta [10]. Cilj ovog rada je analiza uticaja glavnih elemenata procesa upravljanja rizicima strategijskih investicionih projekata u Srbiji na postizanje projektnih ciljeva, kao i uticaj karakteristika projekata na proces upravljanja projektnim rizicima.

2. METODOLOGIJA ISTRAŽIVANJA

U sprovedenom istraživanju je primenjena metodologija upitnika za prikupljanje podataka. Upitnik je razvijen na osnovu dostupne relevantne literature i pokušaja drugih istraživača da kreiraju podesan instrument za analizu i evaluaciju upravljanja rizikom strategijskih investicionih projekata [11,12,13,14,15,16]. Anketni listić se sastoji iz dva dela. Prvi deo sadrži 11 kontrolnih pitanja demografskog karakera, koja su prikazana u Tabeli 1. Drugi deo anketnog listića je sačinjen od 135 pitanja iz oblasti upravljanja rizikom strategijskih investicionih projekata.

2.1. UZORAK I PRIKUPLJANJE PODATAKA

Prikupljanje podataka je izvršeno anonimnim anketiranjem projektnih menadžera u okviru 74 projektne kompanije na teritoriji Republike Srbije. Delatnosti ovih kompanija su sledeće: IT sektor (12 kompanija), finansije (3), energetska sektor (7), javna uprava (8), saobraćaj (3), prosveta (3), NIR (19) i ostalo (11). Ispitanici su upitnik popunjavali zaokruživanjem ponuđenih odgovora. Za gradaciju dobijenih odgovora korišćena je Likertova petostepena skala, gde 1 predstavlja najmanji značaj (apsolutno se ne slažem), a 5 predstavlja najveći značaj (apsolutno se slažem), dok su na određen broj pitanja odgovori bili dihotomnog karaktera (da/ne).

2.2. DEMOGRAFSKI PARAMETRI ISPITIVANOG UZORKA

U Tabeli 1. su prikazane osnovne demografske karakteristike ispitivanog uzorka (projektno orijentisanih kompanija, ispitanika i projekata).

Tabela 1. Profil kompanija, ispitanika i projekata

Karakteristike		N	%		
Kompanija (N=74)	Oblast kompanije	IT	12	16.2	
		Finansije	3	4.1	
		Energetski sector	7	9.5	
		Javna uprava	8	10.8	
		Saobraćaj	3	4.1	
		Prosveta	11	14.9	
		NIR	19	25.7	
		Ostalo	11	14.9	
		Broj zaposlenih	<10	8	10.8
			11-50	20	27.0
51-250	30		40.5		
251-1000	16		21.6		
>1000	0		0		
Ispitanik (N=74)	Godine starosti	<29	10	13.5	
		30-44	22	29.7	
		45-54	8	10.8	
		>55	34	45.9	
		Godine provedene u kompaniji	<5	38	51.4
	6-15		29	39.2	
	16-25		0	0	
	>26		7	9.5	
	Godine radnog staža	<5	13	17.6	
		6-15	19	25.7	
		16-25	4	5.4	
		>26	38	51.4	
	Školska sprema	Srednja stručna sprema	0	0	
		Viša stručna sprema	0	0	
		Visoka stručna sprema	3	4.1	
		VSS - Master	19	25.7	
		Magistratura	4	5.4	
		Doktorat	48	64.9	
	Oblast stručne spreme	Tehničko-tehnološka	36	48.6	
		Pravno-ekonomska	13	17.6	
Društveno-humanistička		18	24.3		
Prirodno-matematička		3	4.1		
Drugo		4	5.4		
Pozicija u kompaniji	Top menadžer / director	27	36.5		
	Srednji nivo menadžmenta	11	14.9		
	Operativni nivo menadžmenta	20	27.0		
	Zaposleni	16	21.6		
Projekat (N=74)	Vrsta projekata	ICT	9	12.2	
		I&R	9	12.2	
		Građevinarstvo	4	5.4	
		Javna uprava	7	9.5	
		NIR	20	27.0	
		Drugo	25	33.8	
	Vreme realizacije projekta	<6 meseci	11	14.9	
		6 meseci – 2 godine	54	73.0	
		2-5 godina	9	12.2	
		>5 godina	0	0	
Budžet projekta	< 10.000 €	24	32.4		
	10.000 € - 100.000 €	38	51.4		
	100.000 € - 500.000 €	9	12.2		
	500.000 € - 1.000.000 €	0	0		
	>1.000.000 €	3	4.1		

3. REZULTATI STATISTIČKE ANALIZE I DISKUSIJA

Statistička analiza prikupljenih podataka je obavljena korišćenjem softverskih paketa SPSS 18.0 i LISREL 8.80.

3.1. MERA ADEKVATNOSTI UZORKA I VALIDACIJA STRUKTURE

Kaiser–Meyer–Olkin (KMO) i Bartlett test

Merenje adekvatnosti uzorkovanja (MSA analiza) obavljenog u okviru sprovedenog istraživanja je obavljeno primenom Kaiser–Meyer–Olkin (KMO) testa. Na osnovu preporuka, minimalno prihvatljiva vrednost Kaiser–Meyer–Olkin indikatora je 0.6 [17,18,19]. Analiza je pokazala da koeficijent Kaiser–Meyer–Olkin (KMO) testa adekvatnosti uzorka iznosi 0.738, što ukazuje da su prikupljeni podaci pogodni za primenu faktorske analize. Osim toga, Bartlett-ov test sferičnosti pokazuje značajnost ($\chi^2 = 592.16$, $P < 0.000$), što ukazuje da postoje korelacije među stavkama u okviru mernog instrumenta, odnosno da korelaciona matrica nije jedinična matrica [20,21].

Korelaciona matrica

Korelacije između deset stavki upravljanja stratezijskim investicionim projektima u okviru predloženog modela su prikazane u tabeli 2. Kod velikih uzoraka koeficijenti korelacije imaju statističku značajnost na nivou 0.01, dok je na razmatranom uzorku nivo značajnosti 0.05, što većina korelacionih koeficijenta u materici ispunjava. Većina koeficijenata je oko, ili iznad vrednosti 0.5, što ukazuje na značajnu unutrašnju korelaciju između deset stavki upravljanja stratezijskim investicionim projektima, te je primena faktorske analize opravdana [22,23].

Tabela 2. Unutrašnje korelacije između deset stavki upravljanja stratezijskim investicionim projektima

Koeficijent	G1	G2	G3	G4	G5	G6	G7	G8	G9	G10
G1	1.000									
G2	-.164	1.000								
G3	-.030	.619	1.000							
G4	-.091	.682	.589	1.000						
G5	.089	.781	.659	.686	1.000					
G6	.495	.446	.561	.254	.651	1.000				
G7	.149	.173	.467	.295	.403	.618	1.000			
G8	-.041	.477	.555	.510	.614	.390	.491	1.000		
G9	.308	.218	.550	.289	.417	.721	.806	.474	1.000	
G10	-.092	.663	.583	.436	.637	.497	.422	.819	.474	1.000

Faktorska analiza

Faktorska analiza je sprovedena sa ciljem ekstrahovanja glavnih faktora kontrole i evaluacije strategijskih investicionih projekata, kao i analize i upravljanja projektnim rizicima. Naime, odnosi između merenih promenljivih su takvi, da se na osnovu korelacija mogu vršiti njihova pregrupisavanja u manji set promenljivih, što predstavlja konciznu i razumljivu strukturu proučavane oblasti [21].

Sprovedenom faktorskom analizom nad setom od 111 promenljivih utvrđene su veze i odnosi između predloženih grupacija, a dobijeni rezultati (faktorska opterećenja, komunaliteti i eigen vrednosti ekstrahovanih faktora) su prikazani u tabelama 3 – 10.

Tabela 3. Rezultati faktorske analize osnovnih podataka o strategijskim investicionim projektima – G1

Promenljiva	Faktorsko opterećenje (Factor loading)			Komunalitet	Faktor (eigenvalue)
	Faktor 1	Faktor 2	Faktor3		
1.2. Koju vrstu projekata realizujete?	.364	-.771	-.160	0.752	
1.3. Koliko je prosečno trajanje projekata koji se realizuju u Vašoj organizaciji?	.883	.086	1.09E-005	0.787	
1.4. Koliki je prosečni budžet projekata?	.603	.600	.007	0.724	F1 (2.369)
1.5. Da li projektima upravlja interni tim ili eksterna organizacija?	.551	.060	.400	0.467	
1.6. Koja je Vaša uloga u upravljanju projektom?	-.522	.579	-.375	0.748	F2 (1.356)
1.8. Koliko je primena upravljanja projektima značajna za uspešne rezultate projekta?	-.137	.142	.899	0.848	
1.9. Koliko je upravljanje projektima značajno za Vašu organizaciju?	-.707	-.186	.338	0.648	F3 (1.249)

Tabela 4. Rezultati faktorske analize metoda evaluacije i kontrole strategijskih investicionih projekata – G2

Promenljiva	Faktorsko opterećenje (Factor loading)				Komunalitet	Faktor (eigenvalue)
	Fak. 1	Fakt. 2	Fakt. 3	Fak. 4		
2.5.1. Da li koristite sledece metode za evaluaciju SIP? [NSV]	.747	-.404	-.292	.016	0.864	
2.5.2. Da li koristite sledece metode za evaluaciju SIP? [Interna stopa rentabilnosti]	.745	-.506	-.142	.057	0.919	
2.5.3. Da li koristite sledece metode za evaluaciju SIP? [Rok vraćanja]	.776	-.482	-.067	.261	0.912	
2.5.4. Da li koristite sledece metode za evaluaciju SIP? [Povraćaj investicije ROI]	.741	-.579	-.021	.217	0.934	
2.5.5. Da li koristite sledece metode za evaluaciju SIP? [Cost benefit analiza]	.765	-.032	.000	.007	0.785	
2.6.1. Da li Vaša organizacija koristi sledece metode? [Metoda kritične tačke]	.692	-.099	-.274	.519	0.936	
2.6.2. Da li Vaša organizacija koristi sledece metode? [Senzitivna analiza]	.649	.287	-.584	-.110	0.858	
2.6.3. Da li Vaša organizacija koristi sledece metode? [Analiza verovatnoće]	.654	.551	-.397	-.060	0.934	F1 (8.639)
2.6.5. Da li Vaša organizacija koristi sledece metode? [Drvo odlučivanja]	.657	.409	-.075	.087	0.673	
2.7.1. Da li koristite sledece metode za vodenje SIP? [WBS]	.699	-.409	.072	-.314	0.931	
2.7.2. Da li koristite sledece metode za vodenje SIP? [Milestone]	.720	-.078	.036	-.571	0.937	
2.7.3. Da li koristite sledece metode za vodenje SIP? [Metode organizacije]	.841	.034	.387	-.156	0.895	
2.7.4. Da li koristite sledece metode za vodenje SIP? [Metode procene troškova]	.869	.045	.345	.001	0.876	
2.7.5. Da li koristite sledece metode za vodenje SIP? [Gantogram]	.775	.210	.453	-.276	0.929	
2.7.6. Da li koristite sledece metode za vodenje SIP? [Tehnike mrežnog planiranja]	.721	.434	.117	-.182	0.757	
2.6.4. Da li Vaša organizacija koristi sledece metode? [Delfi metoda]	.417	.820	-.158	.068	0.935	F2 (2.808)
2.2. Ko je u Vašoj organizaciji zadužen za evaluaciju i kontrolu SIP?	.195	.133	.780	.386	0.885	F3 (1.826)
2.6.6. Da li Vaša organizacija koristi sledece metode? [Ekstrapolacija trenda]	.477	.399	.096	.575	0.923	F4 (1.454)

Tabela 5. Rezultati faktorske analize elemenata od značaja za kontrou i evaluaciju strategijskih investicionih projekata – G3

Promenljiva	Faktorsko opterećenje (Factor loading)			Komunalitet	Faktor (eigenvalue)
	Faktor 1	Faktor 2	Faktor 3		
3.4. Kakva je Vaša uloga u tom procesu?	.648	-.171	-.334	0.561	
3.5.4. Koji su elementi od znacaja za evaluaciju projekata najuticajniji? [Troškovi projekta]	.697	-.029	.374	0.627	
3.5.5. Koji su elementi od znacaja za evaluaciju projekata najuticajniji? [Period ulaganja]	.846	-.034	.003	0.717	
3.5.6. Koji su elementi od znacaja za evaluaciju projekata najuticajniji? [Period eksploatacije]	.868	-.150	-.113	0.789	
3.5.7. Koji su elementi od znacaja za evaluaciju projekata najuticajniji? [Kamatna stopa]	.760	.444	-.336	0.887	
3.5.8. Koji su elementi od znacaja za evaluaciju projekata najuticajniji? [Diskontna stopa]	.667	.389	-.012	0.596	F1 (6.030)
3.6.2. Koji su elementi od znacaja za kontrolu projekata najznacajniji? [Planirani budžet]	.666	-.474	.373	0.808	
3.6.3. Koji su elementi od znacaja za kontrolu projekata najznacajniji? [Raspoloživi resursi]	.724	-.464	-.148	0.762	
3.6.4. Koji su elementi od znacaja za kontrolu projekata najznacajniji? [Sposobnost projektnog tima]	.656	-.495	-.114	0.688	
3.6.5. Koji su elementi od znacaja za kontrolu projekata najznacajniji? [Znanje i veštine projektnog menadžera]	.663	-.515	-.118	0.719	
3.5.1. Koji su elementi od znacaja za evaluaciju projekata najuticajniji? [Obim prodaje]	.458	.728	.116	0.754	
3.5.2. Koji su elementi od znacaja za evaluaciju projekata najuticajniji? [Jedinicna cena]	.590	.672	-.109	0.812	F2 (3.080)
3.5.3. Koji su elementi od znacaja za evaluaciju projekata najuticajniji? [Prihod od projekta]	.364	.858	.173	0.899	
3.6.1. Koji su elementi od znacaja za kontrolu projekata najznacajniji? [Planirano vreme realizacije projekta]	.325	-.092	.846	0.829	F3 (1.336)

Tabela 6. Rezultati faktorske analize metoda za upravljanje projektnim rizicima – G4

Promenljiva	Faktorsko opterećenje (Factor loading)		Komunalitet	Faktor (eigenvalue)
	Faktor 1	Faktor 2		
4.6.1. Koja metodologija za upravljanje rizikom se koristi u Vašoj organizaciji? [PMI]	.441	-.115	0.208	F1 (3.419)
4.6.2. Koja metodologija za upravljanje rizikom se koristi u Vašoj organizaciji? [IPMA]	.759	-.581	0.913	
4.6.3. Koja metodologija za upravljanje rizikom se koristi u Vašoj organizaciji? [YUPMA]	.549	-.746	0.858	
4.6.4. Koja metodologija za upravljanje rizikom se koristi u Vašoj organizaciji? [Kerzner]	.883	.171	0.810	
4.6.6. Koja metodologija za upravljanje rizikom se koristi u Vašoj organizaciji? [APM]	.908	.120	0.839	
4.6.7. Koja metodologija za upravljanje rizikom se koristi u Vašoj organizaciji? [GPMA]	.747	.436	0.749	
4.6.5. Koja metodologija za upravljanje rizikom se koristi u Vašoj organizaciji? [ISO]	.429	.734	0.723	

Tabela 7. Rezultati faktorske analize procene i analize projektnih rizika – G5

Promenljiva	Faktorsko opterećenje (Factor loading)				Komunalitet	Faktor (eigenvalue)
	F 1	F 2	F 3	F 4		
5.3.2. Koje metode za analizu i procenu rizika najviše koristite? [Ankete]	.752	.140	-.053	.222	0.862	F1 (10.989)
5.3.4. Koje metode za analizu i procenu rizika najviše koristite? [Analiza osetljivosti]	.654	-.556	.113	-.023	0.819	
5.3.5. Koje metode za analizu i procenu rizika najviše koristite? [Analiza verovatnoce]	.819	-.238	.014	.160	0.884	
5.3.6. Koje metode za analizu i procenu rizika najviše koristite? [Drvo odlucivanja]	.497	.141	.266	.513	0.913	
5.3.7. Koje metode za analizu i procenu rizika najviše koristite? [Metod simulacije]	.588	-.285	-.382	.578	0.936	
5.4.1. Koje metode za procenu verovatnoce nastajanja rizicnih dogadaja najviše koristite? [WBS]	.573	-.306	.537	.074	0.933	
5.4.2. Koje metode za procenu verovatnoce nastajanja rizicnih dogadaja najviše koristite? [Ankete]	.807	.363	.021	-.113	0.882	
5.4.3. Koje metode za procenu verovatnoce nastajanja rizicnih dogadaja najviše koristite? [Brainstorming]	.667	.618	.172	-.187	0.958	
5.4.4. Koje metode za procenu verovatnoce nastajanja rizicnih dogadaja najviše koristite? [Analiza osetljivosti]	.737	-.572	.092	-.181	0.938	
5.4.5. Koje metode za procenu verovatnoce nastajanja rizicnih dogadaja najviše koristite? [Analiza verovatnoce]	.808	-.310	-.189	-.027	0.870	
5.4.6. Koje metode za procenu verovatnoce nastajanja rizicnih dogadaja najviše koristite? [Drvo odlucivanja]	.599	.058	.179	-.500	0.969	
5.4.7. Koje metode za procenu verovatnoce nastajanja rizicnih dogadaja najviše koristite? [Metod simulacije]	.676	-.300	-.601	-.050	0.937	
5.5.1. Koje metode za procenu velicine uticaja rizicnih dogadaja na rezultat projekta najviše koristite? [WBS]	.550	-.455	.436	-.171	0.901	
5.5.2. Koje metode za procenu velicine uticaja rizicnih dogadaja na rezultat projekta najviše koristite? [Ankete]	.684	.221	.124	-.319	0.838	
5.5.3. Koje metode za procenu velicine uticaja rizicnih dogadaja na rezultat projekta najviše koristite? [Brainstorming]	.716	.529	.145	-.322	0.918	
5.5.4. Koje metode za procenu velicine uticaja rizicnih dogadaja na rezultat projekta najviše koristite? [Analiza osetljivosti]	.765	-.518	.005	-.127	0.898	
5.5.5. Koje metode za procenu velicine uticaja rizicnih dogadaja na rezultat projekta najviše koristite? [Analiza verovatnoce]	.816	-.346	-.229	-.060	0.864	
5.5.6. Koje metode za procenu velicine uticaja rizicnih dogadaja na rezultat projekta najviše koristite? [Drvo odlucivanja]	.621	.036	.319	-.258	0.915	
5.5.7. Koje metode za procenu velicine uticaja rizicnih dogadaja na rezultat projekta najviše koristite? [Metod simulacije]	.772	-.247	-.532	-.086	0.963	

5.6.2. Koji je po Vama stepen znacaja uticaja rizicnih dogadaja na sledece elemente uspeha projekata? [Uticaj rizika na prekoracenje definisanog budžeta]	.527	.462	.405	.186	0.949	
Nastavak Tabele 7 sa prethodne strane						
5.6.3. Koji je po Vama stepen znacaja uticaja rizicnih dogadaja na sledece elemente uspeha projekata? [Uticaj rizika na prekoracenje planiranja materijalnih resursa i radne snage]	.523	.314	-.292	.233	0.816	
5.3.3. Koje metode za analizu i procenu rizika najviše koristite? [Brainstorming]	.467	.572	.182	.406	0.964	
5.3.8. Koje metode za analizu i procenu rizika najviše koristite? [Delfi metod]	.469	.519	-.388	.206	0.871	
5.4.8. Koje metode za procenu verovatnoce nastajanja rizicnih dogadaja najviše koristite? [Delfi metod]	.419	.561	-.358	-.266	0.835	F2 (4.281)
5.5.8. Koje metode za procenu velicine uticaja rizicnih dogadaja na rezultat projekta najviše koristite? [Delfi metod]	.577	.599	-.229	.015	0.916	
5.6.1. Koji je po Vama stepen znacaja uticaja rizicnih dogadaja na sledece elemente uspeha projekata? [Uticaj rizika na prekoracenje definisanog vremenskog plana]	.275	.178	.473	.147	0.701	F3 (2.588)
5.3.1. Koje metode za analizu i procenu rizika najviše koristite? [WBS]	.451	-.265	.327	.568	0.892	F4 (2.052)

Tabela 8. Rezultati faktorske analize elemenata od značaja za upravljanje projektnim rizicima – G6

Promenljiva	Faktorsko opterećenje (Factor loading)			Komunalitet	Faktor (eigenvalue)
	F 1	F 2	F 3		
6.4.4. Koji su po Vašem mišljenju najznacajnije faktori od značaja za upravljanje rizikom? [Potencijalni gubitak]	.392	.289	-.727	0.788	
6.4.6. Koji su po Vašem mišljenju najznacajnije faktori od značaja za upravljanje rizikom? [Rizik procene troškova]	.821	.052	.087	0.694	
6.4.7. Koji su po Vašem mišljenju najznacajnije faktori od značaja za upravljanje rizikom? [Rizik finansiranja]	.837	.036	.272	0.783	
6.4.8. Koji su po Vašem mišljenju najznacajnije faktori od značaja za upravljanje rizikom? [Tržišni rizik]	.692	-.481	-.147	0.800	
6.4.9. Koji su po Vašem mišljenju najznacajnije faktori od značaja za upravljanje rizikom? [Devizni rizik]	.738	-.303	.139	0.655	F1 (6.391)
6.4.10. Koji su po Vašem mišljenju najznacajnije faktori od značaja za upravljanje rizikom? [Ljudski faktor]	.832	.112	.342	0.822	
6.5.2. Koji faktor rizika najviše utice na probijanje vremenskog plana? [Tržišni rizik]	.707	-.411	-.208	0.817	
6.5.3. Koji faktor rizika najviše utice na probijanje vremenskog plana? [Rizik finansiranja]	.855	-.097	-.129	0.836	
6.6.2. Koji faktor rizika najviše utice na probijanje planiranog budžeta? [Rizik finansiranja]	.862	-.091	-.096	0.825	
6.6.3. Koji faktor rizika najviše utice na probijanje planiranog budžeta? [Tržišni rizik]	.706	-.411	.137	793	
6.4.1. Koji su po Vašem mišljenju najznacajnije faktori od značaja za upravljanje rizikom? [Verovatnoca ostvarenja rizicnog dogadaja]	.312	.525	-.446	0.572	
6.4.2. Koji su po Vašem mišljenju najznacajnije faktori od značaja za upravljanje rizikom? [Ucestalost rizicnih dogadaja]	.385	.746	-.295	0.861	
6.4.3. Koji su po Vašem mišljenju najznacajnije faktori od značaja za upravljanje rizikom? [Povezanost rizicnih dogadaja]	.418	.554	-.255	0.624	F2 (3.345)
6.4.5. Koji su po Vašem mišljenju najznacajnije faktori od značaja za upravljanje rizikom? [Rizik vremenskog plana]	.103	.802	-.079	0.680	
6.5.1. Koji faktor rizika najviše utice na probijanje vremenskog plana? [Ljudski faktor]	.287	.745	.512	0.906	
6.6.1. Koji faktor rizika najviše utice na probijanje planiranog budžeta? [Rizik procene troškova]	.400	.147	.471	0.753	F3 (2.093)
6.6.4. Koji faktor rizika najviše utice na probijanje planiranog budžeta? [Ljudski faktor]	-.040	.455	.631	905	

Tabela 9. Rezultati faktorske analize uticaja faktora rizika na uspešnost projekta – G7

Promenljiva	Faktorsko opterećenje (Factor loading)			Komunalitet	Faktor (eigenvalue)
	F 1	F 2	F 3		
7.3.2. Koji faktori rizika po Vašem mišljenju najviše uticu na evaluaciju projekta? [Tržišni rizik]	.488	-.675	-.043	0.695	
7.3.3. Koji faktori rizika po Vašem mišljenju najviše uticu na evaluaciju projekta? [Devizni rizik]	.691	.214	-.247	0.595	
7.3.4. Koji faktori rizika po Vašem mišljenju najviše uticu na evaluaciju projekta? [Rizik finansiranja]	.754	.051	.097	0.745	
7.3.5. Koji faktori rizika po Vašem mišljenju najviše uticu na evaluaciju projekta? [Ljudski resursi]	.637	.538	.275	0.892	
7.4.1. Koji faktori rizika po Vašem mišljenju najviše uticu na kontrolu projekta? [Verovatnoca ostvarenja rizika]	.592	.535	-.288	0.807	
7.4.2. Koji faktori rizika po Vašem mišljenju najviše uticu na kontrolu projekta? [Potencijalni gubitak]	.677	-.265	-.407	0.729	
7.4.3. Koji faktori rizika po Vašem mišljenju najviše uticu na kontrolu projekta? [Rizik vremenskog plana]	.640	.116	.474	0.820	F1 (6.084)
7.4.4. Koji faktori rizika po Vašem mišljenju najviše uticu na kontrolu projekta? [Rizik procene troškova]	.866	-.109	.040	0.870	
7.4.5. Koji faktori rizika po Vašem mišljenju najviše uticu na kontrolu projekta? [Ljudski faktor]	.665	.088	.289	0.815	
7.5.1. Koji faktori rizika po Vašem mišljenju najviše uticu na uspešnost projekta? [Potencijalni gubitak]	.544	-.746	.002	0.862	
7.5.2. Koji faktori rizika po Vašem mišljenju najviše uticu na uspešnost projekta? [Tržišni rizik]	.842	-.027	-.400	0.872	
7.5.3. Koji faktori rizika po Vašem mišljenju najviše uticu na uspešnost projekta? [Devizni rizik]	.660	-.268	-.360	0.684	
7.3.1. Koji faktori rizika po Vašem mišljenju najviše uticu na evaluaciju projekta? [Verovatnoca ostvarenja rizika]	.342	.562	-.369	0.592	F2 (2.492)
7.5.4. Koji faktori rizika po Vašem mišljenju najviše uticu na uspešnost projekta? [Rizik procene troškova]	.428	-.414	.696	0.861	
7.5.5. Koji faktori rizika po Vašem mišljenju najviše uticu na uspešnost projekta? [Ljudski resursi]	.494	.439	.527	0.802	F3 (1.896)

Tabela 10. Rezultati faktorske analize kriterijuma za merenje uspešnosti strategijskih investicionih projekata – G9

Promenljiva	Faktorsko opterećenje (Factor loading)		Komunalitet	Faktor (eigenvalue)
	F 1	F 2		
9.1. Glavni kriterijum za merenje uspeha projekta je? [Zadovoljstvo klijenta]	.834	-.357	0.823	
9.2. Glavni kriterijum za merenje uspeha projekta je? [Planirano vreme realizacije]	.727	-.532	0.811	
9.3. Glavni kriterijum za merenje uspeha projekta je? [Planirani budžet]	.853	-.211	0.772	F1 (3.399)
9.4. Glavni kriterijum za merenje uspeha projekta je? [Kvalitet projekta]	.815	.289	0.747	
9.5. Glavni kriterijum za merenje uspeha projekta je? [Dostignutost drugih ciljeva]	.778	.490	0.845	
9.6. Glavni kriterijum za merenje uspeha projekta je? [Zadovoljstvo top menadžmenta]	.422	.585	0.520	F2 (1.119)

Na osnovu navedenih tabela mogu se izvesti zaključci da se u gotovo svim grupama pitanja, trebaju formirati podgrupe ili izvesna pitanja treba ukloniti iz finalnog upitnika. Na primer, pitanja u grupi G1 – osnovni podaci o strategijskim investicionim projektima kompanija (Tabela 3), trebalo bi podeliti u dve podgrupe (G1.1 i G1.2), pri čemu bi grupa G1.1 sadržala pitanja 1.2 do 1.5, dok bi grupa G1.2, sadržala pitanja 1.8 i 1.9. Na taj način, pitanje 1.6, ne treba dalje statistički analizirati u okviru ove grupe. S druge strane, pitanja u grupi G 2 – koja se odnose na primenu metoda za analizu samih strategijskih investicionih projekata (Tabela 4), pokazuju veliku meru univarijantnosti. Naime gotovo sva pitanja se nalaze u istom faktoru. Preostala tri pitanja koja su van prvog faktora, neće biti statistički obrađivana u okviru ove grupe, u daljoj analizi.

3.2. ANALIZA POUZDANOSTI INDIKATORA UPRAVLJANJA RIZIKOM SIP

Ocena unutrašnje konzistentnosti instrumenta za prikupljanje podataka je obavljena korišćenjem Cronbach alpha, Spearman–Brown i Ω testa [24,25,26,27,28]. 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 i i Ω testa [28]. Spearman–Brown koeficijent predstavlja koeficijent pouzdanosti svih mogućih kombinacija podele pitanja u dva seta. Na primer, upitnik se podeli na parna i neparna pitanja i odredi se korelacija između njih [29]. Ω koeficijent se izračunava na osnovu rezultata faktorske analize [30].

Prema ovim testovima vrednosti koeficijenta α , kao i Spearman–Brown i Ω koeficijenta veće od 0.70 predstavljaju dobru mogućnost modelovanja rezultata ankete kod razmatrane populacije [30].

Na osnovu dobijenih Cronbach alpha koeficijenata interne konzistentnosti grupacija pitanja u okviru upitnika (G2 – G9, sa izuzetkom grupe pitanja G1), Spearman–Brown koeficijenata svih kombinacija podele pitanja u dva seta (G2 – G9, takođe sa izuzetkom grupe pitanja G1), kao i Ω koeficijenta (G2 – G9, sa izuzetkom grupe pitanja G1), dokazana je

validnost i pouzdanost upitnika o upravljanju strategijskim investicionim projektima (tabela 11).

Tabela 11. Koeficijenti interne konzistentnosti grupacija pitanja u upitniku

Grupe pitanja	Broj stavki u okviru grupe	Cronbach α koeficijent	Spearman–Brown koeficijent	Ω koeficijent
G1	7	-0.338	-0.677	0.405
G2	18	0.931	0.831	0.980
G3	14	0.885	0.835	0.945
G4	7	0.744	0.731	0.892
G5	27	0.940	0.912	0.990
G6	17	0.875	0.839	0.947
G7	15	0.887	0.880	0.949
G9	6	0.841	0.712	0.913

3.3. GLM ANALIZA (GENERAL LINEAR MODEL)

GLM multivarijantna procedura obezbeđuje regresionu analizu i analizu varijansi za višestruko zavisne varijable prema jednoj ili više faktorskih varijabli. Faktorske varijable dele populaciju u grupe. Opšti linearni model omogućava testiranje nulte hipoteze o uticaju faktorskih varijabli na grupe zavisnih varijabli. Korišćenjem GLM metode je moguće ispitati međuzavisnost faktora, kao i uticaj pojedinačnih faktora. Takođe, može se ispitati uticaj kovarijabli i međuzavisnost kovarijabli i faktora. Kod regresione analize, nezavisne varijable su označene kao kovarijable [31,32].

GLM procedura ispituje tačnost postavljene nulte hipoteze, koja se može formulisati na sledeći način: H_0 - Ne postoji razlika u odgovorima ispitanika na pitanja iz ankete u odnosu na posmatrane demografske podatke.

Uticaj interakcije vrste projekta i vremena trajanja realizacije projekta na analizu i upravljanje projektnim rizicima

Tabela 12 prikazuje rezultate sva četiri multivarijantna testa značajnosti (Pillai's, Wilks', Hotelling's, Roy's) za glavne efekte između grupa promenljivih – vrsta projekta, vreme trajanja realizacije projekta, vrsta projekta – vreme trajanja realizacije projekta, na osnovu kojih se nameću sledeći zaključci. Nulta hipoteza da vrsta projekta ne vrši uticaj na analizu i upravljanje projektnim rizicima se odbacuje. Nulta hipoteza da vreme realizacije projekta ne vrši uticaj na analizu i upravljanje projektnim rizicima se takođe odbacuje. Konačno, nulta hipoteza da uticaj interakcije vrsta projekta – vreme trajanja realizacije projekta na analizu i upravljanje projektnim rizicima ne postoji, se odbacuje.

Tabela 12. Multivarijantni test značajnosti za glavne efekte između grupa promenljivih vrsta projekta – vreme trajanja realizacije projekta na analizu i upravljanje projektnim rizicima

Efekat		Value	F	Hypothesis df	Error df	Sig.
Vrsta projekata	Pillai's Trace	1.082	4.745	20.000	256.000	.000
	Wilks' Lambda	.226	5.741	20.000	203.264	.000
	Hotelling's Trace	2.154	6.408	20.000	238.000	.000
	Roy's Largest Root	1.343	17.193(b)	5.000	64.000	.000
Vreme trajanja realizacije projekata	Pillai's Trace	.440	4.371	8.000	124.000	.000
	Wilks' Lambda	.579	4.796(a)	8.000	122.000	.000
	Hotelling's Trace	.696	5.217	8.000	120.000	.000
	Roy's Largest Root	.646	10.008(b)	4.000	62.000	.000
Vrsta projekata * Vreme trajanja realizacije projekata	Pillai's Trace	.476	4.845	8.000	124.000	.000
	Wilks' Lambda	.545	5.411(a)	8.000	122.000	.000
	Hotelling's Trace	.797	5.977	8.000	120.000	.000
	Roy's Largest Root	.745	11.548(b)	4.000	62.000	.000

Tabela 13 pruža informacije o tome na koje od četiri prediktora analize i upravljanja projektnim rizicima glavni efekti između grupa promenljivih vrsta projekta, vreme trajanja realizacije projekta, vrsta projekta – vreme trajanja realizacije projekta, imaju statistički značajan uticaj.

Tabela 13. Rezultati GLM, uticaj prediktora analize i upravljanja projektnim rizicima na analizu i upravljanje projektnim rizicima u odnosu na interakciju vrsta projekta – vreme trajanja realizacije projekta

Efekat	Zavisna variabla	Type III Sum of Squares	df	Mean Square	F	Sig.
Vrsta projekata	4. Podaci o korišćenim metodologijama za upravljanje projektnim rizicima	1.596	5	.319	1.168	.335
	5. Analiza i procena rizika	5.208	5	1.042	3.586	.006
	6. Podaci o elementima od značaja za upravljanje rizikom	6.560	5	1.312	6.740	.000
	7. Uticaj faktora rizika na uspešnost projekta	8.752	5	1.750	15.287	.000
Vreme trajanja realizacije projekata	4. Podaci o korišćenim metodologijama za upravljanje projektnim rizicima	6.121	2	3.060	11.201	.000
	5. Analiza i procena rizika	7.302	2	3.651	12.569	.000
	6. Podaci o elementima od značaja za upravljanje rizikom	1.238	2	.619	3.181	.048
	7. Uticaj faktora rizika na uspešnost projekta	1.412	2	.706	6.165	.004
Vrsta projekata * Vreme trajanja realizacije projekata	4. Podaci o korišćenim metodologijama za upravljanje projektnim rizicima	2.536	2	1.268	4.640	.013
	5. Analiza i procena rizika	.876	2	.438	1.508	.229
	6. Podaci o elementima od značaja za upravljanje rizikom	1.018	2	.509	2.614	.081
	7. Uticaj faktora rizika na uspešnost projekta	1.966	2	.983	8.584	.000

Vrsta projekta utiče značajno na sve elemente analize i upravljanja projektnim rizicima, osim na način odabira i korišćenja metodologija za upravljanje projektnim rizicima. Sa druge strane, vreme trajanja realizacije projekta značajno utiče na svaki aspekt analize i upravljanja projektnim rizicima. Kada se posmatra uticaj interakcije vrsta projekta – vreme trajanja realizacije projekta na analizu i upravljanje projektnim rizicima, primetan je izostanak njenog uticaja na samu analizu i procenu rizika, kao i na evaluaciju elemenata od značaja za upravljanje projektnim rizicima.

Uticaj interakcije budžeta projekta i načina upravljanja projektom (interni tim / eksterna organizacija) na analizu i upravljanje projektnim rizicima

U tabeli 14 su prikazani rezultati četiri multivarijantna testa značajnosti (Pillai's, Wilks', Hotelling's, Roy's) za glavne efekte između grupa promenljivih – projektni budžet, načina upravljanja projektom (interni tim / eksterna organizacija), projektni budžet – načina upravljanja projektom (interni tim / eksterna organizacija). Nulta hipoteza da budžet projekta ne vrši značajan uticaj na analizu i upravljanje projektnim rizicima se odbacuje. Takođe se odbacuje i nulta hipoteza da način upravljanja strategijskim investicionim projektom (interni tim / eksterna organizacija) ne vrši uticaj na analizu i upravljanje projektnim rizicima. Konačno, odbacuje se nulta hipoteza da uticaj interakcije projektni budžet – načina upravljanja projektom (interni tim / eksterna organizacija) na analizu i upravljanje projektnim rizicima ne postoji. Očigledno je da bužetska sredstva strategijskih investicionih projekata, kao i način upravljanja projektom, tj. kreiranje internih timova, ili angažovanje eksternih kompanija u svrhu upravljanja, imaju velikog značaja u procesu analize i upravljanja projektnim rizicima.

Tabela 14. Multivarijantni test značajnosti za glavne efekte između grupa promenljivih projektni budžet – načina upravljanja projektom (interni tim / eksterna organizacija) na analizu i upravljanje projektnim rizicima

Efekat		Value	F	Hypothesis s df	Error df	Sig.
Projektni budžet	Pillai's Trace	.734	5.349	12.000	198.000	.000
	Wilks' Lambda	.406	5.747	12.000	169.620	.000
	Hotelling's Trace	1.131	5.907	12.000	188.000	.000
	Roy's Largest Root	.667	11.010(b)	4.000	66.000	.000
Način upravljanja projektima, interni tim, ili eksterna organizacija	Pillai's Trace	.200	4.001(a)	4.000	64.000	.006
	Wilks' Lambda	.800	4.001(a)	4.000	64.000	.006
	Hotelling's Trace	.250	4.001(a)	4.000	64.000	.006
	Roy's Largest Root	.250	4.001(a)	4.000	64.000	.006
Projektni budžet * Način upravljanja projektima, interni tim, ili eksterna organizacija	Pillai's Trace	.765	10.071	8.000	130.000	.000
	Wilks' Lambda	.322	12.182(a)	8.000	128.000	.000
	Hotelling's Trace	1.831	14.417	8.000	126.000	.000
	Roy's Largest Root	1.668	27.103(b)	4.000	65.000	.000

Obzirom da je utvrđeno da projektni budžet i način upravljanja projektom (interni tim / eksterna organizacija), kao i interakcija ova dva faktora, imaju statistički značaj ($p < 0.005$) na analizu i upravljanje projektnim rizicima, posmatrajući podatke iz tabele 15, može se uočiti kako ispitivani parametri projekata utiču na pojedinačne elemente procesa upravljanja projektnim rizicima.

Tabela 15. Rezultati GLM, uticaj prediktora analize i upravljanja projektnim rizicima na analizu i upravljanje projektnim rizicima u odnosu na interakciju projektni budžet – načina upravljanja projektom (interni tim / eksterna organizacija)

Efekat	Zavisna variabla	Type III Sum of Squares	df	Mean Square	F	Sig.
Projektni budžet	4. Podaci o koriscenim metodologijama za upravljanje projektnim rizicima	5.237	3	1.746	4.990	.003
	5. Analiza i procena rizika	.695	3	.232	.490	.691
	6. Podaci o elementima od znacaja za upravljanje rizikom	1.069	3	.356	1.326	.273
	7. Uticaj faktora rizika na uspesnost projekta	1.926	3	.642	3.396	.023
Način upravljanja projektima, interni tim, ili eksterna organizacija	4. Podaci o koriscenim metodologijama za upravljanje projektnim rizicima	.435	1	.435	1.244	.269
	5. Analiza i procena rizika	.212	1	.212	.448	.505
	6. Podaci o elementima od znacaja za upravljanje rizikom	.343	1	.343	1.277	.262
	7. Uticaj faktora rizika na uspesnost projekta	.354	1	.354	1.871	.176
Projektni budžet * Način upravljanja projektima, interni tim, ili eksterna organizacija	4. Podaci o koriscenim metodologijama za upravljanje projektnim rizicima	1.027	2	.514	1.468	.238
	5. Analiza i procena rizika	1.687	2	.843	1.783	.176
	6. Podaci o elementima od znacaja za upravljanje rizikom	.038	2	.019	.071	.932
	7. Uticaj faktora rizika na uspesnost projekta	4.882	2	2.441	12.911	.000

Analizirajući uticaj projektnog budžeta na elemente upravljanja rizicima strategijskih investicionih projekata, može se zaključiti sledeće. Budžet projekta vrši statistički značajan uticaj na proces upravljanja projektnim rizicima, međutim, ovaj značaj izostaje u odnosu na evaluaciju elemenata od značaja za upravljanje rizicima, kao i na samu analizu i procenu projektnih rizika. Način upravljanja projektom (interni tim / eksterna organizacija) vrši uticaj na sveukupno upravljanje rizikom, ali parcijalno posmatrano po proučavanim elementima upravljanja rizicima na projektu, taj uticaj izostaje. Očigledno je da se uticaj načina upravljanja projektima na upravljanje projektnim rizicima, ispoljava u interakciji sa datim budžetom projekta.

Uticaj interakcije metodologije za upravljanje rizikom i uspešnosti upravljanja projektom na analizu i upravljanje projektnim rizicima

Posmatrajući rezultate (tabela 16) sva četiri multivarijantna testa značajnosti (Pillai's, Wilks', Hotelling's, Roy's) za glavne efekte između grupa promenljivih – metodologije za upravljanje rizikom, uspešnosti upravljanja projektom, metodologije za upravljanje rizikom – uspešnosti upravljanja projektom, nameću se sledeći zaključci. Nulta hipoteza da metodologija za upravljanje rizikom ne vrši statistički značajan uticaj na analizu i upravljanje projektnim rizicima se odbacuje. Takođe se odbacuje i nulta hipoteza da uspešnost upravljanja projektom ne vrši značajan uticaj na analizu i upravljanje projektnim rizicima. Međutim, uticaj interakcije metodologija za upravljanje rizikom – uspešnost upravljanja projektom, potvrđuje nultu hipotezu da ne postoji uticaj na analizu i upravljanje projektnim rizicima.

Tabela 16. Multivarijantni test značajnosti za glavne efekte između grupa promenljivih metodologija za upravljanje rizikom – uspešnost upravljanja projektom na analizu i upravljanje projektnim rizicima

Efekat		Value	F	Hypothesis df	Error df	Sig.
Metodologija za upravljanje rizikom	Pillai's Trace	.212	4.506(a)	4.000	67.000	.003
	Wilks' Lambda	.788	4.506(a)	4.000	67.000	.003
	Hotelling's Trace	.269	4.506(a)	4.000	67.000	.003
	Roy's Largest Root	.269	4.506(a)	4.000	67.000	.003
Uspešnost upravljanja projektom	Pillai's Trace	.150	2.963(a)	4.000	67.000	.026
	Wilks' Lambda	.850	2.963(a)	4.000	67.000	.026
	Hotelling's Trace	.177	2.963(a)	4.000	67.000	.026
	Roy's Largest Root	.177	2.963(a)	4.000	67.000	.026
Metodologija za upravljanje rizikom * Uspešnost upravljanja projektom	Pillai's Trace	.018	.314(a)	4.000	67.000	.868
	Wilks' Lambda	.982	.314(a)	4.000	67.000	.868
	Hotelling's Trace	.019	.314(a)	4.000	67.000	.868
	Roy's Largest Root	.019	.314(a)	4.000	67.000	.868

Obzirom da je utvrđeno da metodologija za upravljanje rizikom i uspešnost upravljanja projektom imaju statistički značaj ($p < 0.005$), odnosno da interakcija ova dva faktora nema statističkog značaja na analizu i upravljanje projektnim rizicima ($p > 0.005$), na osnovu podataka iz tabele 17, može se uočiti kako ispitivani parametri projekata utiču na pojedine elemente analize i upravljanja projektnim rizicima.

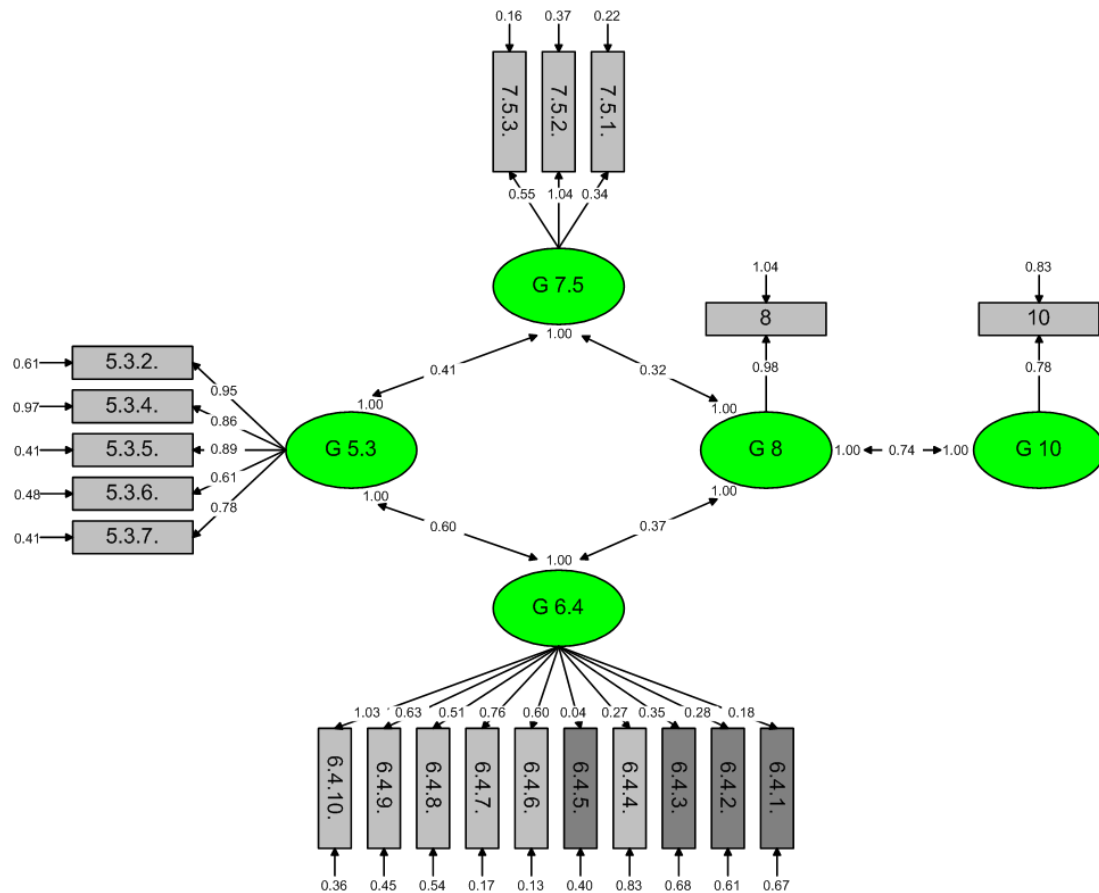
Tabela 17. Rezultati GLM, uticaj prediktora analize i upravljanja projektnim rizicima na analizu i upravljanje projektnim rizicima u odnosu na interakciju metodologija za upravljanje rizikom – uspešnost upravljanja projektom

Efekat	Zavisna variabla	Type III Sum of Squares	df	Mean Square	F	Sig.
Metodologija za upravljanje rizikom	4. Podaci o koriscenim metodologijama za upravljanje projektnim rizicima	2.284	1	2.284	6.666	.012
	5. Analiza i procena rizika	.862	1	.862	3.105	.082
	6. Podaci o elementima od znacaja za upravljanje rizikom	.018	1	.018	.082	.776
	7. Uticaj faktora rizika na uspesnost projekta	1.184	1	1.184	5.898	.018
Uspešnost upravljanja projektom	4. Podaci o koriscenim metodologijama za upravljanje projektnim rizicima	.031	1	.031	.092	.763
	5. Analiza i procena rizika	1.852	1	1.852	6.669	.012
	6. Podaci o elementima od znacaja za upravljanje rizikom	1.898	1	1.898	8.815	.004
	7. Uticaj faktora rizika na uspesnost projekta	.024	1	.024	.119	.731
Metodologija za upravljanje rizikom * Uspešnost upravljanja projektom	4. Podaci o koriscenim metodologijama za upravljanje projektnim rizicima	.037	1	.037	.108	.743
	5. Analiza i procena rizika	.295	1	.295	1.063	.306
	6. Podaci o elementima od znacaja za upravljanje rizikom	.020	1	.020	.093	.761
	7. Uticaj faktora rizika na uspesnost projekta	.001	1	.001	.003	.960

Uspešnost primenjenih metodologija za upravljanje projektnim rizicima nije uticala na podatke od značaja za upravljanje rizicima, kao ni na proces analize i procene rizika. Sa druge strane, uspešnost upravljanja projektom nije uticala na metodologije za upravljanje projektnim rizicima. Takođe, uspešnost projekta nije uticala ni na faktore rizika. Shodno tome, kao posledica ovakvih uticaja, interakcija – metodologija za upravljanje rizikom – uspešnost upravljanja projektom ne vrši statistički značajan uticaj na projektne rizike.

3.4. STRUKTURNI MODEL

Na osnovu zaključaka koji su proistekli kao rezultat statističke analize, opisane u prethodnom tekstu, formiran je strukturni model za analizu rizika na istraživanim startegijskim investicionim projektima. Sam model je prikazan na slici 1.



Slika 1. Strukturni model

Preko modela strukturnih jednačina definisane su sledeće korelacije: Primenjene metode procene i analize projektnih rizika (G5.3) pozitivno su povezane sa faktorima od uticaja na ukupni uspeh projekta (G7.5). Nivo korelacije je 0.41. Primenjene metode procene i analize projektnih rizika (G5.3) pozitivno su povezane sa faktorima od uticaja na upravljanje projektnim rizicima (G6.4). Nivo korelacije je 0.60. Faktori od uticaja na ukupni uspeh projekta (G7.5) pozitivno su povezani sa primenjenom metodologijom za upravljanje rizikom (G8). Nivo korelacije je 0.32. Faktori od uticaja na upravljanje projektnim rizicima (G6.4) pozitivno su povezani sa primenjenom metodologijom za upravljanje rizikom (G8). Nivo korelacije je 0.37. I konačno, primenjena metodologija za upravljanje projektnim rizikom (G8) pozitivno je povezana sa uspehom upravljanja strategijskim investicionim projektom (G10). Nivo korelacije je 0.74. Obzirom na postojanje jake pozitivne korelacije između navedenih grupa pitanja, može se zaključiti da su postavljene hipoteze u ovom istraživanju potvrđene.

4. ZAKLJUČAK

Strategijski investicioni projekti predstavljaju osnovu privrednog razvoja i društvenog napretka u celini. Zbog njihovog izuzetnog značaja, neophodna je studiozna analiza i pristup upravljaju svakog elementa ove vrste projekata. Posebno značajno poglavlje u tom procesu predstavljaju potencijalni rizici i njihovi neželjni efekti, a sa ciljem njihovog eliminisanja, ili minimiziranja, odnosno adekvatnog odgovora na njih. Statistička analiza podataka prikupljenih anketiranjem zaposlenih u 74 projektne organizacije na teritoriji Srbije, predočava značajne zaključke. Sprovedena faktorska analiza prema grupama pitanja polaznog upitnika je pokazala da je u okviru svake grupe potrebno formirati podgrupe, dok su pojedina pitanja eliminisana iz dalje analize. GLM multivarijantnom procedurom je potvrđen uticaj najznačajnijih karakteristika projekata (vrsta projekta, vreme trajanja projekta, projektni budžet, način upravljanja projektom) i primenjene metodologije za upravljanje rizikom na proces analize i upravljanja projektnim rizicima. Na osnovu formiranog strukturnog modela za analizu rizika na istraživanim strategijskim investicionim projektima, može se zaključiti da su postavljene hipoteze u ovom istraživanju potvrđene. Konačno, dobijeni rezultati prezentovani u ovom radu predstavljaju dobru osnovu za nastavak istraživanja i formiranje konačnog mernog instrumenta i modela upravljanja rizikom strategiskih investicionih projekata.

REFERENCE

1. Asrilhant, B., Meadows, M., Dyson, R.G. (2004). Exploring Decision Support and Strategic Project Management in the Oil and Gas Sector. *European Management Journal*, 22 (1), 63-73.
2. Schoemaker, P.J.H. (1992). How to link strategic vision to core capabilities. *Sloan Management Review*, 34 (1), 67-72.
3. Buckley, A. (1998). *International Investment: Value Creation and Appraisal*. Copenhagen Business School, Denmark.
4. Foss, N.J. (1997). Resources and strategy: problems, open issues, and ways ahead. In *Resources, Firms and Strategies: A Reader in the Resource-Based Perspective*, ed. N.J. Foss, pp. 345-365. Oxford University Press, Oxford.
5. Amram, M., Kulatilaka, N. (1999). *Real Options: Managing Strategic Investments in an Uncertain World*. Harvard Business School Press, Boston, MA.
6. Smit, H.T.J., Ankum, L.A. (1993) A real options and gametheoretic approach to corporate investment strategy under competition. *Financial Management*, 22 (3), 241-250.
7. Asrilhant, B., Meadows, M., Dyson, R. (2006). Techniques to Support Successful Strategic Project Management in the UK Upstream Oil and Gas Sector. *European Management Journal*, 24 (2-3), 214-225.
8. Mooraj, S., Oyon, D., Hostettler, D. (1999). The Balanced Scorecard: a necessary good or an unnecessary evil? *European Management Journal*, 17 (5), 481-491.
9. Kerzner, H. (2009). *Project Management: A Systems approach to planning, scheduling and control*. John Wiley & Sons, Inc., Hoboken, New Jersey.

10. Maytorena, E., Winch, G.M., Freeman, J., Kiely, T. (2007). The influence of experience and information search styles on project risk identification performance. *IEEE Transactions on Engineering Management*, 54 (2), 315–326.
11. Baker, S. (1995). Questionnaire on risk analysis. The university of Edinburg, Department of civil and environmental engineering.
12. Raz, T., Michael, E. (2001). Use and benefits of tools for project risk management. *International Journal of Project Management*, 19, 9–17.
13. Wallace, L., Keil, M., Rai, A. (2004). How Software Project Risk Affects Project Performance: An Investigation of the Dimensions of Risk and an Exploratory Model. *Decision Sciences*, 35(2), 289–321.
14. Papke-Shields, K.E., Beise, C., Quan, J. (2010). Do project managers practice what they preach, and does it matter to project success? *International Journal of Project Management*, 28(7), 650–662.
15. Teller, J., Kock, A. (2013). An empirical investigation on how portfolio risk management influences project portfolio success. *International Journal of Project Management*, 31, 817–829.
16. Liu, S., Wang, L. (2014). Understanding the impact of risks on performance in internal and outsourced information technology projects: The role of strategic importance. *International Journal of Project Management*, 32, 1494–1510.
17. 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.
18. Kaiser, H.F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31–36.
19. 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.
20. 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.
21. Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., Tatham, R.L. (2006). *Multivariate Data Analysis*, 6th Edition, Pearson Prentice Hall, Upper Saddle River, NJ.
22. Stewart, D.W. (1981). The Application and Misapplication of Factor Analysis in Marketing Research. *Journal of Marketing Research*, 18(1), 51–62.
23. Gorsuch, R.L. (1983). *Factor Analysis*. Hillsdale, NJ: Lawrence Erlbaum.
24. Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297–334.
25. Allen, M.J., Yen, W.M. (2002). *Introduction to Measurement Theory*. Long Grove, IL: Waveland Press.
26. 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.
27. 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.

28. Vasić, A., Šarčević, D. (2013). Od alfe do omega i natrag. *Primenjena psihologija*, 6(3), 287–310.
29. 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.
30. Nunnally, J.M. (1994). *Psychometric Theory*, third ed. McGraw-Hill, New York.
31. Ho, R., (2006). *Handbook of Univariate and Multivariate Data Analysis and Interpretation with SPSS*, CRC Press, Boca Raton, New York.
32. Pallant, J. (2008). *SPSS Survival Manual: A Step by Step Guide to Data Analysis Using SPSS for Windows*, Open University Press, United Kingdom.

INCREASING COMPANIES PERFORMANCE BY USING CLOUD COMPUTING SOLUTIONS

Dejan Zdraveski, Margarita Janeska, Suzana Taleska

Faculty of Economics, Macedonia

Abstract: Cloud computing is a result of the need to increase the capacity of companies and the new possibilities of existing information infrastructures without investing in a new structure and additional staff. The concept and idea of Cloud computing is revolutionary in terms of offering a new way of access to data and applications. One of the biggest benefits of this technology is the new opportunities it offers, especially in increasing companies' performance. Companies do not have to invest financial resources in expensive information infrastructure because they can use Cloud computing services only when they are needed and thus to reduce operating costs. In this paper will be analyzed implementation of Cloud computing concept in companies and the role of this concept in improving the performance of companies. The aim of this paper is to synthesize main advantages of Cloud computing that will contribute to increasing the efficiency of business processes. This primarily refers to the reduced cost for additional hardware and software, globalization of operations through collaborative work and sharing documents, effective monitoring processes, increase flexibility etc.

In Macedonia implementation and use of Cloud computing software solutions is relatively low because it is a relatively new concept, whose benefits are not enough known for Macedonian companies. In this paper also will be treated the reasons for such a low use of Cloud computing concept in Macedonia.

Keywords: Cloud computing, performance, application, software.

“GREEN ACCOUNTING” - LINK BETWEEN ECONOMY AND ENVIRONMENTAL PROTECTION

Ninko Kostovski, Jadranka Mirsic

University American College Skopje, Macedonia

Abstract: For investors and shareholders, environmentally correct and socially responsible operations of companies today are equally important for the successful financial performance, too. This is because the environment protection concerns and the good governance have become so important to the public that a mistake in these domains can instantly ruin the meticulously built value of the company. Therefore, many organizations dealing with development and promotion of international accounting and financial reporting standards promote these areas of operations of the company to be considered in the reports to shareholders. The significance of this reporting for the emerging economies is also big, if they want to become introduced on equal basis into the global flow of money and investments. However, in most of developing countries, reporting for non-financial companies' activities is not implemented, yet. In Macedonia this issue is out of the domain of the accounting regulations. Therefore, the aim of the research is to investigate the accounting practice of recording and reporting investment costs and activities of the Macedonian production companies associated with environmental protection. Through interviews with CFOs of the ten largest manufacturing companies we will reveal the situation in relation with the environment protection accounting in Macedonia. Weaknesses and shortcomings will be the basis for recommendations for regulating the reporting of non-financial transactions within the annual reports of the companies.

Keywords: environmental accounting, social responsibility, good governance, financial reporting standards, global flow of money and investments.

1. INTRODUCTION

Environmental issues receive high media attention and increased concerns of the non-governmental organizations. This is particularly true in cases of some environmental incidents. Businesses have become also aware of the environmental implications of their operations. Investors are increasingly interested in analysis of the environmental risks when decide which shares to include in their portfolio. Proper environmental risk management and environmentally sensitive corporate governance are becoming critical for many companies since the outcomes of environmental accidents or related lawsuits may be detrimental for the business and for the shareholders value. Consequently, there is a rising interest by the wider community of users of the financial reports to introduce these issues into the annual reports and in the mandatory disclosures of investors' sensitive information. To achieve this, the entire accounting system, especially its managerial part, must be adequately prepared to

capture, record and report the environmental protection relevant data and information in a methodologically correct and as much as it is possible on a standardized way. In other words, this subset of the entire accounting should conform to the centuries-old, accounting principles of objectivity, reliability, comparability and so on and so forth, as Bebbington and Gray noted [#3].

2. THE PROBLEM

Traditional accounting concentrates on the economic transactions and disregards social costs and the exploitation of natural resources. The natural resources are not owned by the company and, as such, are not featured in the balance sheet; therefore, their depreciation cannot be shown either [#26]. The most important task of accounting is to provide true and fair information for the stakeholder, which can be used to make a substantiated decision. However, if the system is built on deficient information, this goal cannot be achieved. Traditional accounting is a standardized system of statements that cannot quantify and take into account the limited quantity of natural resources [#15], since it lacks relevant data [#18].

The main difficulty associated with the environmental costs is their identification and allocation. In practice, these costs are often simply attributed to the general overhead. Frost and Wilmhurst [#12] point out that by failing to reform accounting practices to incorporate these environmental concerns, organizations are unaware of the impact of these environment-related activities on the financial reports. Moreover, their cost calculations and thus their pricing decisions are incorrect. Therefore, companies do not know the actual extent of their environmental costs and tend to underestimate them as Ditz et al. noted back in 1998 [#8]. We need an alternative accounting, argue Gray and Bebbington and [#14] and Jasch [#16]. Garrett [#13] from ACCA states that the use of lifecycle costing known also as entire supply chain costing, instead of simple cost allocation to particular cost carriers, might work far better. Activity-based costing can also help since it can trace the overheard expenditures of the environmental [or any other social] activities aside the other activities of a firm. However, it tends to be cumbersome, expensive, time consuming and not particularly attractive to the accountants, no matter the modern computerized systems applied. In addition, it is capable to trace the environment-driven, but fails to trace all other environment-related costs within the various other activities in a company. Others offer the concept of sustainable costs to express the social and environmental costs arising from the economic operation of companies [#19]. The sustainable cost calculation should show the economic, social, and environmental aspects of the sustainable development and may be considered an alternative accounting tool [#3].

3. THE RAISE OF THE AWARENESS

Traditionally, the task of accounting is to supply information on the operations of the organizations active within the economy. However, it should also facilitate sharing of information and should provide methods for improvement of the transparency of the operating processes [#7]. This, much wider perception of the accounting and its tasks in the contemporary society puts the accounting in a position of provider of information not solely

to the managers or investors, but to the society, in general. The increased awareness of the need for accounting able to fulfill these new tasks dates back in the mid XX Century and its known as social accounting. According to Loew and his colleagues, this “new” accounting tried to incorporate ethics, social responsibility and ecological issues [#20]. Interest in these new topics further increased during the last quarter of the Century, with scholars and practitioners reviewing the new role of the accounting and the now responsibility [mission] of the accounting to the society and the rationale and value of publishing information about the social activities of the firms. The, interest in the environmental accounting was sparked particularly after few large-scale environmental industrial disasters of that time (Bhopal in 1984 and Exxon Valdez in 1989). Big multinational companies were threatening the environment all around the world. Since the society become much more sensitive to the issue, the environmental accounting started to grasp much more attention, practically overshadowing the other aspects of the social accounting. Various researches, such that as that of Bebbington and Gray [#3], later that of Adams et al. [#1] or Brown et al. [#4] and many others, emphasized the social and economic dimensions of the sustainable development and the need for suitable reporting.

The raised awareness about the importance of the environment protection caused the research on the environmental accounting to become much more attractive to the scholars (for example Perego [#24] and Parker [#22], or Eugénio et al., [#10]), leading to the recognition of the environmental managerial and cost accounting. According to Schaltegger, “environmental accounting may be defined as a sub-branch of accounting that includes the activities, methods and systems that records, analyses and discloses the environmental problems of a defined economic system or the economic effects of an environmental activity”. Its tasks include the presentation and examination of the financial consequences of environmental protection, as well as, an analysis of the effects of the economic activity on certain environmental factors [#27]. The main topics of scholarly research include implications of environmental accounting and the ways of presentation of the environmental issues in the annual reports. Although the environmental performance of a company is just one side of its social role, maybe due to its easier quantification but according to Deegan [#6] and many others, much more interest was expressed in understanding, measuring and managing the environmental costs. The movement was so strong that some, like Jones in 2003, refereed to it as a process of “greening” of the accounting [#17]. Despite the bifurcation in their growth, the environmental accounting may still be regarded as a sub-category of the social accounting interested in the relationship between organization and its natural environment [#10]. Similarly, for Schaltegger and Burritt the environmental accounting has auxiliary function with a role to integrate the financial dimension of the impact of a company to its environment within the existing record-keeping systems [#27].

Various models and frameworks for financial, social and environmental reporting were offered on how to achieve it, like that of Elkington. His triple-bottom-line concept tried to integrate the financial, the social and the environmental dimensions [#10]. Various standards and models for monitoring, reporting and third party auditing of a firm environmental policy and responsibility emerged, like BS7750, then ISO14000 and EMAS in the area of environment, the Global Reporting Initiative, and in the area of the social responsibility and the Copenhagen Charter as reference paper for equal concern to all

stakeholders [#19]. However, Schaltegger and Burritt [#27] argued that all these concepts call for accounting based on physical units and thus could only be imbedded into the managerial accounting, and only partly in the financial reporting. For example, EMAS, the EU-wide scheme implemented by the European Commission since 1993, tried to enable companies to simultaneously pursue environmental objectives and competitive targets in a synergetic way. Moreover, there are some concerns about the ultimate benefits of such activity. While the empirical studies so far confirm positive impact of a well-designed environmental management system on the environmental performance and the technical and organizational innovativeness, they fail to prove the linkage with the other competitive variables such as market performance, resource productivity and intangible assets [the brand equity] of the organizations [#5].

4. CURRENT STATE OF THE AFFAIRS

System of Integrated Environmental and Economic Accounting (SEEA) is a result of collaboration of the statistical services of international organizations and selected countries and is endorsed by the Statistical Commission of the United Nations [#9]. It offers 'hybrid' framework of physical and monetary accounting in order to make the selection of the indicators more informed, compatible and transparent. The consultants who helped its development were aware that the indicators and indices outside the accounting framework are less comparable and may lack the strict quality control of 'official' accounting systems. Linking accounting and indicator frameworks can improve the comparability and quality of indicators. Monetary indicators offered are environmentally adjusted net domestic product ("green" GDP), capital formation (ECF) or value added (EVA) [#25]. The contemporary accounting is also due to capture and to follow the financial repercussions of emission-rights trading set by the Kyoto Protocol from 2005. The related "carbon" accounting should report the air contamination in terms of financial units and measured with the financial accounting, stress Ascui and Lovell [#2], Stechemesser and Guenther [#28], Pellegrino and Lodhia [#23] and many others.

European Parliament recently approved by the European Commission proposed Directive 2014/95, amending the Fourth and Seventh Accounting directives from 1978 and 1983 respectively, on the annual and consolidated accounts and on the disclosure of non-financial and diversity information by certain large companies and groups in EU. *Inter alia* this new Directive involves mandatory disclosure in the management reports about the developments, performance and position of the reporting entity on the environmental, social and employee matters, on the respect for the human rights, on anti-corruption and the bribery matters. However, as with many of the other documents of the EU, a side of the mainstream mission and expectations, there are many provisions that in fact could practically block its enforcement. For example, the Directive states that if a business in its non-financial statement fails to provide the required information it should [only] provide clear and reasoned explanation for not doing so. Moreover, in the cases when such disclosure "would be seriously prejudicial to the commercial position of the undertaking, provided that such omission does not prevent a fair and balanced understanding of the undertaking's

development, performance and position and of the impact of its activity” the member states are free to disobey to the requirements of the Directive [#11].

5. MACEDONIA

Macedonian financial managers and investors agree on the benefits of the International Financial Reporting Standards and Global Reporting Initiative on sustainability accounting and reporting. They think that for Macedonia as prospective EU state, our growth is very much dependent on free movement of capital and extensive foreign direct investments and this reporting is important prerequisite for that. That the integrated reporting helps more elaborated decisions, think 83% of the local investors, which is higher than the corresponding result in the ACCA Report on the same issue (76%). On the other hand, Macedonian CFOs are convinced so in only 70%, which is considerably lower than the results (84%) in the case of the financial managers interviewed by ACCA [#21].

The large and the medium sized companies in Macedonia, including the banks, the insurance companies listed on the stock exchange all are obliged, according to the Company Law to apply IFRS in their accounting processes. The Rulebook of the accounting process (Official Gazette of R.M., No 159/2009) stipulates mandatory acceptance of translated IFRS starting from 2010. The international accounting standards that are of particular relevance to the environmental issues are part of the standards included in the Rulebook and therefore applied by the Macedonian companies.

The most relevant standards in environmental context are IAS#36 on the impairment of assets, IAS#37 on provisions for contingent liabilities and contingent assets and IAS #38 on intangible assets. Impairment is addressed briefly in IAS #16, as regards the need for a periodic review, comparing the carrying amount of an item with its recoverable amount. IAS#5 applies to those entities which establish and make contributions to decommissioning funds. The above-mentioned standards are mostly related to the information on losses to environment due to the operation activities and as a part of financial and cost accounting. The Macedonian companies report about their environmental activities in their accounting in accordance with all these standards.

Through interviews with CFOs of the ten larger Macedonian manufacturing companies with established managerial accounting we learned that they use environment cost centers and activity based costing to trace the environmental related costs. However, their financial managers have mixed opinions on the total benefits of such detailed accounting of the environmental costs, while almost all of them agree on the need the environmental related property and equipment to be treated as long term assets and thus to be subject to subsequent provisioning for their depreciation.

6. CONCLUSIONS

Contemporary businesses are aware of the environmental implications of their operations. Investors are increasingly interested in analysis of the environmental performance

of the listed companies when decide where to invest. Consequently, there is a rising interest in the wider community of users of the financial reports to introduce these issues into the annual reports and into the mandatory disclosures of investors' sensitive information.

However, to achieve this, the entire accounting system, especially its managerial part, must be adequately prepared to capture, record and report the environmental protection relevant data and information in a methodologically correct and, as much as it is possible, on a standardized way. Moreover, such "environmental accounting" should conform to the centuries-old, accounting principles of objectivity, reliability and comparability. A difficult task having in mind that many of the relevant reports contain qualitative rather than quantitative data and information that need to be transferred in monetary units in order to be a captured by the conventional accounting, based on these principles.

There is still some skepticism regarding the ultimate benefits of the "environmental accounting". This particularly having in mind that the studies performed so far failed to prove that such meticulous accounting of these costs would inevitably positively influence the common competitive variables of a business such as its market performance or the value of its intangible assets such as its brand equity. However, the lack of prove does not implies that this linkage do not exists. In these terms and despite these difficulties, majority of the financial managers and investors agree on the benefits of the sustainability accounting and reporting. They think that the integrated reporting helps more elaborated decisions on the side of the all interested parties, inside and outside of the companies. Consequently, they are trying to find proper balance between the numbers in the standard financial reports and the environmental concerns in the narrative part of their annual reports or as independent environmental impact and social responsibility and good governance report, as practiced by many big companies.

Regarding the situation with environmental reporting in Macedonia, we can conclude that the core financial reporting standards are implemented in the Macedonian accounting legislation and practice including those in direct relation with the environmental costs and that our financial managers are generally aware about the benefits of the sustainability reporting, too. They also believe that capital expenditure for the purposes of environmental protection is a long-term investment rather than one time expenditure. However, the reporting for this and for other social and good governance issues is not part of their addressing to the shareholders through their financial reports. Rather, dedicated brochures and event speeches perform this task.

REFERENCES

1. Adams, C., Frost, G. and Webber, W. [2004]. Triple Bottom Line: A review of the literature" in Heriques, A. and Richardson, J. [eds]: The Triple Bottom Line: does it all add up. EarthScan, London, pp. 17–26
2. Ascui, F., Lovell, H. [2011]. As frames collide: making sense of carbon accounting. *Accounting, Auditing and Accountability Journal*, 24[8], pp. 978–999

3. Bebbington, J. and Gray, R. [2001]. An Account of Sustainability: Failure, Success and a Reconceptualisation, *Critical Perspectives on Accounting*, 12[5], pp.557-605
4. Brown, D., Dillard, J. and Marshall, R. S. [2006]. Triple Bottom Line: A business metaphor for a social construct”, Portland State University working papers
5. Daddi, T., Iraldo, F. and Testa, F. [2009]. *Environmental Certification for Organisations and Products: Management*. Routledge & Amazon
6. Deegan, C. [2002]. The legitimising effect of social and environmental disclosures – a theoretical foundation. *Accounting, Auditing and Accountability Journal*. 15[3], pp. 282–311
7. Dillard, J., Brown, D. and Marshall, R. S. [2005]. An environmentally enlightened accounting. *Accounting Forum* 29, pp. 77–101
8. Ditz, D., Ranganathan, J. and Banks, D. [1998]. Green Ledgers - An Overview in: Bennett, M. and James, P. [Eds]. *The Green Bottom line - Environmental Accounting for Management: Current Practice and Future Trends*. Greenleaf Publishing, Sheffield
9. EMARIC UNDSO - United Nations Division for Sustainable Development. [2003]. *Environmental Management Accounting Procedures and Principles*. Retrieved from:
<https://sustainabledevelopment.un.org/content/documents/EMAGovernment.pdf>
10. Eugénio, T., Lourenco, I. and Morais, I. [2010]. Recent developments in social and environmental accounting research. *Social Responsibility Journal* 6[2], pp. 286–305
11. European Parliament. [2014]. Texts adopted, Part V at the Sitting of Tuesday 15 April 2014, P7_TA-PROV[2014]04-15. Retrieved from: https://www.ibr-ire.be/fr/l_institut/actualites/europe/Documents/tekst-ep-duurzame-verslaggeving.pdf
12. Frost, R., Wilmshurst, D. [2000]. The adoption of environment-related management accounting: an analysis of corporate environmental sensitivity. *Accounting Forum* 24 [4] p.p. 344-365
13. Frost, R. and Wilmshurst, D. [2000].” The adoption of environment-related management accounting: an analysis of corporate environmental sensitivity *Accounting Forum*, 24 [4], p.p. 344-365
14. Garrett, K. [2015]. Target Costing And Lifecycle Costing. Retrieved from: <http://www.accaglobal.com/vn/en/student/exam-support-resources/fundamentals-exams-study-resources/f5/technical-articles/target-lifestyle.html> as of May 2015
15. Gray, R. [2001]. Thirty years of social accounting, reporting and auditing: What [if anything] have we learnt? *Business Ethics: A European Review*. 10[1], pp. 9–15
16. Gray, R., Bebbington J. and Walters, D. [1993]. *Accounting and the Environment [Greening of Accountancy II]*. Paul Chapman Publishing, London

16. Jasch, C. [2006] "How to Perform an Environmental Management Cost Assessment in One Day", *Journal of Cleaner Production*, 14, pp. 1194-1213
17. Jones, M. J. [2003]. Accounting for biodiversity: operationalizing environmental accounting. *Accounting, Auditing and Accountability Journal*. 16[5], pp. 762–789
18. Jones, M. J. [2010]. Accounting for the environment: Towards a theoretical perspective for environmental accounting and reporting. *Accounting Forum*. 34, pp. 123–138
19. Lamberton, G. [2005]. Sustainability accounting – a brief history and conceptual framework. *Accounting Forum*. 29, pp. 7–26
20. Loew, T., Ankele, K., Braun, S., and Clausen, J. [2004]. Significance of the CSR debate for sustainability. Publications - Institute for Sustainability, Munster, Berlin
21. Mrsic, J., Kostovski, N. [2014] “Does the adoption of International Financial Reporting Standards provide commensurate benefits to prospective European Union countries?”, *Ninth International Academic Conference on European integration Proceedings*, The Europe Of Tomorrow: Creative, Digital, Integrated, Skopje, pp.317-332
22. Parker, L. D. [2005]. Social and environmental accountability research A view from the commentary boxes. *Accounting, Auditing and Accountability Journal*. 18[6], pp. 842–860
23. Pellegrino, C. and Lodhia, S. [2012]. Climate change accounting and the Australian mining industry: exploring the links between corporate disclosure and the generation of legitimacy. *Journal of Cleaner Production* 36, p.p. 68-82
24. Perego, P. [2005]. Environmental Management Control, An Empirical Study on the Use of Environmental Performance Measures in Management Control Systems. Ponsen and Looijen BV. Wageningen
25. Pintér, L., Hardi, P. and Bartelmus, P. [2005]. Indicators of Sustainable Development: Proposals for a Way Forward, UNDS/EGM/ISD/2005/CRP.2
26. Schaltegger, S., and Burritt, R. [2000]. Contemporary Environmental Accounting, Issues, Concepts and Practice. Greenleaf, Sheffield
27. Schaltegger, S. and Burritt, R. L. [2010]. Sustainability accounting for companies: Catchphrase or decision support for business leaders? *Journal of World Business*. 45, pp. 375–384
28. Stechemesser, K. and Guenther, E. [2012]. Carbon accounting: a systematic literature review. *Journal of Cleaner Production*, under publication

STRATEGIC APPROACH TO SERVICES

Slobodanka Krivokapic

Univerzitet Mediteran, Fakultet za poslovne studije, Podgorica, Montenegro

Abstract: The importance of the services in a modern society is extremely high. Strategic approaches provide new ways of creating and delivering value to customers in response to the growing challenges that organizations encounter in their operations. Focusing on relationships with customers who have a strong value-oriented, becomes the primary strategic challenge. The paper presents a survey of contemporary strategic approach aimed at building and developing relationships with customers. The successful service providers use strategic flexibility and direct the activities towards meeting customer needs and desires, more efficient than the competition. Focus is on strategic options to ensure inclusion of innovative customers and building relationships through collaboration and sharing of knowledge and information. Establishing relationships, building loyalty and customer satisfaction are the backbone of the strategic position of the service provider. Innovative cooperation has great influence on the process of strategic management in the field of services. Cooperation with customers is important for all types of organizations and essentially determines their strategic position in the market.

Keywords: strategic approach, services, customer relationship management, value chain

1. UVOD

Porast konkurentnosti, nepredvidljivost i dinamičnost okruženja su karakteristike poslovanja u sektoru usluga. S obzirom da je poslovanje sve neizvjesnije, organizacije se nužno prilagođavaju, kako bi zadržale konkurentsku prednost, razvijajući strategijske inicijative i djelujući proaktivno. U tom procesu one otkrivaju nove načine kreiranja vrijednosti, razvijaju sposobnosti i upravljaju promjenama. Strategijske promjene su odgovor na uticaj faktora koji su međusobno povezani i određuju poziciju organizacija u sektoru usluga. Usmjeravanje na odnose sa kupcima koji su snažno vrijednosno orjentisani, postaje primarni strategijski izazov. Zato se u sektoru usluga naglašava da su zaposleni i klijenti centar menadžerskog fokusa (Heskett, Jones, Loveman at all 1994). Uspostavljanje odnosa između zaposlenih i klijenata stvaranjem radnog okruženja koje omogućava zaposlenima obavljanje visokokvalitetne usluge, pruža zaposlenima osjećaj da su sposobni za pružanje vrhunskih usluga. Zadovoljstvo zaposlenih doprinosi većem zadovoljstvu klijenata, što je osnova strateškog pristupa u sektoru usluga.

Cilj rada je da se prikazom strategijskih pristupa sagleda neophodnost strategijskog djelovanja u oblasti usluga i da se menadžerima pruži uvid u tehnike koje im obezbjeđuju efikasno kreiranje i isporuku vrijednosti. Promjene i turbulencije se odvijaju mnogo brže nego što teoretičari uspijevaju da ih objasne, a u praksi se često koriste strategijski pristupi koji su

dizajnirani za stabilne uslove poslovanja. Današnji uslovi poslovanja zahtijevaju prilagodljivost kako bi se obezbijedila konkurentsku održivost. S obzirom da je priroda djelatnosti u sektoru usluga veoma heterogena, to organizacije koriste različite strategije koje su usmjerene na klijente i način pružanja usluga. Osnova strategijskih pristupa se nalazi u unapređenju odnosa između provajdera i kupaca koji se zasnivaju na znanju, razmjeni informacija, i unapređenju saradnje. Uspješni provajderi koriste strategijsku prilagodljivost i usmjeravaju aktivnosti u pravcu zadovoljenja korisnikovih potreba i želja, efikasnije u odnosu na konkurenciju. Konkurentska prednost omogućava organizacijama da zadrže svoju poziciju preko uspostavljanja odgovarajućih odnosa i saradnje sa klijentima. U radu su prikazani strategijski pristupi uslugama koji uslužnim organizacijama omogućavaju održivu konkurentsku prednost.

2. ZNAČAJ USLUGA

Sektor usluga ima veliki značaj u ekonomijama razvijenih zemalja, a uključuje veoma heterogene djelatnosti počev od bankarskog i finansijskog sektora, osiguranja, telekomunikacionih i transportnih djelatnosti, turizma, ugostiteljstva, usluga rentiranja, e-biznisa, video igara, pa do obrazovanja i zdravstva. Učešće usluga u DBP u razvijenim zemljama prelazi 65%. Deregulacija važnih sektora, kao što je bankarstvo i telekomunikacije poslednjih decenija, otvorila je put ka konkurenciji među provajderima usluga i zaoštrila mogućnosti opstanka na tržištu. Visok udio franšiza, uticaj Interneta i digitalnih tehnologija, takođe je uticao na razvoj efektivnih strategija kojima se obezbjeđuje uspjeh i opstanak na tržištu u ovim djelatnostima. Posebno je uticaj Interneta i digitalne tehnologije doveo do strukturnih promjena, tehnološkog diskontinuiteta i sve jače konkurencije na globalnom nivou. Globalno tržište omogućilo je firmama u sektoru usluga uvećanje baze prihoda i profitabilnosti.

Korišćenje strategijskog pristupa u uslužnom sektoru u zemljama u tranziciji je u povoju. U većini ovih zemalja izvršena je privatizacija bankarskog sektora i telekomunikacija, a sektor osiguranja je zauzeo značajno mjesto, kao i pojava novih djelatnosti vezanih za primjenu informacionih tehnologija. Razvoj privatnog sektora u oblasti obrazovanja i zdravstva mijenja strukturu javnog sektora u zemljama u tranziciji, uz dalje zadržavanje monopolskih pozicija od strane države. Javne uslužne djelatnosti u ovim zemljama, po pravilu nijesu usmjerene na kupca/korisnika, tako da mnoge uslužne organizacije, posebno veliki birokratski aparat u javnim službama nastavlja da pruža usluge izolovano od učešća njihovih korisnika. Iskustava pokazuju da je primjena strategijskog upravljanja, posebno u sektoru usluga u zemljama u tranziciji nedovoljna, čak i u slučajevima kada se organizacije suočavaju sa neizvjesnim situacijama na tržištu.

Teorijski aspekti koji se usresređuju na strateške dimenzije usluga i razvoj kompetentnosti, naglašavaju da su osnova strategijskog upravljanja znanje i vještine kojima se upravlja sa kupcima/klijentima, kroz povećanje njihove lojalnost i zadovoljstva. Usluge, kako navode Lovelock (1991) i Berry-Leonard (1980), uključuju akciju, procese i performanse, zbog čega je neophodno kreirati adekvatne strategije koje uključuju ove procese. Usluga u 21. vijeku predstavlja sintezu znanja i okosnicu vrijednosti koju determinišu kupci, odnosno

korisnici. Vargo i Lusch (2004) navode da je usluga primjena specijalizovanih vrijednosti (znanja i vještina), kroz aktivnosti, procese i performanse za koristi drugima.

Interesovanje za strategijski pristup uslugama dobija na značaju posljednjih decenija propulzivnim razvojem uslužne djelatnosti. Ekonomska nauka je dugo bila usmjerena na proizvode, dok su se usluge posmatrale u funkciji podržavanja proizvodnje. Marketing literatura je takođe decenijama favorizovala „dobra“ (Bateson, 1979), a usluge nijesu obrađivane sa strategijskog aspekta. Podrška strategijskih teoretičara je naglašavala važnost industrijskih faktora (Montgomery i Porter, 1991. Porter 1980, 1986), kao i tržišnu orijentaciju (Javorski i Kohli 1993; Webster 1992, 1994).

Superiorne finansijske performanse i nastojanja da se postignu performanse kroz održivu konkurentsku prednost na tržištu usluga počinje da zaokuplja pažnju teoretičara (Aaker 1995). Yim i autori (2007) ukazuju da je podudarnost potrošačevog imidža sa ključnom uslugom visoka, a njegova pažnja za druge alternative, ili promjene performansi je smanjena. To može biti veoma efektivno za organizacije provajdere da kreiraju strategije koje povezuju potrošača sa iskustvenom uslugom. Kupci usluga često prave cost-benefit zamjenu za izbor novih provajdera usluga, kao na primjer kod mobilnih operatera, u hotelskim, ili pak u zdravstvenim uslugama. Kupci su, u krajnjem slučaju, ti koji biraju usluge koje će im donijeti maksimalne benefite, kroz iskustvo u korišćenju, što navodi provajdere da im isporuče efektivne usluge, birajući određene strategijske opcije.

3. INOVATIVNA SARADNJA SA KUPCIMA

Strategije determinišu performanse organizacija i omogućavaju prevazilaženje turbulentnosti tržišta i okruženja kroz interakciju i razvoj jakih veza sa potrošačima, dobavljačima i partnerima i ostalim ključnim stejkholdersima. Zato organizacije blisko saradjuju sa kupcima i snabdijevačima, nastojeći da razvojem odnosa sa stejkholdersima promijene prirodu konkurencije kroz saradnju. Važnost saradnje sa potrošačima je poznata, a literatura u oblasti usluga koristi *dimenzija inovativne saradnje* - CIC (Collaborative Innovation with Customers). Inovativna saradnja ima veliki uticaj na proces strategijskog menadžmenta, selekciju partnera, ulogu mreže stejkholdresa i motivaciju potrošača. Inovativna saradnja je prepoznata kao proces između provajdera i kupaca, nazavisno da li su to individualni, ili poslovni kupci. Gianiodis i autori (2010) definišu inovativnu saradnju kao „*sistematsko istraživanje znanja, pažnje i eksploatacija unutar i van granica organizacije kroz inovativni proces*“. U akademskim časopisima inovativna saradnja se označava ključnim riječima, kao: co-creation, co-development, co-production, kolaborativna inovacija, ili zajednički razvoj. Inovativna saradnja je izazov za stratege, koji usaglašavaju različite inovativne pristupe i inkorporiraju ih u strategije.

Literatura ukazuje da je inovativna saradnja veoma kompleksna, a kako navodi Bogers (2010) nedostaje sveobuhvatna teorije za inovativne odnose saradnje, posebno sa aspekta upravljanja ovim odnosima. Potreba za jednom teorijom koja bi objasnila fenomene saradnje u kreiranju vrijednosti je istaknuta u logici pružanja usluga koja naglašava odnose kupčeve integracije u razmjeni znanja i vještina (Vargo i Lush, 2004). Pristupi koji polaze od interakcije sa klijentima su predmet teorije socijalnog kapitala, teorije socijalne razmjene

uključivanja i socijalne identifikacije (Nambisan i Baron 2009). Payne i autori (2008) ističu prirodu procesa uključivanja iskustva prodavaca i kupaca, odnose među njima i organizaciono učenje, kao model procesa između organizacija i individualnih kupaca. Prepoznajući značaj vrijednosti potrošača, ključne kompetencije organizacije i partnerske odnose, Kotler postavlja koncept holističkog marketinga, u kome naznačeni elementi predstavljaju pokretače u kreiranju i isporuci vrijednosti.

Logika saradnje posebno je prihvaćena u organizacijama koje se bave pružanjem usluga, jer organizacije sagledavaju značaj koji povjerenje ima za opredjeljivanje njihovih potrošača, kako bi im se prilagodili i stekli njihovu naklonost. Organizacije u uslužnom sektoru razvijaju saradnji i sa organizacijama iz lanca vrijednosti, što je posebno uočljivo u praksi poslovnog marketinga. Upoznavanjem, izgradnjom povjerenja i boljeg razumijevanja potreba i karakteristika partnera koji saraduju, kao i uočavanjem njihovog zajedničkog interesa u stvaranju dugoročnih odnosa, prerasta klasične odnose razmjene i izrasta u „lojalnost“ koja je posledica stvarnog zadovoljstva potrošača. Zadovoljstvo u korišćenju usluga vodi kako racionalnom, tako i emotivnom vezivanju kupaca za organizacije provajdere, što u konačnom dovodi i do uspostavljanju inovativnih procesa. Bliskost odnosa i inputi koji se obezbjeđuju kroz interakciju sa klijentima/kupcima omogućava provajderima da spoznaju njihove potrebe, individualizuju ponudu, kreiraju i isporuče maksimalne vrijednosti.

4. STRATEGIJSKI PRISTUP USLUGAMA

Preferencije potrošača, njihovo znanje i odnosi saradnje, predstavljaju polazne strateške osnove za organizacije u sektoru usluga kako bi se jačala njihova konkurentska pozicija. Hamel i Prahalad (1994) navode da konkurentska prednost nastaje kao disproporcionalni doprinos kupčeve percepirane vrijednosti, odnosno „*da je jezgro sposobnosti (core competence) komunikacija, uključenost i duboka posvećenost aktivnostima duž organizacionih granica*“. Znanje je osnovni izvor konkurentske prednosti posebno u sektoru informatičkih tehnologija i usluga, što ih izdvaja od njihovih rivala. Kreiranje superiorne vrijednosti za potrošača ne znači posjedovanje resursa i imovine u strategijski značajnim elementima lanca vrijednosti, već su to znanja i sposobnosti koji predstavljaju integraciju organizacije sa njenim okruženjem. „Uspjeh na današnjem tržištu zahtijeva razvoj jakih veza sa potrošačima, dobavljačima i poslovnim partnerima“ (Kotler, Jain, Maescincee, 2004. p.5).

Značajan doprinos strategijskom upravljanju predstavlja koncept lanca vrijednosti (LV) Majkla Portera. Polazeći od aktivnosti koje se obavljaju u lancu vrijednosti, on ukazuje na dva osnovna tipa strategija koje imaju za cilj transfer znanja i jačanje partnerstava, kroz odnose koji udružuju resurse sa ciljem povećanja ekonomije obima i međusobnog transfera znanja. Saradnja dovodi do tržišnog uspjeha zato što angažuje firme da apsorbuju informacije i znanje iz okruženja, od kupaca i mreža, tako da se organizacije mogu lakše adaptirati na dinamično i kompleksno okruženje.

Generičke strategije Majkla Portera su takođe ključne za poslovanje organizacija u oblasti pružanja usluga. Veliki broj organizacija se usmjerava na strategije vođstva u troškovima, strategiju diferencijacije i fokusa. Na primjer SWA (South West Airlines) nisko

budžetne kompanija koja izborom strategije vođstva u troškovima i diferencijacijom koja se ne može imitirati, uspjeva da postigne održivu konkurentsku prednost. Atraktivne cijene, izbjegavanje velikih aerodroma, kratka zadržavanja, pridržavanje plana leta, automatsko čekiranje, česti odlasci, ljubazno osoblje su recept za niske cijene usluga i zadovoljne kupce. Strategijski pristup SWA počiva na aktivnostima za podršku i uključuje čitav sistem aktivnosti iz kojih proizilaze njene konkurentске prednosti. Uspjeh ove kompanije se ostvaruje zahvaljujući strategiji usmjerenoj na interakciju zaposlenih sa klijentima.

Empirijske studije uključuju tradicionalne pristupe, dok savremeni pristupi naglašavaju važnost on-line komunikacije zasnovane na internetu, uz uključivanje analize sadržaja ideja postavljenih na on-line diskusijama i doprinosima koje potencijalni kupci daju. Studije ukazuju na koristi od socijalnih mreža, posebno u interakciji potrošača, udruživanjem komplementarnih vještina sa klijentima, kao i procjeni eksternih znanja u razvoju ideja i proizvoda (Corso i autori 2001). Takođe se naglašavaju veze između kupaca i drugih subjekata koje uključuju dizajn, prototipove, testiranje i benefite od inovacija, putem mreža koje se dešavaju on-line, kao i kroz i društvene mreže. Kod pojedinih provajdera i njihovih korisnika, kao što je industrija kompjuterskih igara, evidentne su inovacije koje korisnici daju on-line.

Kako strategije pomažu organizaciji u sektoru usluga da gradi odnose sa kupcima i utiču na njihovu konkurentsku poziciju? Male uslužne organizacije, koje su geografski, sociološki, kulturološki bliže kupcima i koje imaju visoku frekvenciju odnosa sa njima, lakše mogu ponuditi pravu vrijednost i sa kupcima uspostaviti trajni odnos. Bliskost odnosa sa kupcima u velikim organizacijama se obezbjeđuje zahvaljujući informacionoj i komunikacionoj tehnologiji uz podršku baze podataka o kupcima/klijentima. Uspostavljeni odnosi se permanentno nadograđuju, a kroz međusobnu interakciju omogućava se razumijevanja želja, potreba, što dovodi do većeg stepena lojalnosti i zadovoljstva kupaca. Organizacije koje su ostvarile uspjeh građenjem i upravljanjem odnosa sa kupcima, moraju u kontinuitetu da prate promjene u zahtjevima kupaca. Ukoliko to ne rade otvaraju put konkurentima, koji otkrivaju novonastale promjene, prostore kupčevog nezadovoljstva, smanjenja lojalnosti i ruše pozicije koje su prethodno postojale u odnosima saradnje. Potreba razumijevanja i približavanja kupcima i upravljanje odnosima sa njima jednako je važna za sve vrste organizacija i bitno određuje njihovu strategijsku poziciju na tržištu.

4.1. UPRAVLJANJE ODNOSIMA SA KUPCIMA(CRM)

Upravljanje odnosima sa kupcima (Customer Relationship Management – CRM) predstavlja strategijski pristup kojim organizacija, na osnovu informacione tehnologije, stvara sveobuhvatan, pouzdan i integrisani pregled razumijevanja baze kupaca, tako da svi ovi procesi i interakcije doprinose održavanju i razvoju obostrano korisnih odnosa između organizacije i kupaca. (Zikmund, W., McLeod, R. JR, Gilbert, F. 2003. p.p.3). CRM pristup integriše aktivnosti koje su potrebne radi unapređenja kvaliteta veza koje se ostvaruju sa svakim pojedinačnim kupcem, a obuhvata identifikaciju pojedinačnih potrošača, uočavanje razlike među njima, na osnovu njihovih vrijednosti i potreba. Kroz interakciju i kvalitetan odnos se stalno unapređuju i stiču znanja. Za implementaciju CRM veliki značaj ima informaciona i komunikaciona tehnologija. Kvalitetne baze podataka o kupcima i

komunikacija sa njima su nužne pretpostavke interakcije koja je podržana informatičkom tehnologijom. Upravljanje ukupnim kvalitetom (TQM) i CRM imaju zajednički pristup koji počiva na činjenici da kupci percipiraju kvalitet i da je potrebno da organizacija obezbijedi njihovo zadovoljstvo uslugama, kao i lojalnost. Pristup CRM uključuje sve one koji učestvuju u kreiranju i isporuci vrijednosti za kupce. Upravljanje odnosima sa kupcima je nastalo iz marketing filozofije, koja polazi od logike da se ukupne aktivnosti organizacije usmjere ka zadovoljenju potreba kupaca. U cilju unapređenja kvaliteta veza mnoge avio kompanije, hotelski lanci, rent-a- car firme, banke i drugi uvode programe lojalnosti u kojima se kupcima nudi mogućnost sticanja i korišćenja određenih pogodnosti, čime se obezbjeđuju korisne informacije o najvažnijim kupcima, a na osnovu čega kompanije grade svoju tržišnu poziciju.

4.2. LANAC VRIJEDNOSTI (LV) U USLUŽNIM ORGANIZACIJAMA

Primjena lanca vrijednosti u uslužnim organizacijama zavisi od tipa biznisa kojim se organizacija bavi. Lanac vrijednosti uključuje sve tokove stvaranja vrijednosti unutar organizacija i između organizacije i njenih snabdjevača, distributera i potencijalnih kupaca. Odnosi između aktivnosti organizacije i njenih dobavljača i kupaca predstavljaju firmin prošireni lanac. Siebel Systems (Oracle) kao vodeća firma u oblasti softvera za upravljanje odnosima sa kupcima, ne pravi nijedan softver, dok od klijenta ne dobije dovoljan input. Razvojem odnosa i poštovanjem klijenata gradi svoju diferentnu prednost na tržištu.

Održivost saradnje sa kupcima je veoma važna karika u sektoru usluga. Odnosi snabdjevača, identitet brenda, proces koordinacije, kupčeva lojalnost, lojalnost zaposlenih, su aktivnosti koje su od velike važnosti za provajdere usluga. Da bi bi unaprijedili poslovanje sa kupcima, American Airline i United Airlines troše milione dolara razvijajući on-line sistem rezervacija.

4.3. OUTSORCING

Izmještanje aktivnosti iz lanca vrijednosti – BPO (Business – Process Outsourcing) značajno utiče na savremene organizacije i njihovu konkurentnost. Razlozi zbog kojih organizacije biraju ovu strategijsku opciju su manji troškovi, usmjeravanje firme na osnovne poslove i obezbjeđenje boljih usluga. Različite aktivnosti lanca vrijednosti po pravilu imaju različite optimalne lokacije, što dozvoljava kompanijama da posluju sa „najboljim na svijetu“. Kako troškovi radne snage u razvijenim zemljama sve više rastu, to se iskazuje poseban interes za co-produkciju, ili outsourcing pojedinih funkcija lanca vrijednosti. Studije slučaja u oblasti usluga naglašavaju uštede troškova organizaciju provajdera, što je često razlog za izmještanje pojedinih aktivnosti iz lanca vrijednosti, posebno u mnogim IT i telekomunikacionim kompanijama. Izbor ove strategije postavlja dilemu kvaliteta usluga koje se izmještau iz lanca vrijednosti organizacija, njihovog standarda i rizika koji se javljaju usled razlika u nacionalnim kulturama drugih zemalja. Kompanije u oblasti usluga, prema McKinsey & Co studiji (2005.) najčešće outsorsuju rutinske poslove, ili poslove koji se odvijaju automatski, kao što su funkcije računovodstva. Računovodstvo u uslužnim organizacijama može predstavljati aktivnosti za podršku, ili biti osnovna primarna aktivnost uslužne organizacije koja se bavi ovom djelatnošću. U slučaju primarne djelatnosti računovodstvo, kao vrsta transformacionog procesa pretvara dnevne izvještaje o pojedinačnim

transakcijama i tako kroz inpute radnog procesa dodaje vrijednost. Slično se dešava kada pravna firma, uz specijalizovana znanja koja nudi klijentima, stvara vrijednost usmjeravajući se na specifične klijentove potrebe, kroz procese saradnje i razmjene znanja.

Digitalne tehnologije i Internet promijenili su način vođenja aktivnosti u uslužnim organizacijama, tako da nema prepreka da se podaci koji su obrađuju najčešće u zemljama Azije, prebace matičnoj kompaniji za koju se rade. Troškovi koje obavlja drugi provajder su značajno manji, u odnosu na troškove koje organizacija ima kada organizuje sama navedene poslove. Činjenica da se danas 69% svih kupovina u razvijenim zemljama obavi preko Interneta, omogućava potencijalno razvijanje novih prilika za strategijski pristup i koordinaciju aktivnosti unutar lanca vrijednosti i poslovanjeu na globalnom nivou. Mnoge transakcije kao što su istraživanje i razvoj, oglašavanje, promocija ključnih brendova se prenose na specijalizovane firme koje ove aktivnosti obavljaju uspješnije, nego kada su dio lanca vrijednosti same organizacije. Postoji čitav niz organizacija koje ne čine dio jedinstvenog sistema lanca vrijednosti, ali povećavaju stepen zadovoljstva koje kupci osjećaju i zbog čega su lojalni organizacijama. Organizacije koje uslugu čine poželjnom i pozitivno utiču na tražnju za njima postaju komplementarne organizacije i utiču na stvaranje pozitivnog imidža i doprinose većoj vrijednosti usluga.

4.4. MREŽA VRIJEDNOSTI

Mreža vrijednosti (Brandenburger, A., Nalebuff, B. 1997) predstavlja jezgro kompetencija koje obezbjeđuje konkurentsku prednost zahvaljujući specijalizovanim marketing funkcijama. Interesi organizacije se poklapaju sa interesima ostalih učesnika u mreži vrijednosti, što ih navodi na saradnju. Saradnja među subjektima koji učestvuju na tržištu se ostvaruje kroz partnerske odnose. Partnersvo se posmatra kao lak, brz i sa aspekta potrebnih ulaganja povoljan način da se poboljša tržišna pozicija i uveća profit. U tom smislu organizacije koriste razne strategijske pristupe koji mogu biti ofanzivne, ili defanzivne koalicije. Logiku saradnje u okviru sistema i mreže vrijednosti su prihvatile i organizacije koje se bave pružanjem usluga. Ponuđači usluga uočavaju potrebu približavanja potrošačima, kao način sticanja njihovog povjerenja (Haeckel,1999). Zato razvijaju saradnju sa organizacijama iz sistema lanca vrijednosti, uz istovremeno razvijanje partnerstva sa potrošačima zasnovanog na razmjeni informacija i znanja.

Strategijske alijanse predstavljaju strateški pristup koji omogućava firmama da se prošire na nova tržišta, ili steknu sposobnost u osnaživanju njihove konkrentske pozicije. Brojne avio kompanije, iako međusobni rivali, nalaze interes da udružuju snage kroz strategijske alijanse, kao što je „Star Alliance“. U strategijske alijanse organizacije po pravilu nastoje da kombinovanjem resursa i sposobnosti, zajedničkim aktivnostima u identifikaciji, kreiranju i isporuci vrijednosti ostvare konkurentsku prednost koju samostalno ne bi mogli ostvariti. Strategijske alijanse mogu imati različite oblike i kriterijume za formiranje, kao i različite ciljeve zbog kojih se alijanse formiraju.

5. ZAKLJUČCI

Promjene koje utiču na uslove konkurentnosti su stalne i organizacije moraju biti upoznate sa njima da bi im se na optimalan način prilagodile. U kontekstu ovih odnosa, sektor usluga je okrenut konkurentno orjentisanim strategijama kojima se traže novi način kreiranja vrijednosti za kupce. Uslužne organizacije blisko saradjuju sa kupcima i razmjenjuju znanja. Potreba razumijevanja i priblažavanja kupcima i upravljanje odnosima sa njima jednako je važna za sve vrste organizacija i bitno određuje njihovu strategijsku poziciju na tržištu.

Strategijskim pristupom organizacije provajderi usluga obezbjeđuju interakcija ključnih stejkholdersa i benefite kojima se određuju kontinuitet uključenosti kupaca. Zadovoljstvo kupaca sa saradnjom zavisi od prirode procesa i predstavlja kritičan faktor za ishod usluge. Inovativna saradnja ima veliki uticaj na proces strategijskog menadžmenta, selekciju partnera, ulogu mreže stejkoldresa i motivaciju potrošača.

Strategijski pristupi omogućavaju da se ostvari konkurentna prednost i identifikuju ključne kompetencije koje omogućavaju uspostavljanje profitabilnih odnosa i ostvarenje ciljeva svih involviranih subjekata u procesima pružanja i isporuke usluga.

Kvalitet odnosa sa kupcima/klijentima se postiže adekvatnim izborom strategijskih opcija među kojima su inovativna saradnja kroz upravljanje odnosima sa kupcima, lanac vrijednosti, generičke strategije i mreža vrijednosti. Primjena navedenih strategijskih opcija dovodi do uspostavljanja adekvatnih odnosa zasnovanih na znanju i zadovoljstvu korisnika usluga i obezbjeđuje održivu prednost za organizacije u sektoru usluga.

REFERENCE

- Aaker, David A. *Strategic market management*. New York: John Wiley, 1995.
- Bateson, John, E.G. „Why We Need Service Marketing in Conceptual and Theoretical Developments in Marketing, O.c Ferrel, S.W.Brown and C.W Lamb ed Chicago.“ *American Marketing Association*, 1979: 131-46.
- Berry Leonard, L. „Service Marketing is Different.“ *Business*, 30, 1980: 24-29.
- Bogers, M.Afuah, A. Bastian, B. „Users as Inovators: a Review, Critique and Future Research Directions.“ *Journal of Management* 36,, 2010: 857-875.
- Bradfor, C. Johnson, James m. Manyika, Lareina, A. Yee. „The Next Revolution in Interaction.“ *McKinsey Quarterly* 4, 2005: 25-26.
- Brandenburger, A. Nalebuff, B. *Co-Opetition*. Curency and Doubleday, 1997.
- Corso, M. Martini, A.,Paollucci, E., Pellegrini, L. „Knowledge management in Product Inovation: an Interpretative Review.“ *International Journal of Management Reviews* 3, 2001: 341-352.
- Gianiodis, P.T., Ellis, S.C., Secchi, E. „Advancing a Typology of Open Innovation.“ *International Journal of Innovation Management*, 14, 2010: 1-42.

- Haeckel, S.H. *Adaptive Enterprise: Creating and Leading Sense and Respond Organizations*. Boston: Harvard School of Business, 1999.
- Hamell, G., C.K. Prahalad. *Competing for Future*. Boston: Harvard School of Business, 1994.
- Heskett, L.J., Jones, O.T., Loveman, W.G., Sasser, W.E., Schlesinger, A.L. „Putting the Service - Profit Chain to Work.“ *Harvard Business Review*, 1994.
- Jaworski, B.J., A.K.Kohli. „Market Orientation: Antecedents and Consequences.“ *Journal of marketing* 57, 1993: 53-70.
- Kotler, P. *Marketing Management*. Beograd: Data Status, 2006.
- Kotler, P., Jain, D., Maesciencee, S. „Marketing Moves: A New Approach to Profits: Growth and Renewal.“ *Harvard Business Review*, 2004: 5.
- Lovelock, C.H. *Service Marketing 2'ed*. New Jersey: Prentice Hall , 1991.
- Nambisan, S. Baron, R.A. „Interactions in Vital Customer Environments: Testing a Model of Voluntary participation in value Co-Creation Activities.“ *Journal of Product Innovation Management*, 26, 2007: 388-406.
- Payne, A.F., Storbacka, K., Frow, P. „Managing the Co-Creation of Value.“ *Journal of the Academy of marketing Science*, 36, 2008: 83-96.
- Porter, M. *Competitive Advantage*. New York: Free Press, 1980.
- Vargo, S.L., R.F.Lusch. „Evolving to a New Dominant Logic for Marketing .“ *Journal of marketing*, 68, 2004: 1-17.
- Webster, F.E.Jr. „Executing the Marketing Concept.“ *Marketing Management* 3, 1994: 9-16.
- Yim, Chi Kin, Kimmy Wa Chan, Kineta Hung. „Multiple Reference Effects In Service Evaluations: Role of Alternative Attractiveness and Self Image Congruity.“ *Journal of Retailing*, 83 (1), 2007: 147-157.
- Zikmund, W., McLeod, R.JR, Gilbert, F. *Customer relationship management*. Willey, 2003.

CROSS CURRICULAR CONNECTIONS AS ESSENTIAL ELEMENT OF EDUCATIONAL MANAGEMENT STRATEGIES IN THE IMPLEMENTATION OF INTERDISCIPLINARY APPROACH TO TEACHING IN SECONDARY EDUCATION

Dragor Zarevski¹, Gordana Nikčevska^{2,3}, Tamara Kjupeva²

¹Ss. Cyril and Methodius University in Skopje, Faculty of Philosophy – Skopje; ²SUGS Gimnazija Orce Nikolov – Skopje; ³Biznis Akademija Smilevski - BAS, Macedonia

Abstract: Modern didactic theories suggest the crucial impact of educational management on the quality and efficiency of the teaching process. Outlining of the teaching should be directed primarily towards defining the educational objectives, determining the teaching assignments, and at defining the didactic-methodical approaches that enable adequate articulation of the teaching process, in accordance with the designated instructional tasks, i.e., the defined educational goals. Within the modern, postindustrial, information society based on the knowledge economy, where labor is concentrated in the tertiary sector, and where the media in the development of society are institutions and individuals that create and manage knowledge, i.e., they are aimed at scientific research, development of technology and other creative activities, as a basic educational priority is imposed a need for interdisciplinary educational approach and emphasizing the applicability of the acquired knowledge. Interdisciplinary educational approach encourages improving the quality and efficiency of teaching, and it also allows students to immediately recognize the real applicability of knowledge that is acquired. A survey of principles and possible modes of correlation between contents in the teaching subject Mother tongue and literature and the teaching subject Philosophy, can clearly indicate the wide range of educational and cultural potential that is built within the interdisciplinary educational approach. Vertical and horizontal analysis of the correlation between the curricula of the teaching subject Mother tongue and literature and the teaching subject Philosophy, indicates the necessity of a strict systematic approach to outlining and implementing interdisciplinary approach to teaching within the modern formal education.

Keywords: Classroom Management Strategies, Cross Curricular Connections, Interdisciplinarity in General Education, Interdisciplinary Educational Approach, Classroom Management Techniques.

1. INTRODUCTION

The educational management according to current didactic-methodical concepts has essential influence on the educational process. Definition of teaching objectives, determining teaching assignments, as well as defining the didactic-methodical approaches that enable adequate articulation of the teaching process is an essential part in conceiving class teaching. In accordance with specified instructional tasks, i.e., defined educational goals, we define

education as meaningful and purposeful activity. From a historical perspective, taking into consideration the continuing development of human culture and civilization, educational practice preceded the theoretical conception of fundamental goals and the essence of education. Education is directly fused with human culture and civilization. The theory of education is directly related and permeated with the theory of society and theories of human culture and civilization. Modern progress of sciences whose subject of research is education is conditioned by the real social needs caused by rapid development of society, the progress of science and technology and economic globalization. All these factors have forced a rapid increase in the demands of educated personnel in all parts of the world, and contemporary social organization and modern technologies enable rapid popularization of education. Besides mass education, the last century is characterized by the rise of specialized studies that enable education of professionals in certain areas according to the needs of society. The interdisciplinary approach of modern education helps in increasing the efficiency of educational process and in modernization of education aimed at forming a more flexible, more functional, more complex and more sophisticated teaching practice.

2. EDUCATION MANAGEMENT AS DRIVING FORCE OF STRENGTHENING THE EFFICIENCY OF MODERN TEACHING

Specifics of modern education have a direct influence on development of educational sciences and on sophisticating of organizational structure of educational institutions, as well as on increasing the complexity of organization of educational process. Education Sciences today specialize in certain issues and segments of education, in order to increase educational performance and ensure continuous progress of society and of human culture and civilization. Detailed and systematic planning of education is crucial for the development and improvement of quality of educational practice and education system as a whole. Education management has a task of enabling conception of functional education system based on actual indicators of educational needs. Educational management enables preparation of decisions and organizes their implementation within the organization, management and promotion of educational activities [18]. Studies in planning of education are directly permeated and aimed at cooperation with a number of social sciences such as: pedagogy, psychology, economics and sociology. Within these studies should be determined the educational resources and educational needs of society, and in accordance with these findings to include and anticipate systemically the steps for articulation of actions within the development of an appropriate education system. The complexity of projecting the concept of development of a particular education system, in addition to taking into consideration the real indicators of educational needs and potentialities, should anticipate natural and civil right of every person to be educated. Accordingly, it is not possible to anticipate in advance the wishes and decisions of citizens of the type of education that they will opt for. It is therefore necessary to define and use precise methods and techniques for estimating the social demand, for relevant information to be integrated into the global projections of the educational system development. The results obtained by scientific research in planning of education are used by the institutions responsible for the management and promotion of education and the educational system, as a

necessary prerequisite for adequate professional realization of definite tasks in exercising of their competences and responsibilities. Education management confronts economic costs required for the maintenance and promotion of a particular education system with social significance and the development of educational and economic benefits that will be realized with the creation of educational professional personnel and their contribution to the economic development of society [7]. Within the research of education management is explored the economic dimension of effectiveness of education of a certain educational entity within a degree of education or within all levels of education up to the final educational shaping of certain professional educational profile. The economics of education examines the education of the individual as an investment whose financial effects should be adequately financially planned both by the individual and by his/her family or the wider community if it participates in the cost of his/her education. It is also necessary to explore the social role of education, the impact of the development of education on profiling of society and on structuring of education system, as well as the development of educational facilities and general characteristics of educational activity [9]. Within the modern, postindustrial, information society based on the knowledge economy, where labor is concentrated in the tertiary sector, and the media in the development of society are institutions and individuals that create and manage knowledge, i.e., they are aimed at scientific research and development of technology and other creative activities, as a basic education priority is imposed a need for interdisciplinary educational approach and emphasizing the applicability of the acquired knowledge. Modern way of life, social changes and rapid development of science and technology cause appearance of universal social trend of social cooperation in a planetary scale called globalization. Globalization is a universal social process that affects all areas of society, such as economics, politics, culture and art, sports etc. Today cultural cooperation and exchange of cultural creation between cultures and peoples is richer than ever before in history. Modern means of communication, as well as modern electronic media provide continuous and timely exchange of cultural creation between states and nations, which consequently leads to their interaction, creative communication and birth of supranational cultural creativity, creativity which contains universal human, humanistic features and messages, creativity which is not meant to take the place of national cultures and national cultural values, characteristics and peculiarities, but to build a bridge of understanding among peoples of different national, cultural, regional and confessional provenances [8]. At the same time, education takes care about respecting different social and cultural contexts and specific interests and needs of students who come from different cultural backgrounds. Therefore, one of the main elements of most educational reforms is diversity, versatility and choice or other proposals to establish separated teaching plans and programs for different groups or individuals [21]. This educational policy is aimed at respecting different social contexts, individuals and cultures.

3. CROSS CURRICULAR CONNECTIONS IN SECONDARY EDUCATION AS A WAY OF INTERDISCIPLINARY APPROACHES TO TEACHING CONTENTS

Modern education tends to respond to contemporary social and civilizational challenges, where continuing reforms of education tend to enable conceiving and implementing efficient, functional education founded on the principle of interdisciplinarity and essential correlation of educational teaching contents from different fields of human scientific thought and practical activity [10]. The interdisciplinary educational approach encourages improving the quality and efficiency of teaching and also prepares students to immediately recognize the real applicability of knowledge they acquire. A survey of principles and possible modes of correlation between contents in teaching subject Macedonian language and literature and the teaching subject Philosophy, can clearly indicate the wide range of educational and the cultural potential that is developed within the interdisciplinary educational approach. Interdisciplinary educational approach within teaching provides the means to emphasize essential knowledge and facts and to present and analyze them from many standpoints [19]. The essential analysis of the teaching contents correlation between the teaching subject Macedonian language and literature and the teaching subject Philosophy, indicates the necessity of strict systematic approach to outlining and implementing the interdisciplinary approach to teaching within the modern formal education. The interdisciplinary approach of Cross curricular connections enables certain cultural issue or an influential civilization concept [20] to be analyzed in terms of philosophical thought in accordance with philosophical worldview and philosophical axiological principles or in terms of critical thought and interpretation characteristic for intellectual thought of literary works and literary criticism. Cross curricular connections between the teaching subject Macedonian language and literature and the teaching subject Philosophy enables multifaceted analysis of the issues and the contents studied. Therefore it is very important to carefully and systematically detect contents that are common to the teaching subject Philosophy and the teaching subject Macedonian language and literature, i.e., contents that are noted for the study in the Syllabus of Philosophy for the 4th year of reformed gymnasium education and Syllabuses of Macedonian language and literature for the 1st, 2nd, 3rd and 4th year of reformed gymnasium education. According to the current National Gymnasium Education Curriculum [16], the teaching subject Philosophy is taught in 4th year of reformed gymnasium education and is contained in 3 hours per week or 99 hours per year. The teaching subject Macedonian language and literature is contained in all four years of the reformed gymnasium education 4 hours per week, or 144 hours in the first, second and third year and 132 hours a year in the fourth year.

Table 1. National Gymnasium Education Curriculum (fragment) [16]

No.	FIELDS AND TEACHING SUBJECTS	Year and number of classes							
		I		II		III		IV	
		week	year	week	year	week	year	week	year
I.	Compulsory National Curriculum subjects	24	864	24	864	20	720	15	495
1.	Macedonian language and literature	4	144	4	144	4	144	4	132
2.	Mathematics	3	108	3	108	3	108	3	99
3.	First foreign language	3	108	3	108	3	108	3	99
4.	Second foreign language	2	72	2	72	2	72	2	66
5.	History	2	72	2	72	2	72		
6.	Geography	2	72	2	72				
7.	Physics	2	72	2	72	2	72		
8.	Chemistry	2	72	2	72	2	72		
9.	Biology	2	72	2	72	2	72		
10.	Sociology			2	72				
11.	Philosophy							3	99
12.	Computer science	2	72						
II.	Elective subjects			2	72	6	216	9	297
III.	Compulsory elective programs	5	180	5	180	3	108	3	99
IV.	Project activities	/	70	/	70	/	70	/	60

Common contents taught within the teaching subjects Philosophy and Macedonian language and literature are defined by Syllabus of Philosophy for the 4th year of reformed gymnasium education and Syllabuses of Macedonian language and literature for the 1st, 2nd, 3rd and 4th year of reformed gymnasium education in accordance with the Syllabus of Philosophy for the 4th year of reformed gymnasium education. Contents taught within the teaching subject Philosophy, and are also studied within the teaching subject Macedonian language and literature are: First Slavic educators: Saints Cyril and Methodius, Clement of Ohrid; French Enlightenment, Voltaire and Jean-Jacques Rousseau, Encyclopédistes; German Romanticism, Georg Wilhelm Friedrich Hegel; Existentialism; Postmodernism (as can be seen in Table 2). In the Syllabus of Philosophy for the 4th year of reformed gymnasium education is emphasized the possibility and necessity of the Cross curricular connections of the contents with Macedonian language and literature, ie with the teaching of Native language and literature, i.e., teaching contents aimed at studying the great achievements of world and domestic literature. Didactic-methodical guidelines are aimed primarily at determining the issues that can and should be the subject of Cross curricular connections in teaching of Philosophy with teaching of Macedonian language and literature, as seen in Table 2. Table 2 presents the contents of the Syllabus of Philosophy for the 4th year of reformed gymnasium education [15], that teaching of Philosophy shares with the teaching of Macedonian language and literature in accordance with current Syllabuses, as well as instructions from Syllabus of Philosophy for the 4th year of reformed gymnasium education [15] for Cross curricular connections with Macedonian language and literature.

Table 2. Syllabus of Philosophy for the 4th year of reformed gymnasium education (fragment) [15]

Teaching contents	Cross curricular connections with Macedonian language and literature
I. Introductory knowledge of philosophy	- Correlation with different knowledge of life and most teaching fields: history, literature, art, sociology and others.
II. Ancient Philosophy - Aristotle	- Ancient Greek Mythology: Sophocles, Euripides and others, playwrights, Homer
III. Medieval philosophy - First Slavic educators: Saints Cyril and Methodius, Clement of Ohrid	- Medieval literature
IV. Early Modern Philosophy - French Enlightenment: Voltaire and Jean-Jacques Rousseau - Encyclopédistes	- The Renaissance, Early modern and Enlightenment literature
V. Contemporary Philosophy - Georg Wilhelm Friedrich Hegel (German Classical Philosophy)	- XIX century, our Enlightenment literature
VI. 20th-century Philosophy - Existentialism - Postmodernism	- Contemporary world and Macedonian Literature

According to Syllabus of Philosophy for the 4th year of reformed gymnasium education [15] of the Ministry of Education and Science of the Republic of Macedonia is approved official textbook of Philosophy for the 4th year of reformed gymnasium education written by Kiril Temov i Stefan Sidovski [22]. In the teaching subject Macedonian language and literature that is taught in all four years of gymnasium education, in each of the mentioned years are contained teaching contents listed in the syllabus of the teaching subject Philosophy. In the Syllabus of Macedonian language and literature for the 1st year of reformed gymnasium education [11] are noted the contents relating to the first Slavic educators, Saints Cyril and Methodius, Clement of Ohrid, which is the material that is taught in the teaching subject Philosophy. Table 3 shows the teaching contents of the Syllabus of Macedonian language and literature for the 1st year of reformed gymnasium education that are contained in the Syllabus of Philosophy for the 4th year of reformed gymnasium education, whereas in this table are also listed the educational goals, didactic guidelines and Cross curricular connections pertaining to the given contents.

Table 3. Syllabus of Macedonian language and literature for the 1st year of reformed gymnasium education (fragment) [11]

Teaching contents	Didactic goals; Methodical guidelines; Cross curricular connections
<ul style="list-style-type: none"> - Medieval literature / Old Slavic literature - Pannonian Legends - Clement of Ohrid: Boasting of our blessed father and teacher - Chernorizets Hrabar: An Account of Letters (O pismenech) 	<ul style="list-style-type: none"> - To set up systematized knowledge of Slavic literacy in western medieval context, in particular in terms of literature; to know basic information about the life of Saints Cyril and Methodius. - To be able to find important information about the role of Saint Cyril in the Old Slavic culture

According to the current Syllabus of Macedonian language and literature for the 1st year of reformed gymnasium education by Ministry of Education and Science of the Republic of Macedonia are approved two official textbooks in Macedonian language and literature for the 1st year of reformed gymnasium education, the authors of first textbook are Stojka Bojkovska, Nevena Isakova, Liljana Minova-Gjurkova, Branko Pendovski, Dimitar Pandev, Zivko Cvetkovski [3], while the author of the second book is Jadranka Vladova [23]. In the Syllabus of Macedonian language and literature for the 2nd year of reformed gymnasium education [12] are listed the contents relating to The Renaissance and the great Renaissance authors and writers that are studied in the teaching subject Philosophy. In Table 4 are shown the teaching contents of the Syllabus of Macedonian language and literature for the 2nd year of reformed gymnasium education that are also contained in the Syllabus of Philosophy for the 4th year of reformed gymnasium education, whereas in this table are also listed educational goals, didactic guidelines and Cross curricular connections pertaining to the given contents.

Table 4. Syllabus of Macedonian language and literature for the 2nd year of reformed gymnasium education (fragment) [12]

Teaching contents	Didactic goals; Methodical guidelines; Cross curricular connections
<ul style="list-style-type: none"> - The Renaissance; Pre-Renaissance, Humanism and the Renaissance - Dante Alighieri; „Divine Comedy“ - Francesco Petrarca; „The Canzoniere“ - Giovanni Boccaccio; „The Decameron“ - Other representatives of the Italian and European Renaissance literature 	<ul style="list-style-type: none"> - To adopt the basic bio-bibliographical data for Dante Alighieri; to discover the structure of the epic of Dante Alighieri; - To understand the role of Francesco Petrarca in the history of world poetry; - To understand the role of Giovanni Boccaccio in the history of the world short story (novel);
<ul style="list-style-type: none"> - Enlightenment 	<ul style="list-style-type: none"> - To comment on socio-economic conditions for the emergence of Enlightenment in Europe; - To present basic knowledge of the representatives of Enlightenment (Montesquieu, Voltaire, Encyclopédistes, Denis Diderot, Jean-Jacques Rousseau; Gotthold Ephraim Lessing).

According to the current Syllabus of Macedonian language and literature for the 2nd year of reformed gymnasium education [12] of the Ministry of Education and Science of the

Republic of Macedonia are approved two official textbooks in Macedonian language and literature for the 2nd year of reformed gymnasium education, the authors of the first textbook are Stojka Bojkovska, Nevena Isakova, Liljana Minova-Gjurkova, Branko Pendovski, Dimitar Pandev, Zivko Cvetkovski [6], while authors of the second textbook are Jadranka Vladova and Tatjana B. Eftimoska [24]. In the Syllabus of Macedonian language and literature for the 3rd year of reformed gymnasium education [13] are listed the contents relating to Romanticism, German Romanticism (and Idealism) and the great romantic thinkers and writers that are studied in the teaching subject Philosophy. In the Table 5 are shown the teaching contents of the Syllabus of Macedonian language and literature for the 3rd year of reformed gymnasium education that are contained in the Syllabus of Philosophy for the 4th year of reformed gymnasium education, whereas in this table are also listed the educational goals, didactic guidelines and Cross curricular connections pertaining to the given contents.

Table 5. Syllabus of Macedonian language and literature for the 3rd year of reformed gymnasium education (fragment) [13]

Teaching contents	Didactic goals; Methodical guidelines; Cross curricular connections
<ul style="list-style-type: none"> - Romanticism; - The emergence of romanticism in European cultures; - Socio-historical context; 	<ul style="list-style-type: none"> - To present the conditions under which appears Romanticism as a movement in art, in general.
<ul style="list-style-type: none"> - German Romanticism - Johann Wolfgang von Goethe; „The Sorrows of Young Werther“ 	<ul style="list-style-type: none"> - To comment on the different role of the movement "Sturm und Drang", the "Jena romantics" and "Heidelberger romantics" in the development of German Romanticism.

According to the current Syllabus of Macedonian language and literature for the 3rd year of reformed gymnasium education [13] of the Ministry of Education and Science of the Republic of Macedonia are approved three official textbooks in Macedonian language and literature for the 3rd year of reformed gymnasium education, authors of the first textbook are Stojka Bojkovska, Gane Todorovski, Liljana Minova-Gjurkova, Natasha Avramovska, Dimitar Pandev, Zivko Cvetkovski [4], authors of the second textbook are Venko Andonovski, Marjan Markovikj and Gligor Stojkovski [2], while for the third textbook, the authors are Valentina Mucinska-Palevska and Natasha Acevska [17]. In the Syllabus of Macedonian language and literature for the 4th year of reformed gymnasium education [14] are listed the contents relating to Existentialism and Postmodernism and the great contemporary thinkers and writers that are studied in the teaching subject Philosophy. Table 6 shows the teaching contents of the Syllabus of Macedonian language and literature for the 4th year of reformed gymnasium education that are contained in the Syllabus of Philosophy for the 4th year of reformed gymnasium education, whereas in this table are also listed the educational purposes, didactic guidelines and Cross curricular connections pertaining to the given contents.

Table 6. Syllabus of Macedonian language and literature for the 4th year of reformed gymnasium education (fragment) [14]

Teaching contents	Didactic goals; Methodical guidelines; Cross curricular connections
- Existentialism	<ul style="list-style-type: none"> - It outlines the philosophical sources of existentialism in literature; - It lists the representatives of existentialism in world literature; comments on the characteristics of existentialism literature. - Excerpts from the philosophical texts of Martin Heidegger, Karl Jaspers, Jean-Paul Sartre, Albert Camus. - Excerpts from literary texts of Jean-Paul Sartre, Maurice Merleau-Ponty, Louis-Ferdinand Céline.
Albert Camus: The Stranger	<ul style="list-style-type: none"> - It presents the most important data about the life and work of Camus; - Discusses about the specifics of absurdity in the works of Franz Kafka and Albert Camus.
Notion of Postmodernism	<ul style="list-style-type: none"> - It presents the postmodern with all its complexity and controversy in contemporary literature science.

According to the current Syllabus of Macedonian language and literature for the 4th year of reformed gymnasium education [14] of the Ministry of Education and Science of the Republic of Macedonia are approved two official textbooks in Macedonian language and literature for the 4th year of reformed gymnasium education, authors of the first textbook are Stojka Bojkovska, Liljana Minova-Gjurkova, Dimitar Pandev, Zivko Cvetkovski, Natasha Avramovska and Loreta Georgievska-Jakovleva [5], while for the second textbook, the authors are Venko Andonovski, Marjan Markovikj and Gligor Stojkovski [1]. Cross curricular connections between the contents taught in the teaching subject Philosophy and the teaching subject Macedonian language and literature provide more essential understanding of the teaching contents of the two teaching subjects. Cross curricular connections enable proper contextualization and interpretation of the essential contents taught in the teaching subjects Philosophy and Macedonian language and literature. A major challenge for modern Didactics, Pedagogy, Methodology and Philosophy of education is *reconceiving* of the principles of interdisciplinary teaching that will enable students to expand their worldview and to be formed as versatility educated, noble and responsible persons.

REFERENCES

1. Andonovski, V., M. Markovikj, G. Stojkovski, Macedonian language and literature - textbook for the 4th year of reformed gymnasium education (compulsory National Curriculum subject), Kultura, Skopje, 2004 (in Macedonian).

2. Andonovski, V., M. Markovikj, G. Stojkovski, Macedonian language and literature - textbook for the 3rd year of reformed gymnasium education (compulsory National Curriculum subject), Kultura, Skopje, 2009 (in Macedonian).
3. Bojkovska, S., N. Isakova, L. Minova-Gjurkova, B. Pendovski, D. Panev, Ž. Cvetkovski, Macedonian language and literature - textbook for the 1st year of reformed gymnasium education (compulsory National Curriculum subject), Prosvetno delo, Skopje, 2002 (in Macedonian).
4. Bojkovska, S., G. Todorovski, L. Minova-Gjurkova, N. Avramovska, D. Panev, Ž. Cvetkovski, Macedonian language and literature - textbook for the 3rd year of reformed gymnasium education (compulsory National Curriculum subject), Prosvetno delo, Skopje, 2003 (in Macedonian).
5. Bojkovska, S., L. Minova-Gjurkova, D. Panev, Ž. Cvetkovski, N. Avramovska, L. Georgievska-Jakovleva, Macedonian language and literature - textbook for the 4th year of reformed gymnasium education (compulsory National Curriculum subject), Prosvetno delo, Skopje, 2004 (in Macedonian).
6. Bojkovska, S., N. Isakova, L. Minova-Gjurkova, B. Pendovski, D. Panev, Ž. Cvetkovski, Macedonian language and literature - textbook for the 2nd year of reformed gymnasium education (compulsory National Curriculum subject), Prosvetno delo, Skopje, 2002 (in Macedonian).
7. Bush, T. (ed.), L. Bell (ed.), *The Principles and Practice of Educational Management*, SAGE Publications, Los Angeles, 2002.
8. Castells, M., *The Rise of the Network Society: The Information Age: Economy, Society, and Culture*, Blackwell Publishers, Malden, 2000.
9. Delors, J., *Learning: The Treasure Within Report to UNESCO of the International Commission on Education for the Twenty-First Century*, UNESCO, Paris, 1996.
10. Hargreaves, A., *Teaching in the Knowledge Society: Education in the Age of Insecurity*, Teachers' College Press, New York, 2003.
11. Ministry of Education and Science of the Republic of Macedonia - Bureau for Development of Education, *Syllabus of Macedonian language and literature for the 1st year of reformed gymnasium education*, Expert working group: Liljana Minova-Gjurkova, Jadranka Vladova, Tanja Andonova-Mitrevska, Aleksandar Kocev, Nada Nikolovska, Skopje, 2002 (in Macedonian).
12. Ministry of Education and Science of the Republic of Macedonia - Bureau for Development of Education, *Syllabus of Macedonian language and literature for the 2nd year of reformed gymnasium education*, Expert working group: Zivko Cvetkovski, Stojka Bojkovska, Jadranka Vladova, Tanja Andonova-Mitrevska, Aleksandar Kocev, Blagoja Trajkovski, Mite Stefanovski, Skopje, 2002 (in Macedonian).
13. Ministry of Education and Science of the Republic of Macedonia - Bureau for Development of Education, *Syllabus of Macedonian language and literature for the 3rd year of reformed gymnasium education*, Expert working group: Zivko Cvetkovski,

- Stojka Bojkovska, Jadranka Vladova, Blaga Paneva, Aleksandar Kocev, Blagoja Trajkovski, Mite Stefanovski, Skopje, 2002 (in Macedonian).
14. Ministry of Education and Science of the Republic of Macedonia - Bureau for Development of Education, Syllabus of Macedonian language and literature for the 4th year of reformed gymnasium education, Expert working group: Stojka Bojkovska, Jadranka Vladova, Valentina Mucinska-Palevska, Aleksandar Kocev, Blaga Paneva, Blagoja Trajkovski, Mite Stefanovski, Skopje, 2002 (in Macedonian).
 15. Ministry of Education and Science of the Republic of Macedonia - Bureau for Development of Education, Syllabus of Philosophy for the 4th year of reformed gymnasium education, Expert working group: Olga Pesevska-Zarevska, Kiril Temkov, Stefan Sidovski, Gordana Trajkova-Kostovska, Skopje, 2002 (in Macedonian).
 16. Ministry of Education and Science of the Republic of Macedonia - Bureau for Development of Education, National Gymnasium Education Curriculum with a decision on amending the curriculum for the educational activity in gymnasium education, Skopje, 2007 (in Macedonian).
 17. Mucinska-Palevska, V., N. Acevska, Macedonian language and literature - textbook for the 3rd year of reformed gymnasium education (compulsory National Curriculum subject), Makedonska iskra, Skopje, 2003 (in Macedonian).
 18. Preedy, M. (ed.), R. Glatter (ed.), C. Wise (ed.), Strategic Leadership and Educational Improvement, SAGE Publications Los Angeles, 2003.
 19. Rowley, C. (ed.), H. Cooper (ed.), Cross-curricular Approaches to Teaching and Learning, SAGE Publications, Los Angeles, 2009.
 20. Savage, J., Cross-Curricular Teaching and Learning in the Secondary School, Routledge, London, 2010.
 21. Scrivener, J., Classroom Management Techniques: Cambridge Handbooks for Language Teachers, Cambridge University Press, Cambridge, 2012.
 22. Temkov, K., S. Sidovski, Philosophy - textbook for the 4th year of reformed gymnasium education (compulsory National Curriculum subject), Prosvetno delo, Skopje, 2009 (in Macedonian).
 23. Vladova, J., Macedonian language and literature - textbook for the 1st year of reformed gymnasium education (compulsory National Curriculum subject), Prosveten rabotnik, Skopje, 2002 (in Macedonian).
 24. Vladova, J., T.B. Eftimovska, Macedonian language and literature - textbook for the 2nd year of reformed gymnasium education (compulsory National Curriculum subject), Prosveten rabotnik, Skopje, 2002 (in Macedonian).

UNDERSTANDING CONFLICT IN SMALL BUSINESSES IN REPUBLIC OF MACEDONIA

Ljubomir Drakulevski¹, Aleksandra Janeska-Iliev¹, Angelina Taneva-Veshoska²,

¹*Faculty of Economics, Ss. Cyril and Methodius University, Skopje;* ²*Institute for Research in Environment, Civil Engineering and Energy, Skopje; Macedonia*

Abstract:

Purpose: The purpose of this paper is to examine conflicts in small business entities in the Republic of Macedonia and in this line distinguish variables which could potentially influence conflict generation in such companies.

Design/methodology/approach: The main discussion is designed to analyze the influence of the level of education of the owner in light of conflict generation in small businesses. Multiple regression analysis is used in order to determine variables influencing conflict.

Findings: Results shall indicate the impact of the level of formal, informal education, knowledge, age and size in the context of conflict generation in small organizations in Macedonia. Consequently findings focus on variables which have potentially significantly influence and could be considered as some of the determinants of conflict.

Research limitations/implications: Potential limitations are raised by the size of the sample, as well as the limitations of variables which could be in further research extended. The research gap related to small business implications on organizational issues in Macedonia has raised the interest in our research.

Practical implications: Based on the purpose of this paper the implications could be found in valuable recommendations and considerations for managing potential conflicts in small businesses, encouraging small business owners to invest resources in raising their knowledge and education in order to grow their potential for long term success.

Originality/value: Research contribution could be found in presenting support and original findings. The analysis augments the existing body of literature in a very important area of study especially considering the growing interest and presence of small businesses in the Republic of Macedonia. The questionnaire was distributed among small business organizations on the whole territory of the Republic of Macedonia.

Paper type: Research paper

Keywords: conflict, conflict management, organizations, small business, formal education, informal education,

1. INTRODUCTION

Small business are vital part of any economy, so the interest related to small business has considerably grown in the last 20th years. Keeping in mind that small businesses were for decades in the shadow of the global domination by large business, the growth of opportunities

for small businesses to become the new driving power in the world economy has attracted researchers to analyze the influence of these entities considering entrepreneurial activities, innovations, employment creation, profitability and the world economy in total. This analysis includes different issues related to some organizational aspect of small business. So first of all we indicate some of the main assets and characteristics of small business. Further the discussion is oriented towards the probably most common problem in any company and that is the rising of conflicts. Nauta & Kluwer (2004) contended that conflict is an important theme to study, both in organizations and in close relationships.

In that sense the effort is oriented towards finding some variables which could potentially influence conflict and provide input for managing conflicts in small businesses. The world has dramatically changed in 1980, this changes have influenced how small business was perceived as well. Small business, which are independent considering ownership and operational activities and are not dominant in their field of business, presented themselves in a totally new light. The new gained importance of small business is reflected in statistical data as well. Recent information still prove the high presence of small business considering quantity, so 99.7% of all business in USA are encountered being small businesses. According to the SBA (Small business administration report published in 2013) 63% of all generated jobs between 1993 and 2013 in the United States were raised by small businesses. Furthermore their significance in that sense is supported by being a modern employment generator. This however is reflected also in the overall performance of economies. In that sense data for 2011 prove 46% of the overall output from the private segment is generated by small business. According to published information small business are responsible for the occurrence of up to 2/3 of all innovation (Reynolds et al., 1999). Small business generate 16 times more patents per employees, then larger businesses (Breitzman, 2008). The importance and presence of small business can be also proved in Europe and does not lag behind USA at all. So over 99.8 % of total business in Europe are considered to fall into the category small and medium sized business. According to Eurostat in 2010, 67% of employees in the non-financial sector in EU are engaged in small and medium sized business. On the other hand this clearly indicates the most fundamental issue, which has been treated in numerous research efforts and that is the problem of defining small business. The definition of small business considerably varies among countries and therefore it is hard to compare any data related to small business. However the most general definition related to small business is that it is not dominant in the industry where it is active. Also in general we can say that small business have simple operations, concentrated in the hands of the owner or more commonly the founder.

Notably the attractiveness of small businesses has been upscaling, reasoned by many different aspects. It could be embedded in the need for freedom or independence of founders, the increasing positivity of the general climate toward small business in general or simply looking for a possibility to overcome some individual unemployment problems.

Hence small business has been often set in the focus of research, analysis and discussion in the effort to capture some specifics which considerably differ from larger companies. This paper aims to be directed to some internal elements of small business, which are related to the organizational aspects of business. The Republic of Macedonia is a young economy, struggling to find his path for reaching growth, stability and wellbeing. The

importance of small business in the Macedonian economy is significant, so 99.34% of all companies in the country are micro small and medium sized according to the State statistical office for 2013. Thus the analysis is strongly oriented towards small business in Macedonia and the main variable influencing the occurrence and resolving of conflicts. Since small businesses are the driving wheel in the Macedonian economy we see need to provide help and guidance for owners to achieve longevity and prosperity of their business.

2. CONFLICTS & CONFLICT MANAGEMENT

Conflict is an interesting phenomenon in organizations and therefore often discussed. The definition of conflict is set by many authors, some propose conflict being a form of intense interpersonal and/or intrapersonal dissonance, between two or more interdependent parties based on incompatible goals, needs, desires, values, beliefs, and/or attitudes. (Ting-Toomey, 1985). The most critical confusion has been equating conflict with competition (Tjosvold, 2006). Further conflict has been recognized as the process that begins when one party perceives that another has negatively affected, or is about to negatively affect, something that he or she cares about (Thomas, 1992). Others (Rahim, Magner, 1995) regard conflict as an interactive process manifested in incompatibility, disagreement or dissonance within or between social entities. Conflict has indicated significant implications for understanding organizational phenomena and performing. Conflict is a frequent occurrence in the workplace, and conflict management skills are necessary for individuals to function effectively at each and every level in an organization (Brewer et al., 2002). There have been proposed numerous different classifications about the types of conflict such as those occurring between individuals, groups, organizations or even nations (Rahim, 1986).

Discussing conflict has always imposed different approaches so the traditional approach follows the belief that all conflict is considered to be negative and destructive, and as such should be avoided. (Rahim, 1992). Therefore the perception of conflict being destructive and negative sets the focus not on managing, but preventing any conflict to occur. Still avoiding conflict has proved ineffectual as a general approach toward collaborating, although it can be useful in some circumstances (Tjosvold, Sun, 2002). Hence, if perceived negatively as with the traditional approach conflict could effect on productivity, work performance and on job satisfaction. The traditional view was replaced in the late 1940s and early 1950s with a behavioral approach, where those who studied organizations realized that conflict within organizations is inevitable. It is believed that shifting the focus from the elimination of conflict to the management thereof, requires a better understanding of the conflict phenomenon (Thomas, 1992). The justification behind this is that groups that are too peaceful and static, are nonresponsive and inadaptable, and that moderate levels of conflict optimize productivity (Rahim, 1992). Conflict diffuses in all the functional parts in organizations and, when well-managed, promotes vital organizational outcomes (Tjosvold, 2008). The main feature of conflict is that they leak across organizations whereby they occur in teams and between departments and its management, which often proves to be important for their effectiveness. Conflict offers a way to understand organizations as a whole and their dependence on other organizations (Tjosvold, 2008). Striving for a 'conflict-free' work

environment is naive and fantasizing to have such an environment is undesirable. Oddly, conflict offers a comprehensive understanding of the organization and is a way of tying organizational studies.

Conflict management is generally considered a niche area within organizational behavior, but working with others and managing conflict are inseparable, therefore dealing with conflict is not an activity separate from work. As a result, effective conflict management allows leaders to develop quality relationships with their employees (Chen, Tjosvold, 2007). Conflict management does not imply terminating conflict, but involves understanding strategies to minimize dysfunction and enhancing constructive effectiveness as a result of conflict (Rahim, 2002). Efficient conflict management means surfacing conflicts quickly and setting them cleanly, which leads to better productivity, less stress and money spent on conflict management programs (Drakulevski et al., 2014). There are some authors (Tjosvold et al., 2006) who indicate in their studies that people are not only repeatedly confronted with conflict but that they must manage conflict to work successfully in accounting, marketing, human resources, information systems, and other functional areas. An important reason why quality relationships are useful is because they promote constructive conflict, which in turn results in employee involvement and performance (Tjosvold et al. 1998). Conflict research has provided a link between leadership and effective conflict management by indicating that effective leaders are oriented toward promoting conditions and relationships open for discussion of opposing views among colleagues and employees (Tjosvold, 2008). If an individual is perceived to manage conflict in an appropriate and effective manner, that individual is also perceived to be more competent in general (Gross, Guerrero, 2000). This is because their conflict management approaches tend to leave employees satisfied, and in turn get committed, work hard and relate well to their colleagues.

3. SMALL BUSINESS DEFINITION AND CHARACTERISTICS

The analysis of small business naturally begins with defining what could be considered as such and at the same time the main characteristics of small business. When it comes to small business numerous definitions rise, considering the context in which discussed, as well as the authors preparing the discussion. Many countries propose institutions involved in the care and support of small business. Basically, the term small business describes a company which has an independent ownership structure, and operational activities are independently executed. However the main thing is that such businesses are too small to be dominant in the industry where active. Small businesses became significant in any economy, bearing huge impact on development, innovation and employment.

Related to defining, almost every country sets guidelines and regulations of how to define small business. There is a great discrepancy in various economies, however some criteria which are used to define small business are very often repeating and only differing by value such as: number of employees, income, profit and ownership. In table 1 are presented the main criteria according to which are determined the medium, small and micro businesses within the EU in contrast with Republic of Macedonia. It could be noted that there are some

considerable differences, which mainly rise due to the size of the market and in that senses it is even harder to compare small business.

In general small business are organizations with a limited or small number of employees evolving around the founder, often recognized as the entrepreneur. First, small businesses are characterized as non-bureaucratic organizations usually managed personally by their owners (Dodd, 2011). Although not subject to this research effort, it should be stressed that the entrepreneurial spirit of the venture is often the driving force behind most of small business and what determines the overall operations and organizational developments within the business.

Table.1 Defining small business in EU and Macedonia

<i>Category</i>	<i>European Union</i>	<i>Republic of Macedonia</i>
Medium	Number of employees ≤ 250	Number of employees ≤ 250
	Balance sheet ≤ €43 m	Balance sheet ≤ €11m
	Annual turnover ≤ €50 m	Annual turnover ≤ €10 m
	Number of employees ≤ 50	Number of employees ≤ 50
Small	Annual turnover ≤ €10 m	Annual turnover ≤ €2 m
	Balance sheet ≤ €10 m	Balance sheet ≤ €2 m
Micro	Number of employees ≤ 10	Number of employees ≤ 10
	Annual turnover ≤ €2 m	Balance sheet ≤ € 50 000
	Balance sheet ≤ €2m	Not more than 80% of the net income comes from one client.

According to: European Commission (2003), *Commission Recommendation 2003/361/EC of 6 May 2003 concerning the definition of micro, small and medium-sized enterprises* [Official Journal L 124 of 20.05.2003]. Law on trade companies of RM. No.28, Skopje (2004), "Official Gazette of RM".

Some relevant authors argued (Hatten, 2012), that a company is considered small if it is independently owned, operated, and financed; has fewer than 100 employees; and has relatively little impact on its industry. Main asset of small business are their flexibility and very close relations to their customers. So an important argument favoring small business is that enables maintaining close relationships with customers, employees and suppliers, much more than at larger companies (Corman et al., 2005). Small business usually have a more simplified structure and show a better efficiency, at the same time bearing great innovativeness. They most commonly serve smaller market segments and therefore need specialization. Besides the focus on their customers, small business outshine larger companies in performance quality, at the same time supported by integrity, responsibility and innovations (Petty, 2014). However mostly all operations are gathered around the owner or founder and therefore he is the one that defines the behavior within the company. The owner seen as the focal point in small business, but also the starting point when discussing conflict since he is most probably the source and mediator for conflicts within business. Therefore in respect to

the main scope of this paper we strongly focus on the owner when analyzing and discussing conflicts in small businesses.

4. CONFLICT AND SMALL BUSINESS

Conflict is an integral process based on human relations in particularly in work settings. Individuals have diverse and very different experiences, values, opinions and ways to carry out tasks, which most probably could lead to disagreements. Considering interpersonal level, individuals comes into conflict with others, whereas, intergroup conflict is conflict between or among groups and interorganizational conflict is among organizations (Wall, Callister, 1995).

Small businesses are also subject to conflict, and different styles of handling it are also experienced (Havenga, 2005). They create unique environments, which impact the behavior of people that differ totally from larger organizations. Most recent research on conflict in small family businesses have focused on conflict of interests and objectives (Vilaseca, 2002)

Many authors when discussing conflict in small business direct their analysis toward family business and the specifics of conflict management in the context of family and business. Therefore authors (Boles, 1996) turn their interest toward the influences of work-family conflict on job satisfaction and quitting intentions among business owners. Whereas others (Sorenson, 1999), argue the occurrence conflict in the family business as substantial and therefore determine potential conflict management strategies in small family businesses. Hence almost in any small businesses, family-related and nonfamily employees coexist very closely which mainly increase the potential for disagreements regarding attitudes and values to arise and risking the organizational survival (Barnett, Kellermanns, 2006). Different discussions impose that the proposed variety with regard to attitudes and values is strongly related to interpersonal conflict at work (Hobman et al., 2003). Furthermore it should be considered that all operations of small businesses are less formalized and in that senses the infrastructure within the organization is looser. This creates the need for employees to involve in different tasks and responsibilities that potentially could lead to a higher role uncertainty. Consequently that all these doubts and challenges could potentially lead to interpersonal conflict. In particularly for small businesses it is very often argued, that due to closeness of relationships between family member's owners and employees which are non-family members, potential grounds for disagreements and again confusions of roles of everyone involved could raise. Recent research has also postulated that small businesses promote more supportive working relationships than large organizations (Wallace, Kay, 2009).

5. DATA AND METHODOLOGY

5.1. THE DATA SAMPLE

For the purposes of this research 200 questionnaires were collected. Regarding to the total questionnaires returned, after making some data screening 191 were used, while 9 were excluded due to inadequate data or technical issues.

5.2 DATA GATHERING

The questionnaire was prepared and tested, after receiving some feedback, improvements were made. It could be noted that the relatively low response rate reflects the attitude of small companies toward providing information, which are mainly closed in sharing company information to the outside. The questionnaire contains mostly questions set on Likert scale with 5 positions - 1 indicates the lowest level, and 5 - the highest level of occurrence as well as multiple choice including several alternatives, respondents were asked to choose the best suited option according to their perception.

5.3. METHODOLOGY

Multiple regression analysis has been executed, whereas as dependent target variable the conflicts were used. In order to explain the dependent variable a number of independent variables has been chosen such as: age, number of employees, education, knowledge, informal education. This method enables to define the overall variance explained of the model and the relative contribution of each of the predictors to the total variance explained.

5.4. OPERATIONALIZATION OF VARIABLES

1. Size of company

Size is a very basic variable often found as a control variable, different manners are used for size, but the most common and most basic is connected to the number of employees. Moreover our analysis proposed respondent to state the precise number of employees, so large standard deviations were present and therefore this variable was normalized by logarithmical transformation.

2. Age of the company

Similar to size the next most common variable is age and therefore respondents were expected to implicate the exact number of years the business exists. The variable also indicated great standard deviation and in order to normalize this related it was logarithmically transformed as well.

3. Formal education of the owner

The owner acting founding father and driving figure behind the business naturally intensely influences the overall operations of the small business. Consequently it is considered that the level of education determines of how well conflict are managed and accepted in the company. In the research respondents need to provide information concerning the owner's education by implying their level of education from the five categories provided within the questionnaire (primary education, secondary education, university education, master degree, doctoral degree).

4. Informal education

Another very interesting category again oriented toward the owner beside his formal education is informal education, such as different trainings, qualifications and certificates

which could potentially grow skills and abilities. Informal education is measured by the average value of the three aspects each measuring the compliance of the respondents by Likert scale from 1 to 5. The highest score determines the highest level of informal education.

5. Knowledge

Considering the total knowledge in the company, it is represented by a continuous variable resulting from the average value which are based on the three statements connected to the various elements by which the knowledge is analyzed. Basically it is considered that the organization is an accumulation of knowledge and learning (Starkey et al, 2004). Furthermore the companies need to evaluate the total knowledge in accordance to its presence in the last 3 to 5 years. The measurement is made with a Likert scale from 1 to 5, 1 indicating lowest and 5 highest intensity. The different statements which need to be evaluated are related to: the basic skills and abilities, specific skills and abilities and the unique skills and abilities.

6. RESULTS

The multiple regression was run to predict the overall conflict dependent upon age, size, formal education, informal education and knowledge. The assumptions of linearity, independence of errors, homoscedasticity, unusual points and normality of residuals were met. Concerning the assumptions of the regression, the Durbin-Watson statistics is 2.028 which propose that there is no autocorrelation in the data. The variables included in the model statistically significantly predict the dependent variable CONFLICT whereas $p < .0005$. Furthermore the coefficient of determination is 0.206 which means that the variables included explain only 20.6% of the total variance of the dependent variable. This should not be a surprise since in many occasions it is argued attempts to predict human behavior, typically has R-squared values lower than 50%. In our analysis we aim to explain some of the variables which could be influencing conflicts within small business. Regression coefficients and standard errors can be found in Table 1 (below).

Table 2. Multiple regression determinants

<i>Variable</i>	<i>B</i>	<i>SE_β</i>	<i>β</i>	<i>t-stat.</i>	<i>p value</i>
<i>Constant</i>	1.141	.513		2.225	.027
<i>Education</i>	-.268	.135	-.138	-1.992	.048*
<i>Informal education</i>	.413	.095	.354	4.351	.000*
<i>Knowledge</i>	.155	.100	.121	1.550	.123
<i>Employees (Ln Emp)</i>	.351	.207	.117	1.695	.092
<i>Age(LnAge)</i>	.380	.272	.097	1.399	.164

Note: * $p < 0.05$; B= unstandardized regression coefficient; SE_{β} standard error of the coefficient; standardized coefficient.

The results of the multiple linear regression model are presented as stated in the table above and from total of 5 predictor variables only 2 variable are statistically significant at 95% level of significance.

The analysis has indicated that education and informal education are strongly related with the conflicts rising in small business in the Republic of Macedonia. Generally this would imply that a one unit change in the predictor variable, results in the respective regression coefficient change in the expected value of the response variable, while all the predictors are held constant. In this context this would mean that the change of the level of education of the owner for one point would influence a change of 0.268% in the level conflict or the influence of conflict. However as it can be noticed, the coefficient is negative which would mean that increasing the level of formal education could decrease the positive influence of conflict in small business. This sounds surprisingly however it should be stressed that all activities in small companies are mainly centered on the owner and where the gap of education between the owner and employees no matter whether family or non-family member exists or is deep, potential ground for additional confusion and conflicts are raised. On the other hand another statistically significant variable is the informal education of the owner, which implies that any increase of informal education of the owner for one point should result in 0.413% rise of the positive attitude towards conflict in small business. It should be noted that conflict within the model is measured by a Likert scale and that the highest values attempt to indicate a positive attitude and recognition of conflicts, related to the overall performance of small business. Nevertheless the total knowledge presents p being 0.123, which means that the overall knowledge in the business does not determine conflicts. At the same time the logarithmically transformed variables size and age do not present any statistically significant impact on conflicts in small business in Republic of Macedonia.

The coefficient of determination was presented as being rather low or precisely $R^2=0.206$ also the adjusted R^2 is even lower at a level of 18.5%. This means that 18.5% of the total variation in the response variable. Here it should be noted that the adjusted R^2 reflects the model than R^2 even better. Some researchers consider that R^2 that if the sole purpose of regression analysis is prediction, the higher the, the better the prediction (Gujarati, 2003). Hence it could be argued that a low R^2 would implicate a weak model for predicting in our case the conflict in small business in the Republic of Macedonia. However the main aim of the analysis is not to predict the conflict, but rather to distinguishing and obtaining relevant variables indicating statistically significant influence. Therefore we can conclude that the chosen variables have offered some parts of determining and managing conflict within small business in the Republic of Macedonia.

7. CONCLUSIONS

This research has provided certain insight of some aspects of conflict in small businesses in the Republic of Macedonia. In this context formal and informal educations of the owner show a significant relation in respect to the attitude towards conflict. This of course rises and could be explained by the main role and dominance of the owner considering small business in the Republic of Macedonia. Therefore it could be emphasized that for small

business in respect to conflict, engaging additional resources in informal education could bring some valuable results. This study provides original results and contributions to literature especially considering transition economies by emphasizing the case of the Republic of Macedonia. Managers and owners of small businesses should be aware of their role and impact of their dynamics on conflict, bearing in mind that around their behavior evolves or reflects on the behavior on all employees engaged. Involving owners in different types of informal trainings could grow the awareness on how to manage conflicts and what conflict management strategies to pursue. This of course could help small business to fight stronger their fight with the mortality high rate, as well as release additional potential for long term success.

8. FURTHER RESEARCH

This study has offered some overview of the main aspect related to conflicts in small business especially concerning the Republic of Macedonia. However the analysis not only highlights agreement in previous findings but also provides ideas for future research. Research is necessary to test and grow the theorizing of conflict in general. Conflict researchers can use the suggestion by social scientists and philosophers to discover and expand our understanding of open-minded discussion. So the research raises more questions for additional research such as the complex relations in the small company are grounds where great further discussions could be opened. Also those variables which have or have not indicated significant influence should be examined further for determining more reasons behind that.

REFERENCES

1. Barnett, T., Kellermanns, F. W. (2006). "Are we family? Nonfamily employees' perception of justice in the family firm", *Entrepreneurship Theory and Practice*, 30, 837- 854.
2. Boles, J. (1996), "Influences of work-family on job satisfaction and quitting intentions among business owners, the case of family-operated business", *Family Business Review*, 9(2):61-74.
3. Breitzman, A., Hicks D. (2008) *An Analysis of Small Business Patents by Industry and Firm Size*, SBA, Office of Advocacy, New Jersey.
4. Brewer, N., Mitchell, P., Weber, N. (2002). "Gender role, organizational status, and conflict management styles" *The International Journal of Conflict Management*, 78-94.
5. Chen NYF, Tjosvold D. (2007) "Cooperative conflict management: an approach to strengthen relationships between foreign managers and Chinese employees", *Asia Pac. J. Hum. Resour.* 45(3):271-94

6. Corman, J., Lussier R.N., Pennel, L. (2005), *Small business management: a planning approach*, 2nd ed. Atomic Dog Pub., Cincinnati.
7. Dodd, S. D. (2011). "Mapping work-related stress and health in the context of the family firm", *Entrepreneurship and Innovation*, 12, 29-38
8. Drakulevski, Lj., Nakov, L., Taneva-Veshoska, A. (2014), "Conflict management styles among managers in Macedonian organizations", *European Journal of Economics and Management*, 1(1):149-160.
9. Drakulevski, Lj., Nakov, L., Taneva-Veshoska, A. (2014), "Learning Style and Change of Strategy in Conflict Management among Macedonian Managers" *2nd International OFEL Conference on Governance, Management and Entrepreneurship*, Dubrovnik.
10. Gross, M. A., Guerrero, L. K. (2000). "Managing conflict appropriately and effectively: An application of the competence model to Rahim's organizational conflict styles" *The International Journal of Conflict Management*, 11:200-226
11. Gujarati, D., 2003. **Basic econometrics**, McGraw-Hill, New York.
12. Hatten, T.S. (2012), *Small business management: entrepreneurship and beyond*, South-Western Cengage Learning, Mason.
13. Havenga, W. 2005 "A comparative analysis of conflict dynamics within public and private sector organizations." PhD-dissertation. North-West University, South Africa.
14. Hobman, E. V., Bordia, P., Gallois, C. (2003), "Consequences of feeling dissimilar from others in a work team", *Journal of Business and Psychology*, 17: 301-325.
15. Nauta, A., Kluwer, E. (2004) "The use of questionnaires in conflict research". *International Negotiation*. 9: 457 – 470.
16. Petty J.W., Palich E.L., Hoy F., Longenecker G.J.(2014) , *Launching and growing entrepreneurial Ventures* Paperback, 17th Edition, International Edition , Cengage Learning, Stamford.
17. Rahim, M. A. (1992). *Managing conflict in Organizations*. Praeger, New York.
18. Rahim, M.A., Magner, N.R. (1995). "Confirmatory factor analysis of the styles of handling interpersonal conflict: First-order factor model and its intervariance across groups", *Journal of Applied Psychology*, 80:122-132.
19. Reynolds, P., Hay M., Camp M. (1999), *Global Entrepreneurship Monitor, Executive Report*, National Entrepreneurship Assessment of US, Kansas City.
20. Sorenson, R.L. (1999), "Conflict management strategies used in successful family business", *Family Business Review*, 12(2):133-146.
21. Starkey, K., Tempest S., McKinlay A. (2004), *How organizations learn: managing the search for knowledge*, 2nd Edition, Thomson, London.
22. Thomas, Kenneth W. (1992), "Conflict and conflict management: Reflections and update." *Journal of organizational behavior* 13(3) : 265-274.
23. Ting-Toomey, S. (1985). Toward a theory of conflict and culture. In W.B. Gudykunst, L.P. Stewart & S. Ting-Toomey (Eds.). *Communication Culture and Organization Processes*, 71-85. Beverly Hills, CA: Sage.

24. Tjosvold, D. (2006), "Defining conflict and making choices about its management: Lighting the dark side of organizational life", *International Journal of Conflict Management*, 17: 87–95.
25. Tjosvold, D. Sun, H. (2002). "Understanding conflict avoidance: Relationship, motivations, actions, and consequences.", *International Journal of Conflict Management*, 13: 142–164.
26. Tjosvold, D.(2008), "The conflict-positive organization: It depends upon us", *Journal of Organizational Behavior*, 29(1):19-28.
27. Tjosvold, D., Hui, C., Law, K. S. (1998) "Empowerment in the manager-employee relationship in Hong Kong: Interdependence and controversy", *Journal of Social Psychology*, 138: 624–637.
28. Tjosvold, D., Leung, K., Johnson, D. W. (2006). Cooperative and competitive conflict in China. In M. Deutsch, & P. T. Coleman (Eds.), *Handbook of conflict resolution: Theory and practice* (2nd ed.), Jossey-Bass. San Francisco:
29. Vilaseca, A. 2002. "Stakeholder role in family business: Conflict of interests and objectives between non-employed shareholders and top management team." *Family Business Review*. 25(4): 299 – 320.
30. Wall, J. A., Callister, R. R. (1995), "Conflict and its management", *Journal of management*, 21(3): 515-558.
31. Wallace, J. E., Kay, F. M. (2009), "Are small firms more beautiful or is bigger better? A study of compensating differentials and law firm internal labor markets", *The Sociological Quarterly*, 50: 474-496.

ANALYSIS OF EMPLOYEE SATISFACTION WITH QUANTITY AND QUALITY OF INFORMATION IN THEIR WORK ORGANIZATIONS

Milijana Roganović¹, Biljana Stankov¹, Sonja Marjanski Lazić²

¹Higher School of Professional Business Studies in Novi Sad;

²Secondary School of Economics and Trade in Zrenjanin, Serbia

Abstract: The research problem is related to communication in the organization, as one of the sources of information, which plays a very important role in ensuring employee satisfaction and increases productivity of their work, and thus the achievement of business success of the organization. Most of the work activities of employees cannot take place without communication so it is essential that they possess a range of communication skills such as writing e-mails and various documents, telephone and internet interviews, direct communication between employees at the same and different hierarchical level and mutual communication in a team and in joint decision-making. The subject of the research involves studies of employee satisfaction with the quantity and quality of information they receive in their work organizations. The aim of the research is related to proving the relationship between the quantity and quality of information available to employees and their satisfaction, which will be a key indicator of increasing or decreasing the productivity of the employees. The survey was conducted via the Internet, using Google-docs application that enabled simple creation of a questionnaire, sending the questionnaire to a wide range of potential respondents via e-mail i.e. gmail accounts, as well as fast access to research results. The surveyed sample was representative by gender, age, place of residence, level of education, duration of service and income levels. In the process of studying the research subject, descriptive method was applied with relying on the empirical facts that were taken into account in the study. This method was applied due to its tendency to describe, as closely as possible, the existing facts as they really are, in order to show the actual state of the quantity and quality of information obtained in work organizations and employee satisfaction with the content of their work.

Keywords: employee satisfaction, quantity and quality of information, communication, internal communication, work organization.

1. UVOD

Ljudi svakodnevno razgovaraju, pričaju, razmenjuju poruke, iznose informacije sa određenim svrhama i namerama, ceo život u različitim situacijama, počevši od porodičnih pa sve do profesionalnih. Komunikacija je zaista postala životni uslov bez kojg se ne može. Komunikacija uspostavlja odnose i omogućava organizovanje i saradnju ljudi. Pošto živimo sa drugim ljudima, i u ličnoj i u poslovnoj sferi života jedna od najvažnijih sposobnosti za uspeh je sposobnost valjanog međusobnog komuniciranja. Bez komuniciranja kao razmene

informacija se malo toga može desiti. Znanja i veštine koje posedujemo su nam od malog značaja ukoliko ne možemo da ih podelimo sa drugima i da saradujemo sa njima, a isto tako znanja koja drugi imaju ne možemo koristiti ukoliko nam ih oni ne prenesu komuniciranjem. Komunikacija je jedna od glavnih komponenti svake organizacije, pa je stoga jasno zašto je bolja upoznanost sa komunikacijom značajna za ukupni uspeh u organizaciji. Većina radnih aktivnosti zaposlenih se ne može odvijati bez komunikacije pa je neophodno da oni poseduju niz komunikacionih veština kao što su pisanje elektronske pošte i različitih dokumenata, telefonski i internet razgovori, neposredna komunikacija među zaposlenima na istom i različitim hijerarhijskim nivoima i međusobna komunikacija u timu i pri zajedničkom odlučivanju.

2. PROBLEM I CILJ ISTRAŽIVANJA

Problem istraživanja se odnosi na komunikaciju u radnoj organizaciji, kao jedan od izvora informacija, koji igra veoma značajnu ulogu u procesu obezbeđenja zadovoljstva zaposlenih i povećanja njihove produktivnosti, a time i postizanja poslovnog uspeha same organizacije. Komunikacija je prenos (transfer) informacija i ideja, razumevanja i osećanja među ljudima. Komunikacija je sredstvo kojim ubeđujemo, informišemo, motivišemo i vodimo pojedinca prema grupnom cilju. Suština grupnih napora je saradnja, a ključ za saradnju je komunikacija. Uspešan menadžer mora, zbog toga, biti sposoban za međuljudsku komunikaciju [20]. Mnogi su autori, tokom godina, isticali važnost komunikacije u radnim organizacijama. Bernard (1938) je, na primer, posmatrao komunikaciju kao sredstvo povezivanja ljudi u organizaciji na ostvarenju zajedničke svrhe što predstavlja temeljnu funkciju komunikacije. Dobra komunikacija može poboljšati organizacioni učinak, poboljšati učinak menadžmenta i odlučivanje, poboljšati učinak i posvećenost zaposlenih, doprineti razvijanju većeg poverenja i povećati poslovnu satisfakciju [1]. U najširem smislu svrha komunikacije u organizaciji je sprovesti promenu i usmeriti akcije u cilju dobrobiti preduzeća. Komunikacija je posebno potrebna za (1) uspostavljanje i sprovođenje ciljeva preduzeća, (2) razvoj strategija za njihovo ostvarivanje, (3) organizovanja ljudskih i drugih resursa na najuspešniji i najdelotvorniji način, (4) izbor, razvoj i ocenjivanje članova organizacije, (5) vođenje, usmeravanje, motivisanje i kreiranje klime u kojoj zaposleni žele da doprinose i (6) kontrolu ostvarenja [19].

U uspešnoj organizaciji komunikacija se odvija u različitim pravcima: prema dole (vertikalno naniže), prema gore (vertikalno naviše) i bočno ili horizontalno. Komunikacija vertikalno naniže odvija se od ljudi na višim organizacionim nivoima ka onima na nižim nivoima u organizacionoj hijerarhiji. Ova vrsta komunikacije naročito je prisutna u organizacijama sa autoritativnom atmosferom. Komunikacija vertikalno naviše teče od podređenih ka nadređenima i nastavlja se uzduž organizacione hijerarhije. Nažalost menadžeri često koče ovaj tok informacija ne prenoseći sve poruke i informacije, posebno nepoželjne vesti-nadređenima. Ovaj vid komunikacije nije zapovedan i obično postoji u demokratskom organizacionom okruženju. Bočna komunikacija uključuje horizontalni protok informacija između istih i sličnih organizacionih nivoa. Ova vrsta komunikacije koristi se za ubravanje protoka informacija, poboljšanje razumevanja i koordiniranje napora za ostvarenje organizacionih ciljeva.

Porter i Roberts su ustanovili da se dve trećine komunikacija menadžera odnosi na komunikacije s ljudima na višem i nižem nivou u organizaciji [13]. Njihove studije su pokazale da sličnosti u razmišljanju između ljudi na višem i nižem nivou doprinose da vertikalna komunikacija bude precizna. Konkretno posledice lošeg komuniciranja najčešće su: loše donete odluke, nerazumevanje i nesporazumi između organizacionih celina, loša koordinacija, pogrešno shvatanje ili neshvatanje ciljeva organizacije i mogućnosti ostvarenja ličnih ciljeva u organizaciji, konflikti i razmimoilaženja, kako između saradnika, tako i između različitih hijerarhijskih nivoa, loš kvalitet proizvoda i usluga kao posledica nerazumevnja sopstvene uloge u procesu upravljanja kvalitetom, otpor promenama i razvoju, nedovoljno angažovanje usled slabe motivisanosti uzrokovane nekvalitetnim komuniciranjem i, za ovo istraživanje najznačajnija posledica loše komunikacije, nezadovoljstvo poslom [18].

S obzirom da se cilj istraživanja odnosi na dokazivanje povezanosti između količine i kvaliteta informacija koje zaposlenima stoje na raspolaganju i njihovog zadovoljstva koje će biti ključni indikator povećanja ili smanjenja produktivnosti rada zaposlenih, neophodno je pored komuniciranja definisati i zadovoljstvo poslom kao i navesti razloge koji najčešće dovode do nezadovoljstva. Zadovoljstvo poslom je ugodan osećaj koji proizilazi iz percepcije da nečiji posao ispunjava ili omogućava ispunjenje važnih poslovnih vrednosti te osobe [9]. Ova definicija odražava tri važna aspekta zadovoljstva poslom. Prvo, zadovoljstvo poslom je funkcija vrednosti, definisana kao ono što osoba svesno ili nesvesno želi postići. Drugo, ova definicija naglašava da različiti zaposleni imaju različite poglede o tome koje su vrednosti važne, što je kritično pri određivanju prirode i nivoa njihovog zadovoljstva poslom. Treći važni aspekt zadovoljstva poslom je percepcija. Percepcija neke osobe ne mora biti tačan odraz stvarnosti, te različiti ljudi mogu i različito gledati na istu situaciju. Budući da okruženje koje pruža podršku smanjuje nezadovoljstvo, mnoge organizacije neguju izgradnju tima i na poslu i izvan posla. Iza toga stoji ideja da će se kohezija grupe i podrška pojedinačnim članovima grupe povećati kroz izlaganje zajedničkim naporima. Iako menadžment sigurno ne može jemčiti da će svi zaposleni uspostaviti prijateljstva, to može olakšati saradnju zaposlenih – nužan faktor razvoja prijateljstva i komunikacije [11].

3. PREDMET ISTRAŽIVANJA I HIPOTEZE

Predmet istraživanja podrazumeva izučavanje zadovoljstva zaposlenih količinom i kvalitetom informacija koje dobijaju u svojim radnim organizacijama. Predmet ovog istraživanja je i da proveriti i eventualno dokaže da li zadovoljstvo u komunikaciji u organizaciji može i u kojoj meri da utiče na zadovoljstvo poslom zaposlenih i njihovu produktivnost. Jedno od najznačajnijih istraživanja na ovu temu sprovedli su i razvili Downs i Hazen (1997) kako bi analizirali povezanost komunikacije i zadovoljstva poslom.

Primenom adekvatnih metoda kao i postojećih rezultata istraživanja težiće se dokazivanju sledeće hipoteze:

Zadovoljstvo zaposlenih količinom i kvalitetom informacija koje dobijaju u svojim radnim organizacijama utiče na njihovo zadovoljstvo sadržajem posla, na povećanje produktivnosti rada i postizanje poslovnog uspeha organizacije.

Interna komunikacija predstavlja komunikaciju koja se odvija između zaposlenih u organizaciji i danas se smatra jednim od najvažnijih sredstava u vođenju organizacije. Unapređenje sistema interne komunikacije podrazumeva dijagnostikovanje postojećeg stanja u organizaciji, identifikovanje smetnji, tački zastoja i deformacija procesa komuniciranja uz analizu ključnih barijera. Unapređenje interne komunikacije može se ostvariti i promenama na planu organizacione strukture u pravcu kombinovanja postojećih ili uspostavljanja novih komunikacionih kanala.

Komunikacija predstavlja jednu od fundamentalnih aktivnosti upravljanja organizacijom. Menadžment naglašava važnost deljenja informacija s drugima, traženje povratnih informacija o upravljanju, donošenju odluka, učestvovanju u predlozima itd. Razmena informacija u različitim oblicima predstavlja ključ uspešnog upravljanja [8]. Robson i Tourish (2005) tvrde kako postoje značajni dokazi u literaturi prema kojima interna komunikacija pomaže u povećanju verovatnoće organizacijske uspešnosti. Hargie i Tourish (1993) navode istraživanja koja pokazuju da poboljšanje komunikacije dovodi do većeg broja koristi za organizaciju. Quinn i Hargie (2004) se takođe slažu kako je ključna vrednost kvalitetnih internih komunikacija u odnosima koji takve organizacije imaju, odnosno kvalitetne interne komunikacije deo su organizacijske efikasnosti. Dickinson, Rainey i Hargie (2003) tvrde kako postoji veliki broj istraživanja koja povezuju poboljšanja u komunikacijskoj praksi organizacije sa celim nizom pozitivnih rezultata. Hargie i Tourish (2002) su pronašli da nizak kvalitet interne komunikacije na istim nivoima u organizaciji stvara značajan osećaj nezadovoljstva i kroz ovo korelira s nižim nivoima uključenosti u proces donošenja odluka. To ujedno znači da nedovoljna razmena informacija sa zaposlenima na istom nivou dovodi do nesigurnosti i povećava otuđenost.

Otvorenost i poverenje koje se odnosi na radnike i menadžere mora postojati ako se stvaraju normalne promene u organizaciji. Kada radnici osete da ne postoji otvorenost i poverenje-nastaju ozbiljne barijere u komuniciranju. Politika otvorenih vrata u kompaniji može biti uspešna samo ako radnici veruju u obećanja kompanije, njenu pouzdanost i nedostatak represija, kada premošćuju lanac komandovanja [4]. Povratna sprega ohrabruje kada radnici vide da je menadžer otvoren i osoba koja poštuje ideje.

Još jedan od faktora koji može imati uticaj na zadovoljstvo zaposlenih je količina primljenih informacija. Optimum se nalazi negde između premalo i previše informacija. Zaposleni će biti nezadovoljni ako nemaju dovoljno potrebnih informacija koje su važne za efikasno obavljanje posla, ali i suviše nepotrebnih informacija dovodi do zbunjenosti i smanjenja motivacije. Nasuprot tome, optimalna količina informacija dovodi do maksimalnog zadovoljstva zaposlenih. Ne samo da zadovoljan radnik radi više i bolje, nego dobra komunikacija štedi vreme koje se može iskoristiti za posao koji radnik obavlja na svom radnom mestu, i sve to vodi ka povećanoj produktivnosti [12].

4. METODOLOGIJA

Istraživanje je sprovedeno putem interneta, korišćenjem aplikacije Google docs koja pruža mogućnost jednostavnog kreiranja anketnog upitnika, slanja upitnika širokom krugu potencijalnih ispitanika putem elektronske pošte, odnosno gmail naloga, kao i mogućnost

brzog pristupa rezultatima istraživanja. Pomenuti su samo neki od faktora koji su uticali na opredeljenje istraživača za ovim vidom istraživanja. Podrazumeva se da potencijalni ispitanici poseduju gmail nalog i da su zaposlena lica. Još jedan od razloga koji je istraživače naveo na opredeljenje za pomenutim načinom istraživanja jeste i mogućnost jednostavnog pristupa ispitanicima slanjem anketnog upitnika putem elektronske pošte. Ispitanici su uglavnom osobe kojima su istraživači poznati jer su ranije uspostavljali neki vid kontakta sa njima pa ih samim tim lako mogu navesti da pristupe procesu ispitivanja, a takođe istraživači poseduju i određena prethodna saznanja o radnom status potencijalnih ispitanika.

S obzirom da određivanje vremenskog okvira istraživanja neće uticati na konačan rezultat usklađeno je sa mogućnostima i potrebama istraživača. Istraživanje je sprovedeno bez prekida u periodu od 1. novembra 2014. godine do juna 01.marta 2015. godine.

4.1. UZORAK ISTRAŽIVANJA

Uzorak na kome je istraživanje izvedeno je reprezentativan prema polu, uzrastu, mestu boravka, nivou obrazovanja, trajanju radnog staža i nivou ostvarenog prihoda. Od ukupnog broja ispitanika 52% su žene, a 48% muškarci. Pripadaju različitim starosnim kategorijama kojima je pokriveno celokupno radno sposobno stanovništvo, s tim što najviše ispitanika 16% pripada starosnoj grupi od 38 do 41 godine, zatim sledi starosna grupa od 26 do 29 godina sa učešćem od 14%, nakon toga sa učešćem od 13% se pojavljuju ispitanici u okviru starosne grupe od 34 do 37 godina što zajedno čini 43% svih ispitanika. Ispitanici starosti od 50 i više godina čine 12% ukupnog broja ispitanika, zatim sa 11% učestvuju ispitanici starosti od 30 do 33 godine, podjednako učešće od 10% beleže starosne grupe od 42 do 45 godina i od 46 do 49 godina, dok najmlađi ispitanici imaju najmanje učešće od 14% tj. oni starosti od 18 do 21 godine 6%, a starosti od 22 do 25 godina 8%. Većina ispitanika poseduje visoko obrazovanje čak 70%, odnosno 37% ispitanika je završilo akademski nivo studija, a 33% strukovni nivo studija, dok 30% ispitanika ima završenu srednju školu. Najveće učešće od 29% ostvaruju ispitanici sa ostvarenih 6 do 10 godina radnog staža, a slede ih oni koji imaju do 5 godina radnog staža (21%), zatim sa 16 do 20 godina radnog staža (20%), nakon njih ispitanici sa 11 do 15 godina radnog staža (18%) i veoma mali procenat onih koji imaju više od 20 godina radnog staža (12%). Može se zaključiti da 38% ispitanika poseduje između 10 i 20 godina radnog staža, a ukoliko ima dodamo i one koji imaju između 6 i 10 godina učešće se povećava na čak 67%.Uzevši u obzir prihod koji ispitanici ostvaruju u svojim radnim organizacijama, ustanovljeno je da najveći broj ispitanika (23%) ostvaruje prihod u iznosu većem od 20.000 RSD ali manjem od 25.000 RSD, zatim slede ispitanici koji pripadaju narednoj vrednosnoj kategoriji (više od 25.000 RSD, a manje od 30.000 RSD) sa učešćem od 17%. Posmatrajući ove dve grupe ispitanika zaključuje se da 40% ispitanika ostvaruje prihod u rasponu od 20.000 RSD pa do 30.000 RSD. Ispitanici čiji se prihod kreće od 10.000 RSD pa do 20.000 RSD ostvaruju učešće od 28%, dok oni čiji prihod prevazilazi 30.000 RSD i dostiže iznos do 45.000 RSD čine 19% ukupnog broja ispitanika, dok najmanje učešće ostvaruju ispitanici sa ostvarenim prihodom u iznosu većem od 45.000 RSD (3%). Čak 43% ispitanika su zaposleni na izvršilačkim radnim mestima u svojim radnim organizacijama. Ostali ispitanici se nalaze na menadžerskim pozicijama i to 27% njih pripadaju srednjem nivou menadžmenta, 23% nižem nivou menadžmenta , a svega 6% ispitanika su menadžeri najvišeg nivoa.

4.2. METOD ISTRAŽIVANJA

U istraživanju definisanog predmeta primenjuje se deskriptivna metoda uz oslanjanje na date empirijske činjenice koje se uzimaju u obzir pri istraživanju. Ova metoda teži što vernijem opisu postojećih činjenica, onakvim kakve one zaista jesu, kako bi se prikazalo stvarno stanje uticaja interne komunikacije u organizaciji na zadovoljstvo zaposlenih sadržajem posla. Karakter metode deskripcije je uslovljen odgovorima na pitanja šta će se istraživati, u kom vremenskom periodu, na koji način i zašto će se istraživati. Deskriptivna metoda je veoma pogodna za primenu sudeći da se istraživački cilj odnosi na dobijanje opšteg uvida u analizirana obeležja predmeta, merenje obeležja i njihovu klasifikaciju. Deskriptivni način istraživanja pre svega mora obezbediti reprezentativan uzorak [6]. Veoma je bitno da se odluči ko nam može ponuditi najbolje podatke, na koji način ćemo ih prikupiti i kada.

4.3. METOD PRIKUPLJANJA PODATAKA I METODOLOŠKE TEŠKOĆE

Pošto su određene činjenice koje su ključne za istraživanje i definisani uslovi pod kojima će se izvršiti njihovo prikupljanje prelazi se na određivanje metode za prikupljanje potrebnih podataka. Sudeći po tome da se najčešće koristi u istraživanjima društvene stvarnosti kao i usled mnogobrojnih prednosti koje je karakterišu primenjena je metoda ispitivanja. Ispitivanje je metoda prikupljanja empirijskih podataka posredstvom iskaza, prvenstveno usmenih, ali i pisanih koje daju ispitanici [17]. Sprovodi se putem intervjua i ankete u zavisnosti od karaktera predmeta proučavanja.

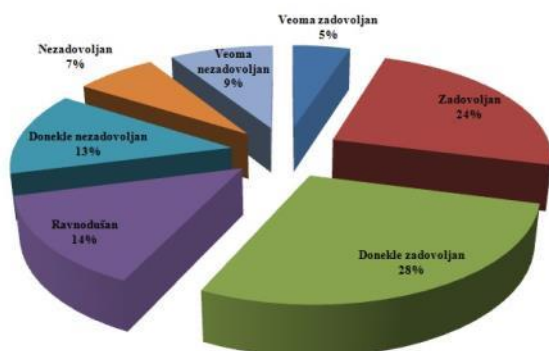
Anketa ima niz prednosti u odnosu na druge metode prikupljanja iskustvenog materijala, između ostalog, ona pruža mogućnost prikupljanja podataka koji govore o motivima, interesima, stavovima, mišljenjima ispitanika kao i faktorima činjenja ili nečinjenja. Anketiranjem se za relativno kratko vreme može prikupiti veliki broj iskustvenih podataka o predmetu istraživanja koji se mogu odnositi kako na sadašnje tako i na prošlo stanje pojave ali i na predviđanja ispitanika o tome šta će se desiti u budućnosti. Anketa je tehnički postupak za prikupljanje činjeničnog materijala kombinacijom statističke metode uzorka sa metodom intervjua ili upitnika [10]. U užem smislu ona je pismeno prikupljanje podataka o stavovima i mišljenjima ispitanika koji pripadaju reprezentativnom uzorku uz korišćenje upitnika. Pored toga što se prikupljaju potrebni podaci, primenom ove metode se istražuju i osećanja i ponašanja ispitanika u uzorku postavljanjem pitanja sa ponuđenim odgovorima.

Teškoće u primeni ove metode mogu nastati usled nesposobnosti ispitanika za opažanjem analizirane pojave ili njegove neobaveštenosti o istraživanom problemu. Zatim, psihičko stanje ispitanika u trenutku anketiranja može biti pogodno ili nepogodno i samim tim uticati na tok i ishod istraživanja. Teškoće se mogu vezati i za nivo inteligencije ispitanika, njegovu sposobnost shvatanja problema istraživanja kao i za mogućnost razumevanja i davanja odgovora na postavljena pitanja. Barijeru uspešnom sprovođenju ispitivanja putem ankete mogu predstavljati i različite socijane, kulturne, vrednosne i druge karakteristike zajednica kojima ispitanici pripadaju.

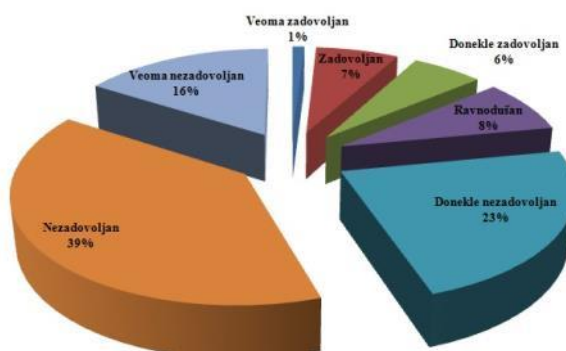
4.4. REZULTATI ANKETE

U istraživanju je primenjena grupna anketa i dobijeni odgovori od većeg broja ispitanika koji su na jednostavan način, u prijatnoj atmosferi i potpuno anonimno popunjavali anketni list koristeći personalni računar. Anketa je sprovedena individualno, svaki ispitanik je samostalno popunjavao bez vremenskog ograničenja. Pitanja u upitniku su jasna i koncizna, postavljaju se postupno uz poštovanje odgovarajućeg redosleda. Anketni upitnik sadrži 19 pitanja metodski raspoređenih u okviru dve grupe istraživanih varijabli: opšti podaci o zaposlenom i zadovoljstvo zaposlenih količinom i kvalitetom informacija koje dobijaju u radnoj organizaciji.

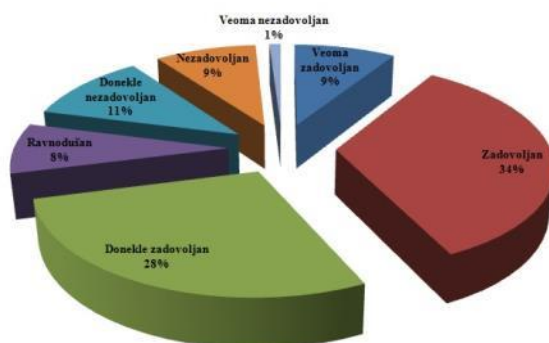
INFORMACIJE O ORGANIZACIONOJ POLITICI I CILJEVIMA



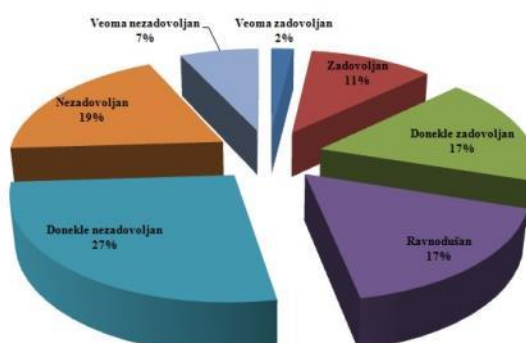
INFORMACIJE O FINANSIJSKOM STANJU ORGANIZACIJE



INFORMACIJE O DOSTIGNUĆIMA I NEUSPESIMA ORGANIZACIJE



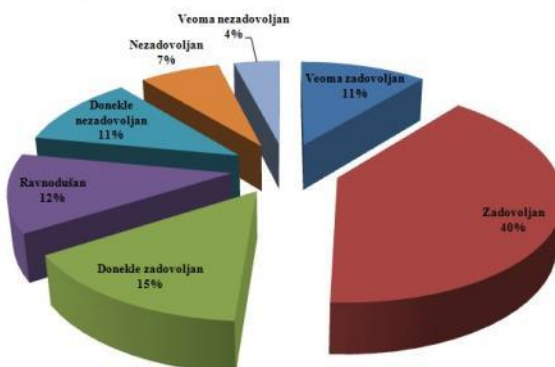
INFORMACIJE O PROMENAMA NASTALIM U ORGANIZACIJI



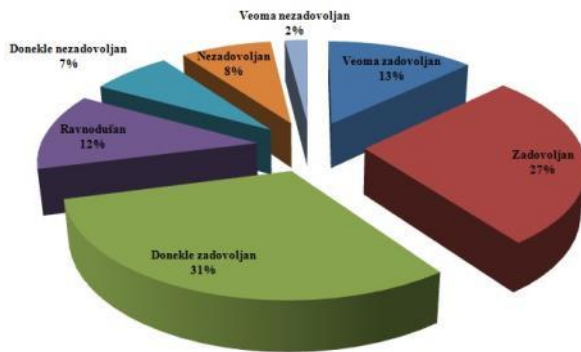
INFORMACIJE O AKTIVNOSTIMA VLADE KOJE UTIČU NA RAD ORGANIZACIJE



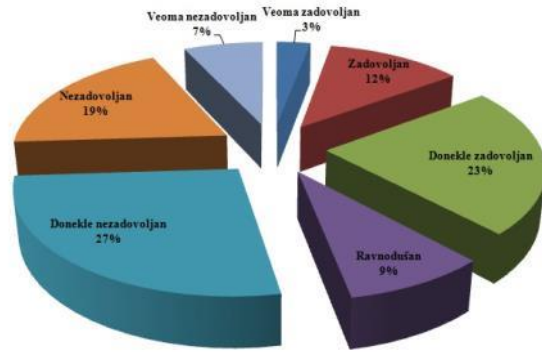
INFORMACIJE O POLITICI I CILJEVIMA MOG ODELJENJA



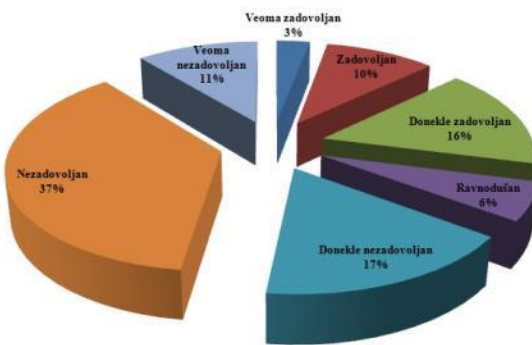
INFORMACIJE O SADRŽINI I ZAHTEVIMA POSLA KOJI OBAVLJAM



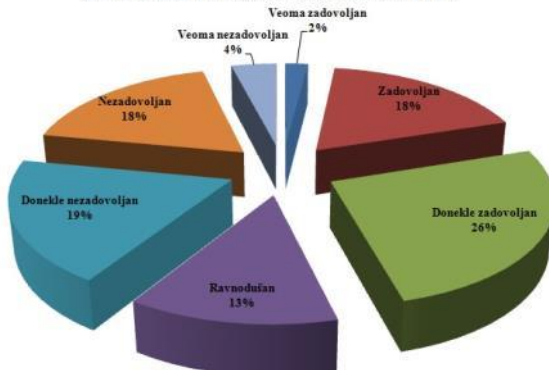
INFORMACIJE O NAČINU REŠAVANJA PROBLEMA VEZANIH ZA POSAO



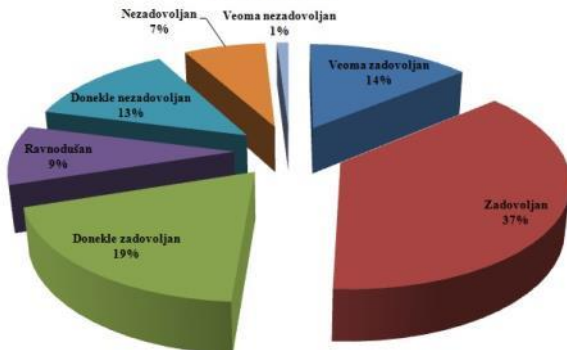
INFORMACIJE O MOGUĆNOSTIMA NAPREDOVANJA NA POSLU



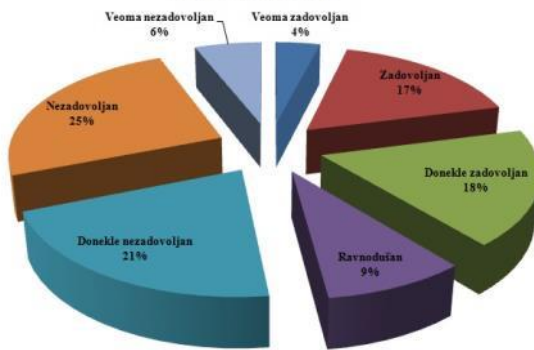
INFORMACIJE O NAČINIMA VREDNOVANJA RADA



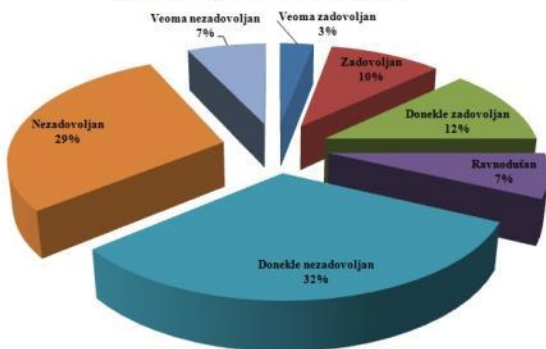
INFORMACIJE O PRIHODU PO OSNOVU RADA I MOGUĆIM BENEFICIJAMA



INFORMACIJE O PRIZNAVANJU I VREDNOVANJU POSEBNOG ZALAGANJA U POSLU



INFORMACIJE O POREĐENJU MOJIH DOSTIGNUĆA NA POSLU SA DOSTIGNUĆIMA DRUGIH ZAPOSLENIH



Može se primetiti da su odgovori na pitanja formulisani u obliku Likertove skale čime se ispitanicima pružila mogućnost da koristeći skalu od sedam nivoa daju odgovore na sva postavljena pitanja i iskažu sopstveno zadovoljstvo komunikacijom u radnoj organizaciji. U cilju iskazivanja zadovoljstva količinom i kvalitetom informacija koje dobijaju u radnoj organizaciji zaposleni se opredeljuju za jedan od sledećih ponuđenih odgovora: veoma zadovoljan, zadovoljan, donekle zadovoljan, ravnodušan, donekle nezadovoljan, nezadovoljan i veoma nezadovoljan.

5. ZAKLJUČAK

Pri izjašnjavanju o količini i kvalitetu informacija koje dobijaju u svojim radnim organizacijama, a tiču se organizacione politike i ciljeva, 28% ispitanika je odgovorilo da su donekle zadovoljni, a 24% se izjasnilo kao zadovoljni. Čak 39% ispitanika se izjasnilo kao nezadovoljni, 23% kao donekle nezadovoljni i 16% kao veoma nezadovoljni kada su u pitanju informacije o finansijskom stanju njihove radne organizacije. Sličan stepen nezadovoljstva je evidentiran i pri pružanju odgovora na pitanje o količini i kvalitetu informacija o promenama nastalim u organizaciji kada se čak 55% ispitanika opredelilo za neki od ponuđenih stepena nezadovoljstva. Ispitanici su zadovoljni informacijama koje dobijaju o dostignućima i neuspesima svoje radne organizacije pa se 34% njih izjasnilo kao zadovoljni, a 28% kao donekle zadovoljni. Skoro podjednak procenat zadovoljnih i nezadovoljnih ispitanika je zabeležen po pitanju informacija o aktivnostima Vlade koje utiču na rad njihovih radnih organizacija (39% zadovoljnih i donekle zadovoljnih, a 42% nezadovoljnih i donekle nezadovoljnih). Ispitanici su ispoljili veoma visok stepen zadovoljstva (66% zadovoljnih ispitanika) kada su se izjašnjavali o kvalitetu i količini informacija koje se tiču politike i ciljeva njihovih odeljenja. Po ovom pitanju se 40% ispitanika izjasnilo kao zadovoljni, 15% kao donekle zadovoljni, a 11% njih su veoma zadovoljni. Takođe, 13% ispitanika je veoma zadovoljno, 27% zadovoljno, a 31% donekle zadovoljno količinom i kvalitetom informacija o sadržini i zahtevima posla koji obavljaju. Sa druge strane nezadovoljstvo je manifestovano kada su u pitanju informacije o mogućnostima napredovanja na poslu pošto se čak 37% ispitanika izjašnava kao nezadovoljni, 17% kao donekle nezadovoljni, a 11% kao veoma nezadovoljni. Većina ispitanika se takođe opredelila za neki od pomenutih stepena nezadovoljstva pri odgovoru na pitanje o količini i kvalitetu informacija o priznanju i vrednovanju njihovih posebnih zalaganja (25% nezadovoljnih, 21% donekle nezadovoljnih i 6% veoma nezadovoljnih) kao i informacija o poređenju njihovih dostignuća na poslu sa dostignućima drugih zaposlenih u radnoj organizaciji gde je zabeleženo još izraženije nezadovoljstvo (32% donekle nezadovoljnih, 29% nezadovoljnih i 7% veoma nezadovoljnih). Izuzetno visok procenata ispitanika, čak 70%, je ispoljilo svoje zadovoljstvo informacijama koje su im na raspolaganju u njihovim radnim organizacijama, a tiču se prihoda po osnovu rada i mogućim beneficijama, gde se 37% ispitanika izjašnjava kao zadovoljni, 19% kao donekle zadovoljni i 14% veoma zadovoljni. Mišljenja su podeljena kada je od ispitanika zatraženo da se izjasne o količini i kvalitetu informacija o načinima vrednovanja rada u okviru njihovih radnih organizacija pri čemu je zabeležen i ne tako mali procenat ravnodušnih

ispitanika. Više od 50% ispitanika nije zadovoljno informacijama o načinima rešavanja problema u njihovim radnim organizacijama, mada se po ovom pitanju i 38% njih opredeljuje za neki od ponuđenih stepena zadovoljstva.

REFERENCE

- [1] ACAS, *Employee Communication and Consultation*, London: ACAS
- [2] Bernard C.I., *The Functions of the Executive* (Cambridge, Mass.: Harvard University Press, 1938)
- [3] Dickson D., Reiney S., Hargie O., (2003) *Communication sensitive business issues: Part 1. Corporate Communications: An International Journal* 8(1):35-43
- [4] Đorđević B., *Menadžment*, Ekonomski fakultet priština- Blace, (2003) str.665
- [5] Downs C., Hazen M., *A Factor Analysis of Communication Satisfaction*, *Journal of Business Communication* (1977) 63-74
- [6] Gaćinović, R., *Metodološki proces u pisanju naučnog rada*, Vojno delo, (2010/leto)
- [7] Hargie O., Tourish D., (1993) *Assessing the effectiveness of communication in organization: the communication audit approach* *Health Services Management Research*, Vol. 6, No4, pp.276-85
- [8] Hargie O., Tourish D., (2002) *Handbook of communication audits for organizations*. London: Routledge
- [9] Locke E.A., *The nature and Causes of Job Dissatisfaction*, *The Handbook of Industrial-Organizational Psychology* (Chicago: Rand McNally, 1976) str 901
- [10] Mozer, C. A., *Metodi anketiranja u istraživanju društvenih pojava*, Kultura, Beograd, 1962.
- [11] Noe R. A., Hollenbeck J. R., Gerhart B., Wright P.M., *Human resource management*, izdanje MATE Zagreb (2006) str.370, 362
- [12] Opitz I., (2003), *Good Internal Communication Increases Productivity*, Hinner M.B. editor, Freiberg Working Papers, No.7
- [13] Porter L., Roberts K., *Communication in Organizations*, str.1573-74
- [14] Quinn D., Hargie O., (2004) *Internal communication audits: A case study*. *Corporate Communication*, 9(2):146-58
- [15] Robson P., Tourish D., (2005) *Managing internal communication: An organizational case study*. *Corporate Communications: An International Journal*, 10(3):213-22
- [16] Torrington D., Hall L., Taylor S., *Human Resource Management*, izdanje Beograd, Data status, (2004) str:100

- [17] Vujević, M., *Uvod u znanstveni rad*, Informator, Zagreb, 1988.
- [18] Vujić D., *Menadžment ljudskih resursa i kvalitet*, Beograd:CPP(2000)
- [19] Wehrich H., Koontz H., *Management: A Global Perspective*, izdanje: Mate, Zagreb, (1998) str.538
- [20] Wren D.A., Voich D., Jr. *Menadžment*, Poslovni sistem Grmeč AD-privredni pregled, Beograd(1994)., str.370

MARKETING RESEARCH OF WINE CONSUMERS IN THE SOUTH AND EAST SERBIA REGION

Vladimir Radovanović¹, Jelena Petrović¹, Snežana Djekić², Blaga Radovanović¹

¹*Faculty of Natural Sciences and Mathematics, Niš, Serbia;* ²*Faculty of Economics, Niš, Serbia*

Abstract: Viticulture and Enology represent the most complex branches of agriculture, so much so that the wine producers have to adapt to the new rules and regulations dictated by the global production and sales of wine. After a difficult period of transition and collapsing of the large vineyard and wine-making complexes, Serbia is nowadays exerting major efforts to revitalize the agricultural sector observed. In recent years, there is an evident decline in production of grapes, mainly due to the climate change. It is estimated that Serbia has about 35 000 hectares of vineyards out of which it harvested some 350 000 tonnes of grapes and produced an average of about 1.7 million hectoliters of wine. The average wine selling per capita in Serbia is 3.3. to 4 liters a year and has a modest annual participation in the total realized value of the agricultural production of 2.3%. Previous studies have shown that in Serbia out of four consumed bottles of wine, three are imported ones. Future economic policy of Serbia in the field of viticulture and wine production should be so designed as to improve the efficiency and effectiveness of the wine producers. The competitiveness of domestic producers of wine may be increased through more investment and the application of certain instruments of the promotional mix. Discovering consumer preferences for wine and their buying behavior would allow the application of an appropriate marketing strategy to increase the sales of wines of a domestic origin. Consumer behavior when purchasing wine is the result of a complementary operation of the large number of different factors, which may include demographic, economic, geographic, social, psychological and situational factors. This paper analyzes the impact of the demographic factors on wine consumers behavior when purchasing wine. Special attention was given to the impact of the instruments of the promotional mix, as well as the essential characteristics of wine (brand, geographical origin, quality, price) that affect the decision to buy the domestic or imported wines.

Keywords: consumers, wine, demographic factors, marketing research.

1. INTRODUCTION

Events on the economic and the social scene at the end of the twentieth century brought about significant changes in the structure of the vineyard and wine-making sector in Serbia in early twenty-first century. After passing through a very difficult period in late twentieth century, a period of transition and the collapse of large vineyard and wine-making complexes, Serbia is now facing major efforts to revitalize Serbian viticulture and wine-making industry.

During the XXI century, the number of vines decreased, as well as the area under vines in Serbia. Vineyard area decreased from 70 thousand hectares to around 22 thousand hectares. About 74 thousand households, or about 92% of households, own an area under vines of less than 0.5 hectares. Reducing the vineyard area affected the production of grapes and wine production, which resulted in a significant increase in Serbian wine imports in recent years.

According to a number of forecasts, domestic wine production in the coming period will be mostly affected by the competitiveness of foreign wine, i.e. a wide array of imported wine, their lower price, and adequate implementation of instruments of promotional mix. Competitiveness of domestic producers of wine can be increased by higher investment in brand development, improving the technology of wine production, the construction of the image of Serbian wine, and adequate implementation of certain instruments of promotional mix.

In order to implement an appropriate marketing strategy, which would contribute to increased market share of domestic wine producers on the domestic market, it is necessary to conduct appropriate marketing research of wine consumers. The work focuses on the conducted marketing research of wine consumers, aimed at identifying the features or characteristics of wine that have a dominant influence on decision-making regarding the purchase of wine. The largest number of consumers takes into consideration several product characteristics when making decisions regarding wine purchasing [5]. Starting from the specifics of wine as a product, as a significant factor influencing the wine purchasing decision, special attention is devoted to the influence of the following wine characteristics: quality, brand, price, packaging, and country of origin. One aim of the study is to identify the importance of the origin of wine as a factor when making wine purchasing decisions.

When making wine purchasing decisions, promotional mix is of importance as well. Special attention is paid to the means of advertising, sales promotion, and "word of mouth". The goal of advertising involves a specific task of communication and the degree of its fulfilment in respect of a specific audience in a specific period of time [4]. Television, as a means of advertising, has long been considered the most successful medium. Individuals believe that the future lies in online advertising [5]. Given that each means of advertising has its advantages and disadvantages, the paper investigates the influence of television, radio, and newspapers as one factor, and the impact of the Internet as another factor that affects the wine purchasing decision.

While economic propaganda offers the reason to buy a particular product, sales promotion offers an incentive for the purchase [5]. Sales promotion includes a range of stimuli, mainly short-term, designed to encourage faster or larger purchases of certain products or services by consumers [2]. In addition to the analysis of the impact of means of advertising and sales promotion on wine purchasing decision, special attention is given to the "word of mouth", i.e. the influence of friends.

Word of mouth (WOM), or "buzz," involves informal communication among consumers about products and services [6]. Two important features distinguish WOM from other information sources, such as advertising; WOM is usually perceived as more credible and trustworthy, and it is more readily accessible through social networks [1,3,7]. In respect of the consumers, two categories of characteristics can be distinguished: general and specific.

General characteristics are demographic, related to lifestyle and personality, whereas the specific characteristics are formed with the attitudes, opinions, perceptions, and preferences. These characteristics are determined by analysing the responses of consumers to the consumption of goods or services.

Demographic data on consumers are objective and quantitatively expressed characteristics of the population. Demographic factors of consumer behaviour are: population, gender, age, ethnic structure, educational structure, employment and occupation, marital status, and types of household and housing.

Demographic characteristics such as age, gender, marital status, occupation, and education are often used as the basis for market segmentation. The paper pays special attention to the analysis of demographic characteristics of consumers (gender, age, and education), as well as their impact on the decision to purchase wine of domestic or foreign origin.

The basic hypotheses in this paper are:

- When making wine purchasing decisions, its origin has the greatest impact,
- When analyzing the impact of instruments and means of promotional mix, the biggest impact belongs to the Internet, as an important means of advertising, which has the greatest impact on the wine purchasing decision, compared to other instruments and means of promotional mix,
- Gender influences decision making of consumers regarding the purchase of wine of domestic or foreign origin,
- Age influences the decision of consumers about purchasing wines of domestic or foreign origin,
- Education affects the decision of consumers about purchasing wines of domestic or foreign origin.

2. DEMOGRAPHIC CHARACTERISTICS OF WINE CONSUMERS

The survey was carried out in the region of Southern and Eastern Serbia. Consumers were surveyed by personal interview, i.e. the “face to face” technique. 1,400 wine consumers were surveyed. After elimination of questionnaires with incomplete answers, we got a sample of 1,389 questionnaires.

Data collected by surveying wine consumers was entered in the SPSS database, and all further analyses were performed using the Statistical Package for the Social Sciences, SPSS. Data analysis relied on statistical methods, descriptive statistics and Chi-test, by which the effects of demographic characteristics on the decision to purchase wine of domestic origin were analysed.

According to the gender structure of the respondents, the sample included around 52% of women and 48% of men. Most of the respondents belonged to the age structure of between 19 and 29 years, followed by the age group of over 50 years of age. Most of the respondents had completed university education, i.e. had higher education (48.67%), while about 47% of respondents had secondary education, and about 4% primary education (Table 1):

Table 1. Demographic characteristics of the respondents

Attributes	Sample numbers	Frequency (%)
<i>GENDER</i>		
Male	672	48.38
Female	717	51.62
<i>AGE</i>		
19 - 29	671	48.31
30 - 39	250	18.00
40 - 49	204	14.69
50 or older	264	19.01
<i>EDUCATION</i>		
primary	58	4.18
secondary	655	47.16
university	676	48.67

3. INFLUENCE OF WINE CHARACTERISTICS AND INSTRUMENTS OF PROMOTIONAL MIX ON WINEPURCHASING DECISION

Table 2 points to the conclusion that quality has the greatest influence when making wine purchasing decisions, whereas packaging and origin have the least impact. Based on the survey results, we can conclude that the origin does not have a significant influence on wine purchasing decision in relation to other factors.

Table 2. Factors influencing the wine purchasing decision

Factors	Sample numbers	Frequency (%)
Quality	437	37.87
Brand	186	16.12
Price	345	29.90
Packaging	93	8.06
Country - origin	93	8.06

Table 3 points to the conclusion that the recommendation of friends has the greatest impact on wine purchasing decision, where as sweeps takes have the least impact. If we look at the impact of means of advertising, we can conclude that television, radio, and newspapers have the strongest impact, whereas the impact of the Internet is lower.

Table 3. Instruments of promotional mix that influence the wine purchasing decisions

Instruments of promotional mix	Sample numbers	Frequency (%)
Television, radio and newspapers	291	20.98
Internet	92	6.63
Sales promotions	67	4.83
“Word of mouth”,	799	57.61
other	138	9.95

Based on the previous analysis, we can conclude that the first and the second hypothesis cannot be confirmed, i.e. neither origin nor the Internet have the greatest impact in choosing wine, but the quality of wine and “word of mouth”, i.e. recommendations from friends.

4. THE IMPACT OF DEMOGRAPHIC CHARACTERISTICS OF CONSUMERS ON WINE PURCHASING OF DOMESTIC ORIGIN

Based on the results of the survey, we can conclude that respondents usually buy wine of domestic origin. In addition, the authors carried out an analysis of the impact of demographic characteristics on the purchase of wine of a certain origin (domestic or foreign).

Table 4. Purchasing wine of certain origin (domestic or foreign) by gender

		Crosstab			
		GENDER			
		Male	Female	Total	
Wine	domestic	Count	555	617	1172
		% within wine	47.4%	52.6%	100.0%
		% within GENDER	82.5%	85.9%	84.3%
	foreign	Count	117	100	217
		% within wine	53.9%	46.1%	100.0%
		% within GENDER	17.5%	14.1%	15.7%
Total		Count	673	718	1391
		% within wine	48.4%	51.6%	100.0%
		% within GENDER	100.0%	100.0%	100.0%

If we observe the effects of gender on the purchase of wine of domestic origin, based on Table 4, we can conclude that 82.5% of men and 85.9% of women buy domestic wine.

Table 5 points to the conclusion that there is no significant effect of gender on the purchase of wine of certain origin (domestic or foreign), since the value of Sig. is greater than 0.05.

Table 5: Impact of gender of consumers on purchasing wine of domestic or foreign origin

Chi-Square Tests					
	Value	df	Asymp. Sig. (2-sided)	Exact Sig. (2-sided)	Exact Sig. (1-sided)
Pearson Chi-Square	3.147 ^a	1	0.076		
Continuity Correction ^b	2.891	1	0.089		
Likelihood Ratio	3.146	1	0.076		
Fisher's Exact Test				0.078	0.045
Linear-by-Linear Association	3.145	1	0.076		
N of Valid Cases	1389.0				

^a0 cells (.0%) have expected count less than 5. The minimum expected count is 105.96.

^bComputed only for a 2x2 table

Respondents of more than 50 years of age mostly buy domestic wine (90.2%), while those from 40 to 49 years of age usually buy wine of foreign origin (24.4%).

Table 1: Purchasing wine of certain origin (domestic or foreign) by age

Crosstab							
		AGE				Total	
		19 - 29	30 - 39	40 - 49	≥50		
Wine	domestic	Count	576	202	155	239	1172
		% within wine	49.1%	17.2%	13.2%	20.4%	100.0%
		% within AGE	85.8%	80.8%	75.6%	90.2%	84.3%
	foreign	Count	94	48	50	25	217
		% within wine	43.4%	21.9%	22.8%	11.9%	100.0%
		% within AGE	14.2%	19.2%	24.4%	9.8%	15.7%
Total		670	250	205	264	1389	
		% within wine	48.2%	18.0%	14.7%	19.1%	100.0%
		% within AGE	100.0%	100.0%	100.0%	100.0%	100.0%

On the basis of the value of Sig. in Table 7, it can be concluded that the age of consumers has a significant impact on the decision to purchase wine of domestic or foreign origin:

Table 2: Impact of age of consumers on purchasing wine of domestic or foreign origin

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	22.107 ^a	3	0.000
Likelihood Ratio	21.580	3	0.000
Linear-by-Linear Association	0.037	1	0.848
N of Valid Cases	1389		

^a0 cells (.0%) have expected count less than 5. The minimum expected count is 32.28.

Respondents with higher education buy domestic wine the least (19.7%), while respondents with primary education mostly buy wine of domestic origin (89.7%) (Table 8):

Table 3: Purchasing wine of certain origin (domestic or foreign) by education

		Crosstab				
		EDUCATION			Total	
		primary	secondary	university		
Wine	domestic	Count	52	577	543	1172
		% within wine	4.4%	49.2%	46.3%	100.0%
		% within EDUCATION	89.7%	88.1%	80.3%	84.4%
	foreign	Count	6	78	133	217
		% within wine	2.8%	35.9%	61.3%	100.0%
		% within EDUCATION	10.3%	11.9%	19.7%	15.6%
Total		58	655	676	1389	
	% within wine	4.2%	47.2%	48.7%	100.0%	
	% within EDUCATION	100.0%	100.0%	100.0%	100.0%	

On the basis of the value of Sig. in Table 9, it can be concluded that the level of education has a significant impact on the decision to purchase wine of domestic or foreign origin:

Table 4: Impact of education of consumers on purchasing wine of domestic or foreign origin

Chi-Square Tests			
	Value	df	Asymp. Sig. (2-sided)
Pearson Chi-Square	16.500 ^a	2	0.000
Likelihood Ratio	16.621	2	0.000
Linear-by-Linear Association	15.313	1	0.000
N of Valid Cases	1389		

^a0 cells (.0%) have expected count less than 5. The minimum expected count is 9.06.

5. CONCLUSION

Results of marketing research have shown that when choosing wine, the quality of wine has the biggest impact on consumers, rather than the origin. Based on the analysis of the impact of means of advertising, sales promotion, and “word of mouth”, it was found that “word of mouth” has the biggest impact on wine purchasing decision.

The results of Chi-test indicate that women buy wine of domestic origin more in relation to men, that persons older than 50 years mostly buy wine of domestic origin, as well as that persons with primary education often decide to purchase wine of domestic origin in relation to persons with secondary and higher education. Based on Chi-test, two hypotheses have been proven, i.e. that the level of education and age affect the decision on the purchase of wine of domestic or foreign origin. At the same time, we have pointed out that gender of consumers has no significant effect on the decision to purchase wine of domestic or foreign origin.

REFERENCES

1. Bynerjee, A., *Quarterly Journal of Economics*, 107 (1992) 797.
2. Blatberg, R., Neslin, S., *Sales Promotions: Concepts, Methods, and Strategies*, Prentice Hall, Upper Saddle River, 1990.
3. Brown, J., Reingen, P., *Journal of Consumer Research*, 14 (1987) 350.
4. Colley, R., *Defining Advertising Goals for Measured Advertising Results*, *Associations of National Advertiser*, 1961, p. 53.
5. Kotler, Ph., Keller, K., *Marketing management*, DATA STATUS, Belgrade, 2006, p. 585.
6. Liu, Y., *Journal of Marketing*, 70(2006) 74.
7. Murray, K., *Journal of Marketing*, 55 (1991) 10.
8. Statistical Office of the Republic of Serbia, available at:
<http://webrzs.stat.gov.rs/WebSite/public/ReportView.aspx>

ECONOMIC DEVELOPMENT OF COUNTRIES FORMED AFTER THE BREAKDOWN OF THE FORMER SFRY

Radmilo Nikolić¹, Aleksandra Fedajev¹, Igor Svrkota², Andon Kostadinović³, Slobodan Mladenović⁴

¹University of Belgrade, Technical Faculty in Bor, Engineering Management Department; ²University of Belgrade, Technical Faculty in Bor, Mining Engineering Department; ³High School of Professional Studies for Traffic Management – Nis; ⁴University of Pristina, Faculty of Economic, Serbia

Abstract: After a long period of agony and uncertainty, Yugoslavia broke apart in 1990's, forming new independent countries. Numerous external and internal factors contributed to the creation of such scenario.

With different level of development and insufficient resources for independent existence, the newly formed countries have gone through the paths of uncertainty and risk, hoping that they perform better than they did in the unitary country. In this process, political motives were dominant over the economic ones.

Since then, the combination of internal and external factors has made economic development of these countries slow and hampered, with numerous obstacles and imbalances. The economies of most former Yugoslav countries are in the unfavourable position, with future left uncertain.

In order to provide insight into the order former SRFY countries by macroeconomic stability, the PROMETHEE methodology was applied in this paper. On the basis of ranking results it can be concluded that Slovenia kept its leading position from SRFY period till the end of observed period, Croatia made the greatest progress during the period 2000-2012, while, on the other hand, Serbia was the country which worsened its position the most during period in question.

Keywords: former SRFY countries, previous economic development, perspectives of future progress.

1. INTRODUCTION

Former FRY belonged to the group of Balkan countries. Based on location, size and level of development, it had a leading role in economic, military and geostrategic position in this region. After the WWII, it became the federal country of six republics with socialism as an economic system, similar to the Soviet Union. At first, it was named the Federal People's Republic of Yugoslavia, but in 1963, due to constitution changes, it was renamed into Socialist Federal Republic of Yugoslavia - SFRY.

At the end of WWII, Yugoslavia was in a very difficult position. Undeveloped and stagnant economy, with the dominance of agriculture in creation of GDP, suffered a great breakdown during the war. Already modest production resources in industry, agriculture and infrastructure were ruined and the contingent of working age population was significantly reduced. But, Yugoslavia has made impressive progress after the war [1]. From undeveloped, poor and mainly agricultural country, it became the middle developed industrial country in just a couple of decades [2]. The progress was obvious in all segments of the economy. Industrial production volume was increased 30 times, agricultural production 3 times, employment 6 times and GDP was 7 times higher, with a 5% growth rate. The industry was dominant in a structure of GDP, followed by agriculture [3].

The results would probably be even better if there were no economic crises and disturbances in doing business. Namely, oil crises during the 70's of the last century have caused rapid growth of oil price and, consequently, great disparities in the current account balances of countries that import this energent. For Yugoslavia, this meant ten times higher outflow of foreign currency for purchase of oil on convertible market. This exceeded indebtedness and caused, along with other unfavorable circumstances, the debt crisis in the 80's of the last century, which was resolved by debt restructuring, but which was also followed by the decrease of country's credit rating, worsening the conditions for future borrowing, disturbances on the foreign currency market and, especially, on goods and services market and by introducing the rational supply for basic foodstuffs and energy.

The new constitution was established in the mid 70's of the last century and adoption of many systemic laws. Adoption of the constitution led to the transfer of many responsibilities were from the federal to the republic level, so it created conditions that each republic became "a state within a state". That further led to weakening of joint Yugoslav market and strengthening of republic economies. All these factors, along with national tensions and political crisis, made the preconditions for the breakdown of the country in the 90's and forming five new independent countries. Slovenia and Croatia were the first republics that decided to declare their independence in 1991, followed by Macedonia and Bosnia and Herzegovina. Finally, Serbia and Montenegro formed the united country – Federal Republic of Yugoslavia in 1992. In 2006, FRY or, later, the State Union of Serbia and Montenegro ceased to exist, forming the new states in the Balkan region – Republic of Serbia and Republic of Montenegro.

Regarding the economy, at the beginning of the breakdown, Yugoslavia was in deep crisis with a negative average growth rate, amounting -0.1% in the last decade of XX century (1980-1990).

2. TRANSITION PROCESSES

Along with getting independence, establishment of new public institutions and the creation of business environment suitable for growth and development, former Yugoslav countries had to face transition process, too. The aim was to overcome the existing crisis and adjust the economy for contemporary business conditions. The dynamics of transition reforms

varied from country to country. This is confirmed by the trend of transition indicators mean values, showed in the Table 1.

Table 1. The mean values of transition indicators in the period 1990-2013 [4]

Country	1990	1995	2000	2005	2010	2013
Slovenia	1.56	2.67	3.22	3.31	3.42	3.39
Croatia	1.56	2.44	3.02	3.36	3.49	3.58
Bosnia and Herzegovina	1.44	1.08	2.15	2.51	2.72	2.69
Montenegro	1.44	1.49	1.69	2.54	2.79	2.89
Serbia	1.44	1.49	1.64	2.46	2.79	2.92
Macedonia	1.59	2.18	2.64	2.87	3.15	3.20

Croatia (3.58) and Slovenia (3.39) have the highest mean values of transition indicators. These countries have the most successful implementation the reform processes and, eventually, they became the members of the EU. Bosnia and Herzegovina is in the most unfavorable position, far behind other countries, with transition indicators mean value amounting only 2.69. Some progress is visible in Macedonia, which had the best starting position, and in Serbia and Montenegro, too.

3. DYNAMICS OF BUSINESS ACTIVITIES AND ECONOMIC EFFECTS

Economic development of ex SFRY countries occurred in extremely complicated and instable circumstances. In the first couple of years after getting independence they experienced stagnation and significant downfall, and, after that, began a period of recovery and revival of economic activity, which was stopped after the emergence of Global economic crisis, by new fall of economic activity and slowed development. Our further focus will remain on analysis of the most important indicators of economic development after 2000.

2.1. LEVEL OF ECONOMIC GROWTH

Observed countries had solid growth rates during the period 2000-2007 (Table 1). Just before the global crisis, in 2007, growth rate varied between 5.06% in Croatia and 10.7% in Montenegro. The only country with a negative growth rate (-4.53%) in this period was FRY Macedonia in 2001. In 2008, negative effects of the Global Financial Crisis become more pronounced. The previous dynamics of business activities started to slow down. Decrease of growth rate is recorded in all countries of the region. However, that was just the beginning of the crisis, because next year it occurred in even more pronounced form. All observed countries recorded a negative growth rate, it was the lowest in FRY Macedonia -0,92%, and the highest in Slovenia -8,01%. Significant fall in economic activity is also recorded in Croatia -6,95% and Montenegro -5,07%, while the situation in Serbia (-3,50%) and Bosnia and Herzegovina (-2,91%) was somewhat better. The consequences of the crisis were more pronounced in the most developed economies – Slovenia and Croatia. Croatian economy

recorded a negative growth rate in the following years, too. The period of slight recovery began in 2010. However, it was short-termed, because already in 2012, a new crisis has emerged. Except Montenegro, all other countries recorded a negative growth rate again.

Table 2. Real GDP growth rate (in %) [5]

Year	Slovenia	Croatia	Bosnia and Herzegovina	Montenegro	Serbia	FRY Macedonia
2000	4.27	3.75	5.50	3.10	5.34	4.55
2001	2.94	3.66	4.40	1.10	5.30	-4.53
2002	3.83	4.88	5.30	1.90	4.12	0.85
2003	2.93	5.37	4.00	2.50	2.67	2.82
2004	4.40	4.13	6.10	4.40	9.30	4.63
2005	4.01	4.28	5.00	4.20	5.40	4.35
2006	5.85	4.94	6.20	8.60	3.60	5.03
2007	6.87	5.06	6.84	10.70	5.40	6.15
2008	3.59	2.08	5.42	6.90	3.80	4.95
2009	-8.01	-6.95	-2.91	-5.70	-3.50	-0.92
2010	1.26	-1.41	0.70	2.50	1.01	2.89
2011	0.71	-0.01	1.30	3.20	1.63	2.84
2012	-2.54	-2.00	-0.70	0.50	-1.70	-0.27

Differences in a level of development among ex SFRY countries are particularly obvious if GDP per capita is used as an indicator of development (Table 2). By that indicator, Slovenia and Croatia are ahead of other observed countries.

Table 3. GDP per capita (in USD) [6]

Year	Slovenia	Croatia	Bosnia and Herzegovina	Montenegro	Serbia	FRY Macedonia
2000	10,103	4,911	1,469	1,432	1,152	1,786
2001	10,312	5,192	1,522	1,888	1,524	1,704
2002	11,627	5,974	1,753	2,089	2,021	1,861
2003	14,631	7,689	2,197	2,776	2,617	2,353
2004	16,965	9,239	2,612	3,374	3,154	2,717
2005	17,908	10,082	2,793	3,673	3,368	2,944
2006	19,458	11,231	3,190	4,383	3,957	3,127
2007	23,585	13,386	3,928	5,965	5,304	3,998
2008	27,267	15,694	4,768	7,360	6,458	4,828
2009	24,274	14,056	4,403	6,715	5,497	4,548
2010	23,002	13,322	4,305	6,649	5,030	4,522
2011	24,534	14,021	4,690	7,251	6,030	5,122
2012	22,100	12,829	4,461	6,778	5,309	4,660
2000/2012 Index	218.7	261.2	303.6	473.3	437.4	260.9

In 2012, Slovenia had the highest GDP per capita 22,100 USD, which was followed by Croatia with GDP per capita amounted 12,829 USD, while others were lagging far behind. Montenegro, Serbia and Bosnia and Herzegovina recorded the most rapid growth. On the other hand, other countries had a somewhat slower growth of this indicator. It should be mentioned that the level of development would be much higher, if there were no serious downfall in business activities and, as a result of that, a downfall of the GDP per capita, in 2012.

2.2. STATE OF EMPLOYMENT

Breakdown of the SFRY, transition recession and the Global Financial Crisis have influenced the state of employment in newly created Balkan countries. Reduced business activity, low utilization of capacities and, especially, bankruptcy of numerous economic entities led to occurrence of redundant labor and unemployment, mostly in the real sector. As a result, most of these countries are faced with the problem of unemployment (Figure 1). The situation has particularly worsened after breakout of Yugoslavia and the emergence of economic and political crisis. In addition, transition and privatization enlarged the problem.

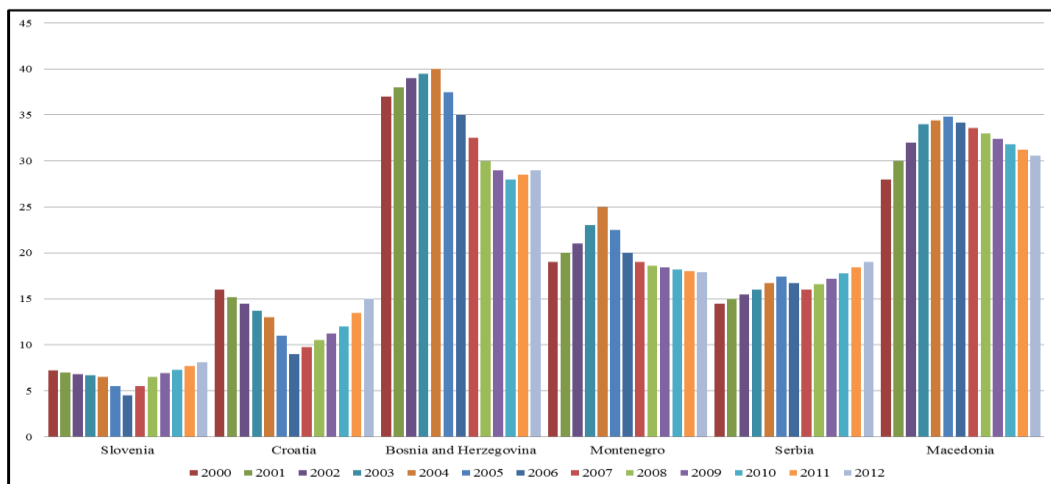


Figure 1. Unemployment rate (in %) in the period 2000-2012 [7]

Although situation in this area has been slightly improved, FRY Macedonia still has a high unemployment rate, and it is among the highest in Europe (it amounted 31.1% in 2012). Bosnia and Herzegovina also has a high rate, which amounted 28% in 2012, although it was reduced by 11% during the observed period. Serbia is next on the list, with an unemployment rate amounting 24% and with trend of significant increase during the period. The unemployment rate in Montenegro reached 19.7% in 2012, 16.3% in Croatia and only 9.1% in Slovenia. Also, it should be mentioned that many people went abroad to get employed, most of them were young and educated people. By “brain drain”, observed Balkan countries are among top countries in the world. In that sense, according to World Economic Forum list,

Croatia is 17th, FRY Macedonia 13th, Serbia 4th and Bosnia and Herzegovina 2nd out of 193 countries. Numerous surveys indicate that this process will continue in the future.

2.3. EXTERNAL AND INTERNAL BALANCE

The maintenance of internal and external balance is one of the main goals of macroeconomic policy. Almost there is no country in the world that is not faced with a deficit of the current account, foreign trade or budget balance. Ex SRFY countries constantly record deficit in foreign trade balance (Figure 2).

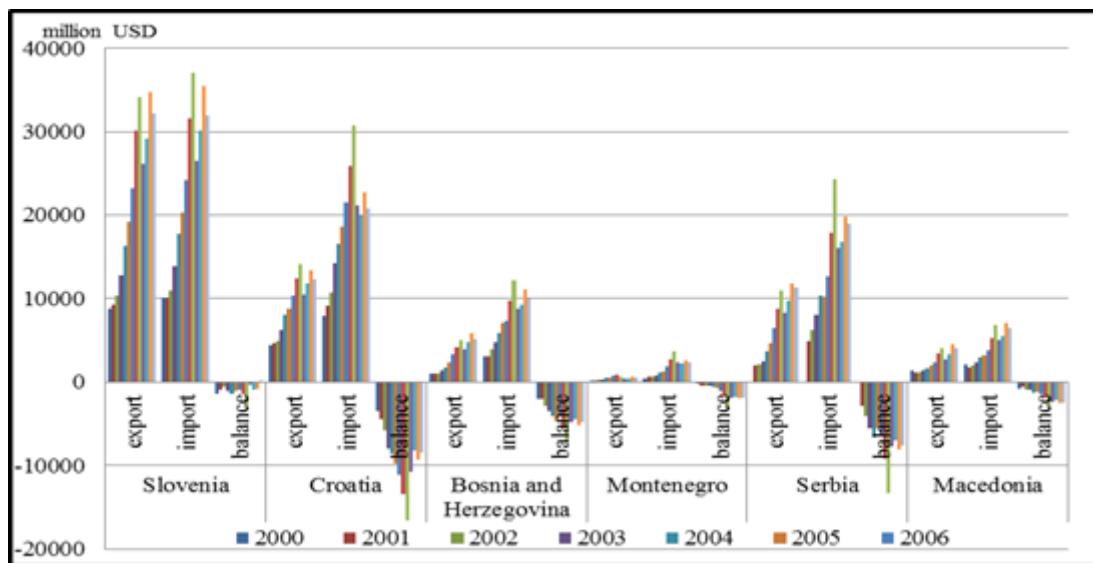


Figure 2. Export, import and trade balance in the period 2000-2012 [4]

Since 2000, due to economic expansion, deficit increases, while it decreases in the years of global crisis, due to decrease of import. Croatia and Slovenia have the highest foreign trade deficit. The main reason for the foreign trade deficit is low export. Ex SFRY countries have low levels of exchangeable goods production that could be offered to foreign markets. That is especially obvious in the industry, due its slow and hampered recovery. Export of agricultural goods has a solid share in total exports, although it varies depending on fertility. Slovenia is the largest exporter among observed countries, with export which is equal to the sum of exports of all the other countries. At the same time, along with Croatia, it has the highest level of export per capita.

The unfavorable position of ex SFRY countries is also confirmed by insight in data on the competitiveness of their economies. In this sense, the situation is getting worse in recent years.

Table 4. Ranking of ex SFRY countries by level of competitiveness in 2004 and 2012 [8][9]

Country	Ranking	
	2004	2012
Slovenia	33	56
Croatia	61	81
Bosnia and Herzegovina	81	88
Montenegro*	89	72
Serbia*	89	95
FRY Macedonia	84	80

*Serbia and Montenegro in 2004

Slovenia is and has been best ranked country, although it recorded obvious worsening in the rankings during the observed period, from the 33rd position in 2004 to the 56th position in 2012. Croatia, Bosnia and Herzegovina and Serbia also worsened their position. Serbia has the worst position, the 95th out of 139 countries in 2012. Montenegro and FRY Macedonia were the only two countries that managed to advance rankings, Montenegro from the 89th position in 2004 to the 72nd position in 2012, and FRY Macedonia from the 84th position in 2004 to the 80th position in 2012 on the ranking list of competitiveness in the countries worldwide.

Beside the foreign trade deficit, ex SFRY countries are faced with current account deficit, too. This indicator recorded a rapid increase until the emergence of the Global Financial Crisis.

Table 5. Current account deficit (% GDP) [6]

Country	2000	2002	2004	2006	2008	2010	2012
Slovenia	-3.1	-1.1	-2.6	-1.8	-5.4	-0.1	3.3
Croatia	-2.3	-7.2	-4.1	-6.7	-8.9	-1.1	0.1
Bosnia and Herzegovina	-7.1	-17.6	-16.1	-7.9	-14.2	-5.6	-9.7
Montenegro	-4.5	-12.9	-7.2	-31.3	-49.8	-22.9	-17.9
Serbia	-1.7	-4.2	-13.9	-10.1	-21.7	-6.8	-10.5
FRY Macedonia	-1.9	-9.5	-8.1	-0.5	-12.8	-2.0	-3.9

Since 2009, the current account deficits have decreased, and at the end of the period Slovenia and Croatia recorded even a surplus in 2012. Montenegro, Serbia and Bosnia and Herzegovina still had a high deficit in 2012. Deficits were covered by revenues from selling state enterprises to foreign residents, greenfield, brownfield and portfolio investors, or borrowing from abroad.

Besides, observed countries also were faced with internal imbalance, expressed by the budget deficit. That was especially pronounced during the Global Financial Crisis.

Table 6. Budget deficit (% GDP) [4]

Country	2000	2003	2006	2009	2012
Slovenia	-3.7	-2.7	-1.3	-6.1	-4.0
Croatia	-7.5	-4.8	-3.1	-4.2	-4.4
Bosnia and Herzegovina	-4.7	2.3	2.0	-5.9	-2.8
Montenegro	-4.0	-3.1	2.9	-5.7	-5.1
Serbia	-0.9	-1.1	-1.6	-3.7	-6.7
FRY Macedonia	2.5	-0.6	-0.5	-2.7	-3.5

In 2000, only FRY Macedonia had a budget surplus. The highest budget deficit was recorded in Croatia (-7.5% GDP), while the lowest was recorded in Serbia (-0.9% GDP). The situation has been changed, and, even more, there were several cases of surplus in some years. Only Croatia recorded a constant deficit during the entire observed period. The Global Financial Crisis caused a downfall in business activities, which resulted in the decrease of budget revenues, so since then all observed countries recorded budget deficit, with the trend of its constant increase. The highest budget deficit in 2012 was recorded in Serbia (-6.7% GDP), followed by Montenegro (-5.1% GDP) and Croatia (-4.4% GDP). The budget deficits were covered from privatization revenues, and, when this source was exhausted, by constant indebting. Former SFRY countries have not made enough efforts to reform the public sector. There are still too many employees in government administration at all levels, parallel with significant expenditures for pensions and social benefit. Thus, high public expenditures present the constant endanger to macroeconomic stability of these countries.

2.4. STATE OF INDEBTEDNESS

Besides being underdeveloped, ex SFRY countries are also highly indebted. High indebtedness of ex SFRY countries is obvious by insight into data about debt as a share of GDP. Except for FRY Macedonia, the situation has been worsening.

Table 7. Public debt (% GDP) [6]

Country	2000	2002	2004	2006	2008	2010	2012
Slovenia	29.5	28.9	27.3	26.4	22.0	38.7	52.8
Croatia	39.5	34.8	37.6	35.4	29.3	42.6	53.7
Bosnia and Herzegovina	34.7	31.2	25.5	21.2	31.0	39.3	44.3
Montenegro	-	75.7	45.3	32.6	29.0	40.2	51.9
Serbia	241.7	81.2	65.4	42.2	33.4	46.5	61.8
FRY Macedonia	47.9	42.9	35.6	32.9	20.6	34.2	34.0

Serbia (61.8%), Croatia (53.7%), Slovenia (52.8%) and Montenegro (51.9%) had high share of public debt in GDP in 2012. The situation is slightly better in Bosnia and Herzegovina (44.3% GDP) and FRY Macedonia (34.0% GDP). So, indebtedness is currently one of the huge problems of observed countries. Since budget deficits are constantly

increasing, it could be expected that the situation in this area will get worse. That would further make, already difficult debt servicing, even harder.

3. RANKING OF WESTERN BALKAN COUNTRIES BY LEVEL OF DEVELOPMENT

In order to perform a comparative analysis of economic development of the former Yugoslav republics and to determine eventual changes in macroeconomic stability during the observed period, in this paper is has been applied multi-criteria analysis.

3.1. PROMETHEE GAIA METHODOLOGY

The PROMETHEE GAIA method is an adequate method for solving problems whose aim are multi-criteria ranking of final set of alternatives (in this case countries) based on a number of criteria that need to be maximized or minimized. For each alternative calculated its value is expressed in preferences [10]. Thereby, each alternative is evaluated based on the two preference flows. Positive preference flow $\varphi + (P)$ indicates how much is given alternative better than other (according to all criteria). Accordingly, the higher this preference flow is, the alternative is better. The negative flow of preference $\varphi - (P)$ indicates how much a given alternative is worse than the rest, and therefore if this flow is lower, the alternative is better. After that, the PROMETHEE method accounts net preference flow $\varphi (P)$ as the difference between these two flows:

$$\varphi (P) = \varphi + (P) - \varphi - (P)$$

On the bias of such calculated net preference flow, final ranking of alternatives is performed, from the best one, with the highest net preference flow, to the worst one, with the lowest net preference flow. To calculate mentioned flows, PROMETHEE method requires the specification of appropriate parameters for each criteria [11]:

1. Direction of preference, minimizing or maximizing;
2. Weight coefficients, indicating the importance of certain criteria;
3. Adequate preference function, that converts the difference between the two alternatives in the level of preference, which ranges from 0 to 1. In PROMETHEE methods following preference functions are available: Linear, Usual, U-shape, V-shape, Level and Gaussian;
4. Preference threshold (p), which represents the minimum deviation that decision maker considers important for the decision making;
5. Indifference threshold (q), which represents the maximum deviation that decision maker considered irrelevant in the decision making.

After defining parameters, PROMETHEE methodology is used, which consist of next steps [12]:

1. First, deviation based on comparison of pair of alternative is calculated

$$d_j(a, b) = g_j(a) - g_j(b)$$

Where $d_j(a, b)$ represents the differences between the value of alternative a and b according to every criteria.

2. After that, the chosen function of preferences is applied:

$$P_j(a, b) = F_j[d_j(a, b)]$$

Where $P_j(a, b)$ represents preferences alternative a for each alternative b within every criteria, as a function of $d_j(a, b)$.

3. Further, the general index of preferences is calculated:

$$\forall a, b \in A \quad \pi(a, b) = \sum_{j=1}^k P_j(a, b) w_j$$

Where $\pi(a, b)$ stands for weighted sum $P(a, b)$ for each criteria, while w_j stands for weighted j criteria coefficient.

4. Then, the positive and negative course of preferences are calculated:

$$\varphi^+(a) = \frac{1}{n-1} \sum_{x \in A} \pi(a, x)$$

$$\varphi^-(a) = \frac{1}{n-1} \sum_{x \in A} \pi(a, x)$$

Where φ^+ represents positive and φ^- negative preferences values for each alternative.

5. Finally positive and negative courses of preferences are used to calculate net flow of preferences and rank alternative:

$$\varphi(a) = \varphi^+(a) - \varphi^-(a)$$

Where $\varphi(a)$ stands for net course for each alternative.

On the basis of $\varphi(a)$ value the countries are ranked from best to worst, having in mind all observed criteria.

3.2. RANKING RESULTS

In order to compare the macroeconomic stability in 2000 and 2012 and to identify eventual differences, the observed countries have been ranked based on the following macroeconomic indicators (with adequate direction of preference): GDP per capita (max), unemployment rate (min), the balance of current account (max) and budget balance (max). The V-shape function was used as the preference function (a function that is often used for quantitative data with a wide range of variation) and as the preference threshold (p) it was used the standard deviation. Based on such defined parameters, the application of multi-criteria analysis using the Decision Lab software has given following rankings results for 2000:

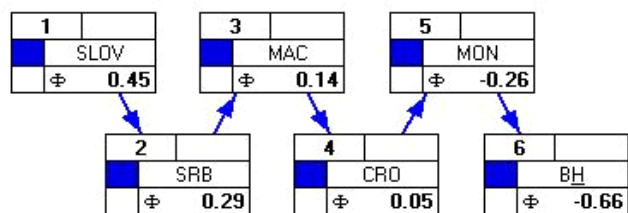


Figure 3. Ranking results for 2000

Based on the Figure 7 it could be concluded that Slovenia was the most developed country among ex SFRY countries in 2000, followed by Serbia, FRY Macedonia, Croatia, Montenegro and Bosnia and Herzegovina. Then, the same multi-criteria procedure has been applied on data for 2012 and ranking results are given in Figure 8.

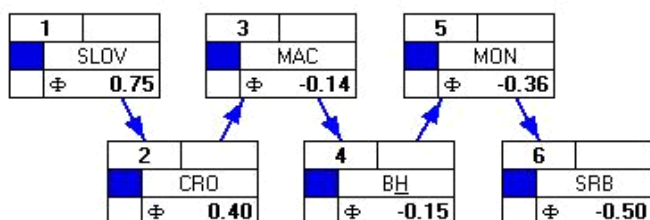


Figure 4. Ranking results for 2012

From the Figure 8 it could be concluded that Slovenia is still the most developed former SFRY country in 2012, followed by Croatia, FRY Macedonia, Bosnia and Herzegovina, Montenegro and Serbia. Serbia has the highest ranking change compared to 2000, indicating a significant deterioration of macroeconomic stability in the country, FRY Macedonia and Montenegro retained their position from previous ranking, while Croatia and Bosnia and Herzegovina improved their position.

4. CONCLUSION

More than two decades have passed since brake down of the Socialist Federal Republic of Yugoslavia. At the same time, this is the period of independent development of the former republics. It was the era of political, economic and transitional crisis, and even civil war. Certain stability, mainly political, has been established at the end of XX and the beginning of XXI century. Faster economic development and improvement of living standard were the initial motives for disintegration. In that sense, ex SFRY countries considered common country as a main obstacle for faster economic development.

But, generally, during the years of independence, initial aims have not been fulfilled. Processes of independent development and creation of necessary institutions proceeded slowly and hardly. Almost entire last decade of XX century elapsed in establishing stable

political environment, so needed reforms practically started to proceed at the beginning of the new millennium. By macroeconomic stability, Slovenia kept the leading position in observed period, Serbia fell from the 2nd to the 6th position, Croatia advanced from 4th to 2nd position and Bosnia and Herzegovina from the 6th to the 4th position. FRY Macedonia and Montenegro did not change their rankings during the observed period.

In some areas, the situation has been worsened significantly. Employment was reduced and unemployment was raised, trade and budget deficits have a tendency of constant growth and public debt in most of the countries in the region reaches a critical point. All this indicates that the economic situation could be better in the case of preservation of former Yugoslavia and its growth rate from the 80's of XX century (6.01%), when the common country functioned harmoniously. So, disintegration has not enabled the achievement of economic goals, especially because it was followed by armed conflicts and political instability.

ACKNOWLEDGEMENTS

The authors feel indebted to the company Visual Decision Inc. Montreal, Canada, for software package Decision Lab 2000 provided to them free of charge.

REFERENCES

- [1] Marsenic, D., *Economics of Yugoslavia*. Faculty of Economics, Belgrade, 2003.
- [2] Arandjelovic, Z., *National economy*. Faculty of Economics, Nis, 2004.
- [3] Federal Bureau of Statistics, *Yugoslavia during 1945-1985*. Federal Bureau of Statistics, Belgrade, 1986.
- [4] EBRD, Macro economic data, Available at <http://www.ebrd.com/pages/research/economics/data.shtml>.
- [5] WORLD BANK, World Development Indicators, Available <http://databank.worldbank.org/data/views/variableselection/selectvariables.aspx?source=world-development-indicators>.
- [6] International Monetary Fund, World Economic Outlook report, Available at <http://www.imf.org/external/pubs/ft/weo/2014/01/weodata/weoselgr.aspx>.
- [7] Eurostat, Database, Available at <http://epp.eurostat.ec.europa.eu/portal/page/portal/statistics/themes>.
- [8] Porter, M. E., Schwab, K., Sala-I-Martin, X., López-Claros, A., *The Global Competitiveness Report 2004-2005*. World Economic Forum, Geneva 2004.

- [9] Schwab, K., The Global Competitiveness Report 2012-2013. World Economic Forum, Geneva, 2012.
- [10] Tomić-Plazibat, N., Aljinović, Z., Pivac, S., Risk Assessment of transitional Economies by multivariate and Multicriteria Approaches. *Panoeconomicus*, 57(2010) 3.
- [11] Brans, J.P., Vincke, Ph. 1985. A preference ranking organization method: The PROMETHEE method for MCDM. *Management Science*, 3 (1985) 6.
- [12] Behzadian, M., Kazemzadeh, R. B. Above, A., Aghadasi, M., PROMETHEE: A comprehensive literature review on methodologies and applications. *European Journal of Operational Research*, 200 (2010) 1.

MOTIVATING STRATEGY FOR INCREASING BUSINESS PERFORMANCE

Sanela Arsic, Isidora Milosevic, Zivan Zivkovic

University of Belgrade, Technical Faculty Bor, Serbia

Abstract: Human capital is getting more and more important as a key resource for any company, whether it is a small entrepreneurial activity or large companies, which directly contributes to competitive advantage in the market. The main task of managers and business owners to motivate employees in a way to channel his energy, knowledge, skills and abilities to achieve the goals of the organization through better business performance. In the study, 168 participants took part in the municipality of Bor who are employed in both the public and private sectors. We used a methodology SEM (Structural Equation Modeling), which includes the evaluation of the measurement model and on the basis of an adequate index fitting, tested a structural model. With the use of current empirical research, in which you interpret sociological facts and allegations conflicting views, this paper illustrates the impact of motivation on the business performance of the organization.

Keywords: employee motivation, employee satisfaction, business performances

1. INTRODUCTION

Human resources are the only inexhaustible resource in the company, and therefore by motivating employees comes success, efficiency and effectiveness, as well as organizational goals. Capital cannot replace the work or people in terms of knowledge and services, and the new technology itself produces greater productivity. Capital and technology are the factors of production, and whether they help or hinder productivity depends on what people do with them, i.e. on the skill of the one who uses them [1]. Investing in human resources is an investment in the future, and the aim is to develop motivational processes and working environment that will help individuals to show the expected results. The system of motivation is a key interest of the employees, management and the company as a whole, and motivation is the basis for understanding the mechanisms of behavior [2]. When we know this mechanism we can improve productivity, efficiency and creativity, quality of working life and thus enhance the competitive capability.

Numerous motivation theories are trying to answer this question: What is motivation and how does the process of motivation happen? In addition, there is also one more important question which is: How to motivate employees to accomplish already set goals successfully and also how can they reach higher working performance? These theories are intertwined and together they are working on solving a problem of motivation. These theories also complement one another and thus emphasize different aspects and dimensions of motivation and the process of motivating and enable its better understanding.

It is very important to emphasize that the employees do not request just money, but also recognition, appreciation, creative freedom, making appropriate decisions, advancement, self-realization and a lot of other compensations. Employees see the set goals as a challenge and are motivated to achieve them, especially if they created and determined those goals themselves [3].

In successful companies employees are the primary development resource and it is necessary to actively manage their potentials. If a company strives towards promotion of human resources use, then different schemes for increasing employee satisfaction must be developed parallel. Job satisfaction means employee's both emotional attachment and focus for the job, i.e. the emotional reaction of the individual to the essential aspects of the work [4]. Regardless of the relation between working motivation and job satisfaction, we should make the difference between these two and always observe them separately. Therefore, it is necessary to harmonize the organization's goals with the goals of the individuals who, by working specific jobs in the company, meet many of their needs. If the compatibility between these goals is greater, the working performance will be greater as well [5].

Job satisfaction can also be defined as a pleasant emotional state of the employee related to his/her business tasks, supervisors, situations at work and the company in general [6]. Job satisfaction is defined in terms of all characteristics of the work and working environment in which employees can either be rewarded, satisfied and happy, or frustrated and dissatisfied [7].

The issue of job satisfaction in Serbia is very sensitive due to transition. The aim of this paper is to, beside the current empirical findings, also present influence of the material and immaterial competence on motivation of employees, as well as its influence on the business performance of the organization in Serbian companies.

2. REVIEW OF PREVIOUS RESEARCHES AND DEFINING OF A CONCEPTUAL MODEL

Numerous studies [8, 9, 10] have shown that the factors which influence job satisfaction can be grouped into two categories, namely: organizational factors of job satisfaction (job itself, the system of rewarding, pleasant working conditions, colleagues at work, organizational structure); and personal factors of job satisfaction (harmony between personal interests and work, length of service and age, position and status, and overall satisfaction with life). People are satisfied with their job when they feel good about their job. That feeling is often linked to their feeling that their job is well done, that they are becoming more experienced in their profession and that they attain good performance [8].

Employees in the industrial sector often show lower levels of satisfaction due to the heavy workload, longer working hours and low income [10]. The balance between work and life has a significant influence on the attitude of employees to their organizations as well as on the lives of employees. The boundary between work and life can be especially important in the management of highly skilled workers like in case of technical professionals, whose commitment and loyalty represent challenge for their employers [11]. The most important determinants of job satisfaction are: interesting and creative work, good relationships with

managers and colleagues, income in accordance with performance, pleasant working conditions, as well as job security and the ability to balance between work and private life [9].

A company that rewards its employees with real job satisfaction and a true sense of self-worth is more honest to itself and to their employees as well. The true reward for good working performance is to get the comprehensible and clear task and trust. Helping talented people to develop and realize their potentials is one of the toughest challenges for managers [12].

Job satisfaction is actually satisfaction of an individual's with his own work, and these are the feelings of the individual and the state of mind towards the nature of the work. It can be reduced by the influence of various factors such as the policies of the organization, control, administration, salary and quality of life. In many studies it was concluded that job satisfaction is the difference between what people expect from their work and what they actually have in reality [13].

2.1. MATERIAL COMPENSATION

Material rewards can be a very strong motivator, and the influence which material rewards have on the motivation is often transferred to other positive outcomes such as keeping an employee [14]. Material (financial) compensation is made up of various forms of stimulation which are aimed at ensuring and improving the employees' financial situation and financial compensation for the work [15]. Material factors of motivation for work are: salary, pensions, ability to solve housing issues, profit sharing, stock ownership and the like.

Cascio points out that the system of rewarding should be determined on the basis of an assessment of how much must be paid in order to attract and keep the right people; what the organization is able to bear regarding its financial power and what is necessary in order to realize the strategic goals of the organization [16].

However, financial rewards do not always result in the desired outcome. First, generous amounts of financial stimulations sometimes fail to motivate and lead to counterproductive outcomes. Second, when they are promised a very high amount of money stimulations, the employees can "choke" or suffer a decrease in the performance level as a result of the strong increase of fear of failure. Third, employees can develop a sense of the right to a certain amount of payments and as a result, the actual payments that are lower than their expectations can cause a variety of adverse reactions, such as dissatisfaction with the amount of pay and the intention to leave the organization [17]. One possible reason for the general acceptance of this principle is that the results of the researches on the employed seem to suggest that financial awards are not among the most important motivational factors. What the employees say is that the value of prizes does not always reflect what they do [18].

In fact, even though the salary is not often recognized as a key factor in most studies, it is one of the most important factors when making a decision whether to accept the job or not. Despite the evidence, managers and other decision makers in the organization often overlook the principle which, the former CEO of Avon Hicks Waldron, said: "I needed some time to realize that people do their jobs just as much as they are paid for, not for what they are being requested to do "[17].

There are limits to what money rewards can do in terms of improving individual and organizational performance. First, money rewards do not improve the knowledge, abilities and skills of employees, i.e. even though monetary rewards can motivate employees to work harder, it does not mean that they enhance their abilities unless money rewards are invested in training activities and progress [19]. Based on the mentioned dimension of the influence of material performance on the organization's business derives the following hypothesis:

The Hypothesis H1. Material competencies positively influence the motivation of employees

2.2. NON -MATERIAL COMPENSATIONS

Besides material compensation, various non-material stimulations for work affect the motivation of the employees. It is necessary to develop a system of non-material stimulations for work that meets the diverse needs of people in organizations [20]. For the majority of people more and more important are so called the needs of higher order, which together with the material strategies make a complete motivation system. In order to motivate employees, organizations apply different non-material compensation and motivation strategies such as designing adequate work, demonstrating the preferred style of management, the participation of employees, management by objectives, flexible forms of working time, other non-material compensations and motivation strategies. In light of previous comments raises the following hypothesis:

Hypothesis H2. Non-material compensations have a positive impact on employee motivation

2.3. MOTIVATION AND ITS INFLUENCE ON BUSINESS PERFORMANCES OF AN ORGANIZATION

Numerous empirical studies have shown the high degree of interdependence between motivation for work and productivity of work, but the motivation is not the only and most important factor for productivity [20]. Motivation is a psychological and sociological category that represents the relation of the individual to work, gives him strength, determines the objectives and moves him to do a certain activity. There are a number of examples in practice where human resources achieved excellent working results in spite of a weaker motivation to work. When human resources do not possess the necessary knowledge, skills and abilities, not even the high motivation can influence that the work is properly done, therefore, the most important factors of success are working competency of human resources. On the basis of the stated facts concerning the influence of the motivation of employees on the business performance of an organization derives the following hypothesis:

The Hypothesis H3. Employees' motivation has a positive influence on the organization's performance

2.4. BUSINESS PERFORMANCE

Employees' commitment to organization is the most important indicator of the influence on the performance of the company. It refers to what the employed think of the objectives of their organization, value identification, acceptance and loyalty to the organization [21]. Understanding the satisfaction of the employed is essential for a more complete understanding of the effects of variations of stimulations and motivation of employees, particularly if they are relevant for employees' satisfaction. The researchers found that happy workers will be more ready to use and share their knowledge [22] as well as to improve their working performance [23] to be creative and to cooperate with their colleagues, because the satisfaction is the inner strength that drives certain behavior.

Numerous literature sources suggest that organizations use employees as a means to achieve organizational goals and higher labor productivity through the sharing of information and cognitive mechanisms for reducing uncertainty [1]. Working productivity is an important indicator of technical and economic development and success of the company. The increase in working productivity can be increased in several ways, such as: training and improvement of human resources, automation and the use of new technologies, restoration of production, providing material stimulations [24].

Based on the stated hypothesis H1-H3, one can define a theoretical model for the influence of certain parameters on business performance, which is shown in Figure 1. The model which shows the indirect influence of the material and non-material compensations as well as direct influence of motivation on the business performance of an organization.

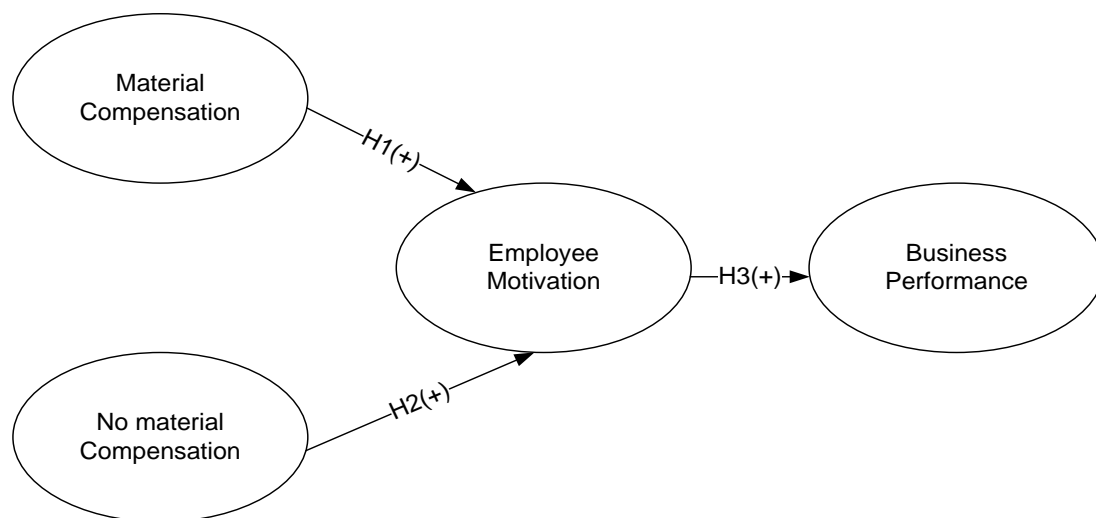


Figure 1. Conceptual model of the impact on business performance compensation

3. METHODOLOGY

The target population of this study was found in organizations in the municipality of Bor, where the survey was conducted between December 2014 and March 2015. Examined sample included employees in the public sector (education, research institutions and cultural

institutions) and employees of private companies working in smaller service organizations, restaurants, retail shops, accounting agencies, bakeries and bookstores.

The questionnaire used in the survey, was made up of 30 questions, and fundamentally consists of two groups of questions. The first group shows the demographic characteristics of the respondents (gender, education, time spent in the current organization, activity). The second group of questions is related to the influence of key parameters on the business performance of an organization which included the aspects related to the following elements: material compensation, non-pecuniary compensation and employee motivation.

The advantage of using a questionnaire, from the formal point of view, is that it ensures anonymity and confidentiality of data, as well as complete standardization of the data collected. The survey covered a total of 168 respondents. 150 correctly filled out the questionnaire, which makes a total of 89, 29%.

Measuring and structural models were tested in the software package Amos v.18, using structural equation model (SEM) [25]. Estimation method of maximum credibility was used for data analysis.

3.1. THE DEMOGRAPHIC CHARACTERISTICS OF THE SAMPLE

Table 1. The demographic characteristics

Demographic variables	The composition of the sample	
	Categories	Percentage(%)
<i>Gender</i>	Male	44,7
	Female	55,3
Obrazovanje	Primary school	2,0
	Secondary education	42,7
	College education	8,0
	University degree	33,3
	MA and Ph.D.	14,0
<i>Age</i>	18-25	5,3
	26-35	28,7
	36-45	34,0
	46-55	24,0
	56 and more	8,0
Marital status	unmarried / unmarried	39,3
	married / married	56,7
	widow / widower	4,0
Work experience	less than 3 years	10,7
	3-10 years	29,3
	11-20 years	27,3
	21-30 years	21,3
	over 30 years	11,3
Time spent in the current organization	1-5 years	30,7
	5-10 years	25,3
	10-20 years	23,3
	over 20 years	20,7
Ownership of capital	private company	24,7
	public company	75,3
Activity	scientific research	32,7
	production	7,3
	trade	8,7
	culture and art	16,7
	education	24,7
	service	10,0

3.2. ANALYSIS OF THE RESULTS

Measurement model is estimated by using confirmatory factor analysis (CFA). The analysis of the measurement model has resulted in the indices of the fitting model ($\chi^2/df = 1.516$, CFI = 0.940, = 0.943 IFI, TLI = 0.920, RMR = 0.098, RMSEA = 0.063), which are in accordance with the recommended, that is, with values that indicate good model fitting [26]. On the basis of confirmatory factor analysis discriminant and convergent validity was tested.

All load factor indicators ($p < 0.01$) are higher than 0.50, as shown in Table 2, their structures are statistically significant, indicating that the convergent validity was achieved [29], i.e. that the indicators used in this study adequately represent concepts to which they refer. On fulfillment of the conditions of convergent validity also indicate coefficients of internal consistency Cronbach α , Spearman-Brown coefficient and Ω . All values which are in groups shown in Table 3, show that the requirement of internal consistency is fulfilled [27, 25, 28].

Table 2. Assessment of convergent validity

Construct	Standardized Regression Weights	t-value	Squared multiple correlations	Average Variance Extracted (AVE)
Employee motivation	0.520 - 0.903	6.368 – 8.823	0.270- 0.815	0.597
Material Competence	0.613 - 0.807	7.162 – 8.090	0.376 – 0.651	0.531
No material Competence	0.529 - 0.800	3.075 – 4.069	0.125 – 0.544	0.428
Business Performance	0.677 - 0.805	4.119 – 6.428	0.289 – 0.473	0.588

Table 3. Internal consistency group of statements

Construct	n	Cronbach's alpha	Spearman-Brown Coefficient	Ω
Employee motivation	5	0.759	0.701	0.784
Material Competence	3	0.728	0.744	0.650
No material Competence	7	0.725	0.694	0.739
Business Performance	5	0.789	0.690	0.780

Before testing the structural model, it is necessary to define the correlation model (Table 4), which establishes correlational connections among defined groups of questions, in order to confirm that the 20 measurable variables reflect the 4 latent variables in a reliable manner.

Table 4. Matrix of Correlation and Discriminant Validity

Construct	Employee motivation	Material Competence	No material Competence	Business Performance
Employee motivation	0.761			
Material Competence	0.941	0.729		
No material Competence	0.854	0.797	0.654	
Business Performance	0.704	0.817	0.890	0.767

The bold numbers on the diagonal in Table 4 represent the square root of the AVE, while the off-diagonal elements represent the correlation. Correlation is significant at the 0.01 level.

Given the satisfactory parameters measuring models fitting and the conditions of validity of the concepts met, in the next phase was conducted structural analysis. Rating structural model indicated a satisfactory indexes model fitting ($\chi^2 / df = 1.32$, CFI = 0.969, IFI = 0.971, TLI = 0.950, RMSEA = 0.049), so testing of structural relations between concepts followed. The findings, presented in Table 5, showing a statistically significant influence on compensation of material motivation ($\beta = 0.383$, $p < 0.01$), which confirmed the hypothesis H1. Statistically significant influence on motivation, besides material compensation, performs non-material compensation as well ($\beta = 0.614$, $p < 0.01$), which supports the hypothesis H2.

The research results show the motivation of employees as an important determinant of perceived value, which has a direct but also the most significant influence on business performance ($\beta = 0.904$, $p < 0.01$), which confirmed the hypothesis H3.

For participation explained variance in the total, i.e. how variations of dependent variable are explained by the independent variable, we used the coefficient of determination R^2 . The calculated value of the coefficient of determination shows that 68.6% of the variance business performance is the result of the joint influence of four latent determinants.

Table 5. Path Coefficients and t-Values of the Hypothesis

The relationship or path	Standardized regression coefficient	Critical ratio or (t-value)	Casual relations
(H1) MC → EM	0.383 _(a)	4.107	R1: yes
(H2) NC → EM	0.614 _(a)	2.537	R1: yes
(H3) EM → BP	0.904 _(a)	1.985	R1: yes

(a) significance at the level of 99%

4. CONCLUDING REMARKS

Results of the path analysis show that all three hypotheses have been confirmed. The most important among all attitudes of the employed is attitude towards work. Considering the

material and non-material compensation as indirect determinants of business performance, their strong influences on motivation of employees can be seen. Motivation at work involves certain assumptions and beliefs about the job, feelings towards work and assessment of the work. The direct financial benefits which an individual receives in "money", and indirect material benefits that contribute to raising the material standard of employees and which they do not receive in payment in general or in the form of money in general, can greatly affect the motivation of employees, and which may have a significant influence on the increase of business performance.

Direct determinant of business performance is employee's motivation, which is characterized by a very significant and strong influence on business performance. Given the belief that motivated and satisfied worker is a productive worker, as well as the success of the organization is impossible with unhappy employees. Motivation in work is one of the most researched topics in the field of human behavior in organizations. Therefore, its influence on business performance as a direct determinant can be described as a pleasant emotional state of an employee in relation to his tasks, supervisors, situations at work and the organization in general.

Contribution

QUESTIONNAIRE

Dear,

Please answer the questions given by circling only one number from 1 to 5 (1- completely disagree, 2- disagree, 3- I'm not sure 4- I agree, 5- completely agree) that most closely reflects your personal view on the claims made under the issue or your assessment of the level of fulfillment of a element. Thank you in advance for your cooperation.

1. Gender: 1) Male 2) Female
2. Education:
 - 1) Primary school education 4) a university degree
 - 2) Secondary education 5) MA and Ph.D.
 - 3) College education
3. Age:
 - 1) 18-25 4) 46-55
 - 2) 26-35 5) 56 and more
 - 3) 36-45
4. Marital status: 1) single/unmarried 2) married/married 3) widow/widower
5. Work experience (in years):
 - 1) less than 3 years 4) 21-30 years
 - 2) 3-10 years 5) under 30 years
 - 3) 11-20 years
6. Time spent in the current organization (in years):
 - 1) 1-5 years 4) under 20 years

- [2] Zámečník, R., The measurement of employee motivation by using multi-factor, 2nd World Conference On Business, Economics And Management -WCBEM 2013, Procedia - Social and Behavioral Sciences 109, (2014), p.851 – 857.
- [3] Edmans, A., Does the stock market fully value intangibles? Employee satisfaction and equity prices, *Journal of Financial Economics* 101 (2011) 621–640.
- [4] Mihailović D., *Psihologija u organizaciji*, FON, Beograd, 2000, p.138.
- [5] Garcia-Quevedo J., Mas-Verdu F., Polo-Otero J., R&D human resource in firms: What determines the educational level required, *Applied Economics Letters Journal*, 18 (16), (2011) 1537-1540.
- [6] Sarwar A., Khalid A., Impact of employee empowerment on employees job satisfaction and commitment with the organization, *Interdiscip. J. Contemp. Res. Bus.* 3 (2), (2011), 664-683.
- [7] Bussing A., Bissels T., Fuchs V., Perrar K., A dynamic model of work satisfaction: qualitative approaches, *Hum. Relations* 52, (1999), 999-1028.
- [8] Megginson L.C., Mosley D.C., Pietri P.H., *Management concepts and applications*, (4th ed.) Harper Collins, New York, 1982.
- [9] Locke EA, The nature and causes of job satisfaction, In: Dunnette MD (ed.) *Handbook of industrial and organizational psychology*, Chicago, 1976.
- [10] Terek E., Vukonjanski J., Gligorović B., Job satisfaction of men and women employed in manufacturing sector and education in Serbia, *Singidunum Journal of Applied Sciences* 11 (1), (2014), 25-33.
- [11] Scholarios D., Marks A., Work – life balance and the software worker, *Human Resource Management Journal*, 14 (2), (2006), 54 – 74.
- [12] Karlzon J., *Motivacija zaposlenih – od gubitka do profita*, Beograd, 1997.
- [13] Farooqui S., Nagendra A., The impact of person organization fit on job satisfaction and performance of the employees, *Procedia Economics and Finance* 11: (2014), 122-129.
- [14] Jewell D.O., Jewell S.F., An example of economic gainsharing in the restaurant industry, *National Productivity Review*, 6 (2), (1987), 134-142.
- [15] Jin, L., Huang, Y., When giving money does not work: The differential effects of monetary versus in-kind rewards in referral reward programs, *Intern. J. of Research in Marketing* 31 (2014) 107–116.
- [16] Cascio W., *Managing human resources: productivity, quality of work life, profits*, 4th Ed., McGraw-Hill, New York, 1995.
- [17] Aguinis H., Joo H., Gottfredson R.K., What monetary rewards can and cannot do: How to show employees the money, *SciVerse Science Direct* 56 (2013), 241-249.
- [18] Rynes S.L., Gerhart B., Minette K.A., The importance of pay in employee motivation: Discrepancies between what people say and what they do, *Human Resource Management*, 43 (4), (2004), 381-394.
- [19] Dierdorff E.C., Surface E.A., If you pay for skills, will they learn? Skill change and maintenance under a skill-based pay system, *Journal of Management* 34 (4), (2008), 721-743.

- [20] Nitin. N., Groysber, B., Linda - Eling, L., Employee Motivation: A Powerfull New Model, Harvard Business Review, 2008, 78-84.
- [21] Yeh Y.- P., Exploring the impacts of employee advocacy on job satisfaction and organizational commitment: Case of Taiwanese airlines, Journal of Air Transport Management 36 (2014), 94 -100.
- [22] Janz B.D., Prasmphanich P., Understanding the antecedents of effective knowledge management. The importance of a knowledge-centered culture, Decision Science 34 (2), (2003), 351-384.
- [23] Judge T.A., Thoresen C.J., Bono J.E., Patton G.K., The job satisfaction-job performance relationship: A qualitative and quantitative review, Psychological Bulletin 127, (2001), 376-407.
- [24] Petruta B., Boer J., Increasing human resource efficiency in the production process, Procedia Technology 12, (2014), 469-475.
- [25] Nannally, J.C., Psychometric Theory, Second ed. McGraw-Hill, New York, 1978.
- [26] Udo Godwin J., Bagchi Kallol K., Kirs Peeter J., An assessment of customers' eservice quality perception, satisfaction and Intention, International Journal of Information Management, 30 (2010), 481-492.
- [27] Cronbach, L.J., Coefficient alpha and the internal structure of test, Psychometrika 16, (1951), 297-334.
- [28] Milijic N, Mihajlovic I, Strbac N, Zivkovic Z., Developing a Questionnaire for Measuring Safety Climate in the Workplace in Serbia, International Journal of Occupational Safety and Ergonomics, 19 (4), (2013), 631-645.
- [29] Hair, J.F., Anderson, R.E., Tatham, R.L., Black, W.C., Multivariate Data Analysis, fifth ed. Prentice Hall, New Jersey, 1998.

SOCIAL ENTREPRENEURSHIP AS A FORM OF AN ALTERNATIVE ECONOMY IN EUROPEAN INTEGRATION PROCESS

Ana-Marija Đurić¹, Suzana Randelović²

¹*Timočki omladinski centar, Zaječar;* ²*Narodi muzej, Leskovac, Serbia*

Abstract: The concept of social entrepreneurship is not new, it has been known since the late eighties of the twentieth century and the first time it occurs in Italy, but also in other European countries, in order to mark a series of production and business organizations, created not with profit, but with a strong social motivation, expressed in years of crisis theory and practice of "welfare state". This paper presents the concept of social entrepreneurship from the perspective of theory and examples of good practice as well as connections to other fields of activity. It specifically point out what is the connection of social entrepreneurship and sustainable development. Almost simultaneously, when in Europe reaffirm the idea and practice of modern social entrepreneurship, there is a global awareness of the necessity of sustainable development of humankind, based on the realization of the three sets of objectives: stable economic development, social sustainability and sustainable use of natural resources.

Keywords: entrepreneurship, social entrepreneurship, sustainable development, European integration

1. UVOD

„Kad god društvo „zaglavi“ ili ima priliku da iskoristi nove mogućnosti, društvu je potreban preduzetnik/preduzetnica da uvidi priliku, da svoju viziju pretvori u realnu ideju, potom u stvarnost i u konačnom u novi obrazac širom društva... Nama treba takvo preduzetničko vodstvo ... To je posao socijalnih preduzetnika.“

*Bill Drayton, osnivač prve globalne
organizacije za socijalno
preduzetništvo „Ashoka“*

Sam pojam socijalnog preduzetništva nije nov, javlja se krajem osamdesetih godina dvadesetog veka u Italiji, ali i u drugim evropskim državama, sa namerom da označi čitav niz proizvodno-poslovnih organizacija, nastalih ne sa profi tnom, već sa snažnom socijalnom motivacijom, u godinama izražene krize teorije i prakse “države blagostanja”. Socijalna preduzeća možemo naći u spektru institucija “trećeg sektora”, “neprofitnih organizacija”, “kooperativa”, ili “nevladinih organizacija”, nastalih sa ciljem da olakšaju težak položaj hendikepiranih pojedinaca i socijalno ranjivih društvenih grupa. Ono što im je zajedničko jeste otvorenost i dobrovoljnost udruživanja, formalna struktura, autonomnost u sistemu odlučivanja, nedržavni i nepartijski karakter, demokratska unutrašnja organizacija i kontrola,

te usmerenost na humanitarne i socijalne ciljeve, a ne na profit. Što se tiče ekonomskog funkcionisanja, ova preduzeća profit, čak i kada ga ostvaruju, ne raspodeljuju na osnovu vlasništva, ili uloženog kapitala, već ga, pre svega, investiraju da dalje jača, sa ciljem da što potpunije ispunjavaju društvenu misiju zbog koje su osnovana. Prateći razvoj ovih preduzeća, one konstatuju da jačanjem kapitalizma, posebno prodorom ideja državne intervencije i politike “države blagostanja”, socijalna preduzeća i slični tipovi socijalne ekonomije skoro potpuno odlaze u zaborav. Ipak, smanjenje poverenja u državu, kao ekonomskog aktera te kriza države blagostanja, sredinom sedamdesetih godina prošlog veka, stvaraju ambijent za reafirmaciju socijalnog preduzetništva. Ono postaje značajan deo društveno-ekonomske strukture, naročito u zemljama Evropske unije. Dalje podsticaje njegovom širenju daju procesi tranzicije u Centralnoj i Istočnoj Evropi, poslednje decenije dvadesetog veka. [1]

Ono na šta se ukazuje posebna pažnja jeste veza socijalnog preduzetništva i održivog razvoja. Istovremeno, kada se u Evropi reafirmiše ideje i praksa modernog socijalnog preduzetništva, javlja se globalna svest o neophodnosti održivog razvoja čovečanstva, zasnovanog na realizaciji tri grupe ciljeva: stabilnog privrednog razvoja, socijalne održivosti i održivog korišćenja prirodnih resursa, tj. održivog postupanja prema životnoj sredini. Ideje održivog razvoja su široko promovisane delovanjem Ujedinjenih Nacija i potvrđene na više međunarodnih konferencija, počev od Rio de Žaneira, Nju Jorka i Johanesburga, čine danas jednu od globalno najprisutnijih političkih, naučnih i kulturnih tema. Socijalno preduzetništvo ima značajan potencijal upravo u realizaciji koncepta održivog razvoja. U Srbiji, je povezanost socijalnog preduzetništva i održivog razvoja moguće iskoristiti, kako u cilju dalje afirmacije tzv. “trećeg sektora”, tako i u ostvarivanju strateških ciljeva održivog razvoja. Upravo ovaj rad dubinskom analizom tematike i ubedljivošću argumenata, može značajno doprineti da se pomenuta veza što bolje sagleda, a potencijal volonterskog, socijalno i humanitarno usmerenog, delovanja što potpunije iskoristi, u funkciji ostvarenja integralne održivosti razvoja privrede i društva Srbije, i njenog daljeg približavanja punom članstvu u Evropskoj uniji. [2]

2. KONCEPT SOCIJALNOG PREDUZETNIŠTVA

Razvoj koncepta socijalne ekonomije pratimo počev od vremena razvoja kapitalizma u 18. i 19. veku kada se osnivaju grupe za samopomoć i druga udruženja koja se rukovode principima filantropije i milosrđa. Prethodnici modernih socijalnih preduzeća nastaju kao spontana reakcija radničkih slojeva da prevaziđu teškoće životnih uslova u vreme prvobitne akumulacije i podstaknu aktivnosti koje u tom periodu nisu bile pokrivene socijalnom politikom. Zadrugarstvo koje se razvijalo u uskoj vezi sa sindikalnim pokretom i emancipacijom radničke klase brzo se širilo konkretnim akcijama. Koncept alternativne ekonomije koja void savremenom značenju socijalnih preduzeća podrazumeva ograničenu podelu profita, stvaranje finansijskih fondova koji će biti korišćeni na principima uzajamne pomoći i demokratsku strukturu donošenja odluka, po čemu se ovi organizacioni oblici razlikuju od klasične forme kapitalističkih preduzeća.

Definicija socijalnog preduzetništva

Istraživanje koje je rađeno u ovoj oblasti otkriva malo slaganje o definiciji socijalnog preduzetništva. Istraživači su skloni da naprave razliku između dva različita oblika socijalnog preduzetništva:

Škola socijalnog preduzetništva, koja socijalno preduzetništvo predstavlja kao inicijativu "socijalnog preduzeća". To je "bilo koja organizacija, iz bilo kog sektora poslovanja, koja koristi strategije stečenog prihoda u klasičnom ili društveno odgovornom poslovanju, bilo samostalno (kao preduzeće iz socijalnog sektora) ili u svojstvu preduzeća mešovitog izvora prihoda koji uključuje dobrotvorne priloge i subvencije iz javnog sektora". Veći deo aktivnosti i fokus škole socijalnog preduzetništva usmerene su na aktivnosti stečenog prihoda neprofitnih organizacija, ali uključuje i tržišno bazirana socijalne svrhe ili za socijalne poduhvate. Škola socijalnih inovacija, socijalno preduzetništvo posmatra kao inicijative inovatora koji teže društvenim promenama sa ciljem ublažavanja specifičnih društvenih problema. Ovde je naglasak na socijalnim rezultatima, a ne na stvaranju prihoda. Ovo je pristup "inovatora" (change maker), koji je unapređen od strane mnogih fondacija, kao što su Ashoka, Echoing Green, i Schwab Foundation. Ove dve definicije socijalnog preduzetništva mogu se posmatrati kao kontinuitet socijalnog preduzeća, sa jedne strane, i inovacija, sa druge. Većina definicija pokušava da kombinuje ova dva mišljenja, sa težnjom dobijanja jedne inkluzivnije definicije. Generalno, socijalno preduzetništvo se može definisati pomoću dva sastavna elementa, primarnom strateškom preokupacijom ka društvenom uticaju i inovativnim pristupom ostvarivanja svoje misije, što dovodi do šire definicije socijalnog preduzetništva: "Proces koji uključuje inovativno korišćenje i kombinacije resursa za pokretanje društvenih promena i/ ili rešavanja socijalnih potreba." Ovakva definicija omogućava socijalnim preduzetnicima da rade u javnom, privatnom ili društvenom sektoru, da koriste profitne, neprofitne ili hibridne organizacione oblike uz poštovanje društvenih vrednosti, ali i da ostvare promene. Poduhvati su raznoliki, kao i same potrebe kreću se u rasponu od pokretanja rikša servisa i ugostiteljskih usluga koje pružaju samohrane majke u Keniji, do dovođenja struje u školu u ruralnom delu Gruzije i uvođenja vode i kanalizacije u Ugandi. Ono što ove aktivnosti razlikuje od tradicionalnih razvojnih programa jeste što socijalni preduzetnici sami dolaze do ideja i samostalno implementiraju projekte. [1]

Tabela 1. Pregled definicija socijalnog preduzetništva [2]

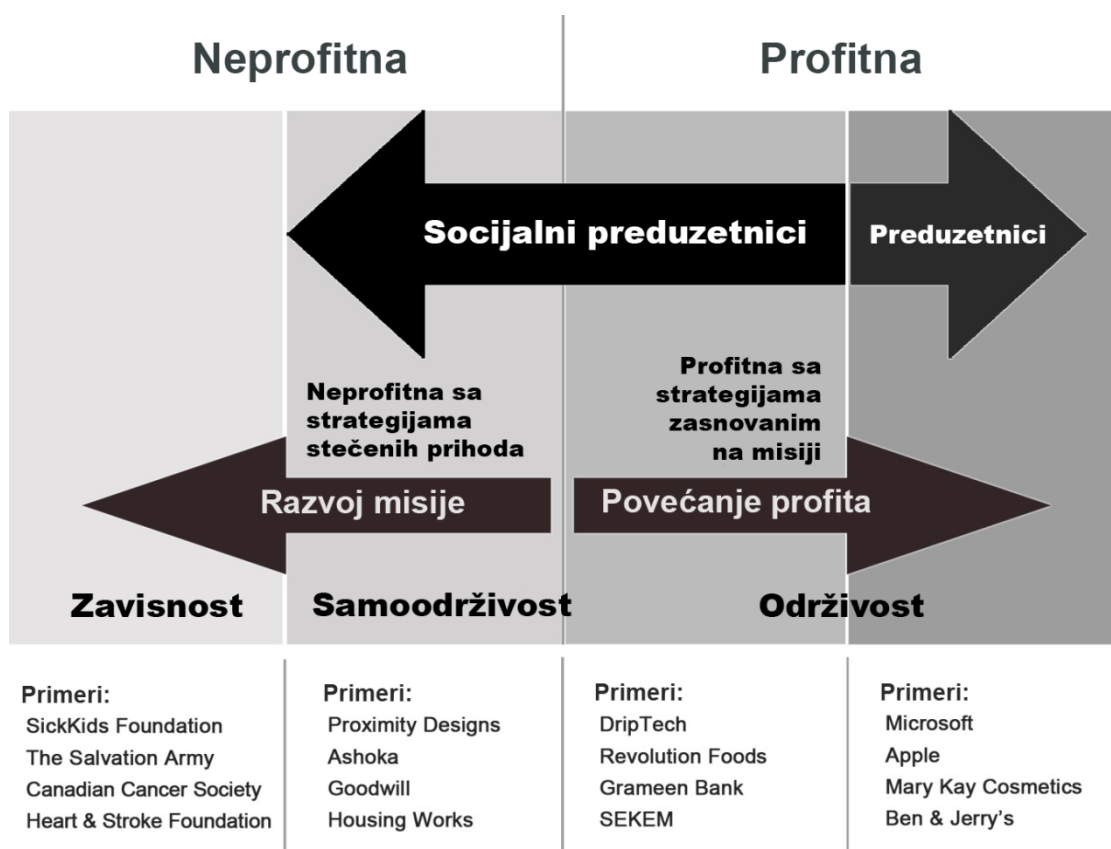
Izvor	Definicija	Suštinske osobine
<i>Bornstein</i> [3]	Socijalni preduzetnik je pionir vođen moćnom novom idejom, koja kombinuje vizionarstvo i kreativnost u rešavanju svakodnevnih problema, poseduje jaka etička načela i u potpunosti je preokupiran vizijom promene.	<ul style="list-style-type: none"> • Utemeljivač misije • Istrajan
<i>Thompson i saradnici</i> [4]	Socijalni preduzetnici su ljudi koji uviđaju mogućnosti za zadovoljavanje neke neispunjene potrebe društva koju državni sistem socijalne pomoći neće ili ne može da reši, koji su prikupili neophodne resurse (ljudstvo, često volontere, novac i prostorije) i koriste ih da ostvare značajnu društvenu promenu.	<ul style="list-style-type: none"> • Emocionalni naboj • Stvaralac vrednosti
<i>Dees</i>	Socijalni preduzetnici igraju ulogu pokretača promena u socijalnom sektoru: <ul style="list-style-type: none"> ▪ Usvajanjem misije za stvaranjem i održavanjem društvenih vrednosti; ▪ Prepoznavanjem i neumornom potragom za novim mogućnostima koje vode ka ispunjenju misije; ▪ Aktivnim angažovanjem u kontinuiranim procesima inovacije, adaptacije i učenja; ▪ Radeći smelo bez ograničenja trenutno raspoloživim resursima; ▪ Ispoljavanjem pojačanog osećaja odgovornosti za postignute rezultate. 	<ul style="list-style-type: none"> • Pokretač promena • Visoko odgovoran • Predan • Društveno svestan
<i>Brinckerhoff</i> [5]	Socijalni preduzetnik je neko ko preuzima razuman rizik u ime naroda kome njegova organizacija služi.	<ul style="list-style-type: none"> • Lider u idejama
<i>Leadbeater</i>	Socijalni preduzetnici su preduzimljivi, inovativni i promenama skloni pojedinci, koji su takođe i: lideri, pripovedači, menadžeri ljudskih resursa, vizionarski oportunisti i graditelji saveza. Oni prihvataju socijalni problem i osmišljavaju, organizuju i upravljaju poduhvatom koji može da ostvari značajnu društvenu promenu.	<ul style="list-style-type: none"> • Menadžer • Lider
<i>Zahra i saradnici</i> [6]	Socijalno preduzetništvo obuhvata aktivnosti i procese preduzete u cilju otkrivanja, definisanja i korišćenja mogućnosti, a sve sa namerom poboljšanja društvenog blagostanja- osmišljavanjem novih poduhvata ili upravljanjem postojećim na inovativan način.	<ul style="list-style-type: none"> • Inovator • Nosilac inicijativa • Svestan mogućnosti
<i>Ashoka</i> [7]	Socijalni preduzetnici su pojedinci sa inovativnim rešenjima za goruće društvene probleme (...) Oni su u isto vreme i vizionari, ali i krajnje realistični- iznad svega praktično	<ul style="list-style-type: none"> • Vizionar • Privržen

sprovode svoje vizije.

Oslanjajući se na predloženu definiciju socijalnog preduzetništva, a u cilju pravilnog pozicioniranja socijalnih preduzetnika u oblasti preduzetništva predlažemo sledeće granice. Kao što je prikazano na slici 1. socijalni preduzetnici posluju u okviru dve poslovne strategije:

Neprofitna sa strategijama stečenih prihoda-socijalno preduzeće koje obavlja hibridne socijalne i privredne preduzetničke aktivnosti za postizanje samostalne održivosti. U ovom scenariju, socijalni preduzetnik upravlja organizacijom koja je i socijalnog i komercijalnog tipa, prihodi i zarade koje se ostvaruju koriste se isključivo za dalje poboljšanje ostvarivanja socijalnih vrednosti.

Profitna sa strategijama zasnovanim na misiji-poslovanje zasnovano na socijalnim osnovama, koje istovremeno uključuje društvene i komercijalne preduzetničke aktivnosti, a sve u cilju postizanja održivosti. U ovom scenariju, socijalni preduzetnik upravlja organizacijom koja je i socijalnog i komercijalnog tipa. Organizacija je finansijski nezavisna, a osnivači i investitori mogu ostvariti i lične novčane dobiti. [2]



Slika 1. Granice socijalnog preduzetništva u okviru oblasti preduzetništva [2]

Definicije istraživača iz EMES⁵⁷-a često koristimo kako bismo identifikovali socijalna preduzeća.

Prema EMES- u, da bi se jedna organizacija mogla smatrati socijalnim preduzećem treba da ispuni devet kriterijuma:

- Stalna proizvodnja i prodaja robe ili usluga;
- Preduzeće je nezavisno u odnosu na javni i privatni sektor;
- Preduzeće preuzima ekonomske rizike u cilju ostvarivanja vlastitih prihoda;
- Preduzeće zapošljava određeni, minimalni broj plaćenih radnika, ali ima i određeni broj volontera koji učestvuje u njegovima aktivnostima;
- Poslovne aktivnosti su jasno preduzete u cilju ostvarivanja socijalnih učinaka i koristi za društvo ili za marginalizovane grupe;
- Preduzeće je formirano i funkcioniše kao rezultat organizovane solidarne delatnosti;
- Upravljanje se zasniva na principu "jedan član-jedan glas";
- Korisnici ostvaruju učešće u menadžment strukturi društvenih preduzeća;
- Postoje jasna pravila i praksa upravljanja ograničenom raspodelom dobiti.

Ova definicija kombinuje četiri faktora koji čine da se socijalno preduzetništvo razlikuje od drugih oblika preduzetništva. [1][8]

Socijalni preduzetnici su:

- Vođeni su misijom. Oni su posvećeni svojoj misiji permanentne podrške društvenim vrednostima,
- Rade preduzetnički kroz kombinaciju karakteristika koje ih odvajaju od drugih vrsta preduzetnika (Tabela 2.)
- Rade u okviru preduzetnički orijentisanih organizacija koje razvijaju inovativnost i otvorenost,
- Rade u finansijski nezavisnim organizacijama koje planiraju i sprovode strategije stečenih prihoda. Cilj je da se implementira željena socijalna vrednost dok se ostvaruje samoodrživost. Ovo se postiže spajanjem društveno korisnih i komercijalno orijentisanih aktivnosti za postizanje samoodrživosti, smanjenjem oslanjanja na donacije i finansijska sredstva iz javog sektora- dok se povećava potencijal unapređenja pružanja predviđene socijalne pomoći. [2]

⁵⁷ EMES je istraživačka mreža univerzitetskih istraživačkih centara i individualnih istraživača, čiji je cilj bio da postepeno izgrade evropski korpus teorijskih i empirijskih znanja, pluralističke discipline i metodologije koncepta socijalnog preduzetništva. Pojmovi kao što su: socijalno preduzeće, socijalno preduzetništvo, itd. (www.emes.net)

Tabela 2. Karakteristike profitno orjentisanih i socijalnih preduzetnika [2]

Osobene karakteristike preduzetnika orijentisanog profitom	Karakteristike koje su zajedničke za oba tipa	Osobene karakteristike društvenih preduzetnika
<ul style="list-style-type: none"> • Odlikaš • Nosilac rizika • Organizator • Strateg • Stvaralac vrednosti • Holistički pristup • Arbitar 	<ul style="list-style-type: none"> • Inovator • Predan • Nosilac inicijativa • Lider • Svestan mogućnosti • Istrajan • Privržen 	<ul style="list-style-type: none"> • Utemeljivač misije • Emocionalni naboj • Pokretač promena • Lider u idejama • Tvorac društvenih vrednosti • Društveno svestan • Menadžer • Vizionar • Visoko odgovoran

Kako da znate da li ste socijalni preduzetnik?

Jednostavno treba proveriti da li posedujete neke od karakteristika koje imaju socijalni preduzetnici:

Vizionarstvo: "Lideri imaju viziju za promenu, inspirišu druge, mobilišu mlade, oformljuju saveze, a medije koriste da rašire svoju poruku i prikupe resurse. Vrsni su zagovarači i iskusni u umrežavanju, a razumeju i značaj kombinovanja jake osnove u lokalnoj zajednici sa širom nacionalnom i međunarodnom podrškom. "

Inovativnost: Sposobnost da budu kreativni, da identifikuju i koriste nove/neiskorišćene mogućnosti za stvaranje trajne društvene promene.

Vođstvo i posvećenost: Predanost da vode u stvaranju superiornih društvenih načela, upornost u prevazilaženju zastoja i većitih izazova kroz sposobnost da motivišu ciljne grupe, članove tima, investitore i druge zainteresovane strane.

Snalažljivost: Sposobnost da ostvare zavidne uspehe protiv svih verovatnoća. Socijalni preduzetnici ne zavise od spoljne podrške i ne čekaju da ih neko drugi povede. Umesto toga oni služe za primer, preuzimaju odgovornost kao mladi građani i zauzimaju svoje mesto u razvoju lokalne zajednice.

Rad na sebi: Uspešni preduzetnici su visoko samokorigujuća grupa ljudi jer ih pokreće cilj, a ne određeni pristup ili plan. Intervencije obično nastaju kao odgovor na probleme, nove mogućnosti i promenljive tržišne uslove– a sve to s namerom kako bi se ostvarili veliki ciljevi. "Skлонost ka samopoboljšanju je kvalitet koji razlikuje mlade preduzetnike od starijih i ostvarenijih kolega."

Ponovljivost i merljivost: Sposobnost usvajanja modela ili procesa iz različitih kultura i regiona u cilju uspešne implementacije poduhvata u skladu sa uslovima lokalnih zajednica, kao i sposobnost da se unaprede inovacijama. Mladi socijalni preduzetnici, kao članovi lokalnih zajednica, usklađeni su sa lokalnim prilikama i znaju kako da ostvare promene u svojim zajednicama, kao i koje argumente da koriste za promovisanje promena.

Ubedenja: Negovanje razvoja organizacionih vrednosti, vizije i etičkih načela koje će svi poštovati, kao i sposobnost da se izgradi poverenje.

Primenljiva iskustva: Istraživanje sa otkrila da su skoro svi socijalni preduzetnici imali iskustva koja su im tokom detinjstva i tinejdžerskih godina promenila život.

Osetili su siromaštvo iz prve ruke, imali mentora sa izuzetno jakim moralnim načelima ili doživeli period intenzivnog bola. Ovakva iskustva neretko su motivacija za buduće akcije.

Zabava: Dok mladi preduzetnici nastoje da reše ozbiljne socijalne, ekonomske i političke probleme u svojim zajednicama, oni istovremeno znaju i da omladinska društvena akcija mora biti zabavna i živopisna kako bi privukla mlade ljude i obezbedila njihovo aktivno interesovanje i podršku. "Oni uspevaju da pretvori mlade u moćnu snagu za promene i da prevaziđu društvenu apatiju među mladima." [2]

3. RAZVOJ KONCEPTA SOCIJALNIH PREDUZEĆA U ZEMLJAMA EVROPSKE UNIJE

Razvoj socijalnih preduzeća koje se u posebnom nacionalnom kontekstu nazivaju „kooperative” najviše se vezuje sa italijanskim iskustvima i promocijom novih oblika alternativnih programa u okviru socijalne politike u pojedinim regionima ove zemlje. Prema Borzagi [9] profesoru ekonomije na Univerzitetu u Trentu koji se najviše bavi analizom i istraživanjem inovativnih oblika zapošljavanja i socijalne integracije, kooperative mogu biti produktivne i tržišno usmerene, usklađene sa principima slobodnog tržišta i sticanjem profita. Ipak, najviše zastupljeni tip novih oblika organizovanja su socijalne kooperative koje služe socijalnim ciljevima svojih članova ili zajednice. Pored procvata novih kooperativa u Italiji o čemu će više biti reči u narednom izlaganju, evropski istraživači primećuju slične inicijative i u drugim zemljama, posebno u Španiji, Belgiji, Švedskoj i Finskoj kao i u Latinskoj Americi i drugim delovima sveta u kojima pod različitim pravnim formama nastaju organizacije slične socijalnim preduzećima u Evropi. Uporedo sa procvatom kooperativa i drugih alternativnih oblika preduzeća raste i naučno interesovanje za ove društvene aktere, tako da prestižni univerziteti u Americi (Harvard (Harvard), Columbia (Kolumbija), Yale (Jeil), Stanford (Stanford)) i Evropi organizuju obuku u oblasti alternativno orijentisane ekonomije koja služi socijalnim ciljevima [10]. S obzirom da programi u okviru socijalne ekonomije kreiraju zapošljavanje, naročito onih socijalnih grupa koje se teško uključuju na tržište rada ili se, u okviru njih, pružaju socijalne usluge, podsticaj država Evropske unije je značajan činilac razvoja ovih novih oblika solidarnosti. Na primer, Međunarodni centar za istraživanje i

informisanje o javnoj, socijalnoj i kooperativnoj ekonomij koji podržava Evropska unija podstiče izgradnju pravne osnove socijalne ekonomije,

doprinosi promociji ovih organizacija, podstiče međunarodnu razmenu iskustava između evropskih država, a Međunarodno udruženje kooperativa koje podržava Međunarodna organizacija rada takođe podstiče nacionalne napore ka unapređenju i afirmaciji ovog modela kao značajnog aktera u okviru Evropske unije.

3.1. TIPOVI SOCIJALNIH PREDUZEĆA U EVROPSKOJ UNIJI

Roger Spear, britanski istraživač koji saraduje u pomenutim istraživanjima EMES mreže projekata koji se bave socijalnim preduzećima u Evropi, predstavio je dimenzije socijalnih preduzeća pojednostavljeno, kako bi se istraživačima omogućilo da se snalaze u obilju različitih varijacija organizacionih oblika. Zajedničke dimenzije za prepoznavanje socijalnih preduzeća, prema navedenom istraživaču su:

- dobrovoljno i otvoreno pristupanje članstva;
- demokratska unutrašnja kontrola;
- ekonomska participacija;
- autonomija i nezavisnost;
- edukacija, trening i informisanje;
- međusobna saradnja;
- briga za zajednicu.

Socijalna preduzeća koja se bave radnom integracijom mogla bi se svrstati u četiri glavna modela, prema klasifikaciji koju predlažu istraživači [1]:

a) Organizacije za reintegraciju radnika koji imaju problema u zapošljavanju na tržištu rada su najčešće zastupljeni oblici socijalnih preduzeća jer nude prelazno zapošljavanje radnicima kojima je potrebna dodatna podrška ili obuka. To su, ustvari, centri za trening i sticanje veština koji nude razne vrste kvalifikacija za poslove koji se traže na tržištu rada, prekvalifikacije i druge vrste obuke za pronalaženje posla. Ovaj tip preduzeća može biti ekonomski održiv, odnosno ekonomski i socijalni ciljevi mogu biti usklađeni, a njihov glavni zadatak je podsticanje zapošljavanja putem sticanja veština. Organizacije ovog tipa mogu biti nezavisne od javne pomoći kao što su radne kooperative u Finskoj, preduzeća za radnu integraciju u Francuskoj i razna druga lokalna preduzeća za obuku trening nezaposlenih.

b) Za razliku od prve grupe socijalnih preduzeća, druga vrsta stvara uslove za samostalni rad nezaposlenih kada se kreiraju poslovi koji će vremenom biti ekonomski održivi. Radi se o preduzećima koja zapošljavaju socijalne grupe koje teško pronalaze posao na tržištu rada, uglavnom marginalne pojedince koji su korisnici socijalne pomoći. Preduzeća ovog tipa mogu da imaju ekonomsku održivost, mada, uglavnom, povremeno traže donacije ili pomoć državnih institucija kako bi se stabilizovalo njihovo ekonomsko poslovanje. Primeri ove vrste su inicijative koje uključuju lokalni biznis kao što su socijalne organizacije u Velikoj Britaniji ili kooperative u Nemačkoj.

c) U sledećoj grupi bi bila socijalna preduzeća koja pružaju radnu integraciju uz permanentnu finansijsku podršku, najčešće državnih institucija, jer se radi o zapošljavanju

hendikepiranih (mentalno ili fizički obolelih lica) kojima je neophodna rehabilitacija i zapošljavanje u skladu sa preostalim sposobnostima. To je najstarija forma, odnosno tradicionalni oblik socijalnih preduzeća koja su poznata i kod nas kao zaštitne radionice za zapošljavanje invalida. Ovaj oblik socijalne zaštite invalida prisutan je u većini evropskih zemalja npr. zaštićeno zapošljavanje invalida u Irskoj i Portugaliji, zaštitne radionice u Belgiji i Danskoj kao i dnevni centri za zaštitu invalida u mnogim zemljama. Radi se o zapošljavanju rizičnih grupa koje ne mogu da se uključe na tržište rada i kojima socijalna preduzeća pružaju stalnu podršku, a posebno ako se radi o članovima preduzeća koji imaju teži hendikep i kojima je neophodno obezbediti tzv. zaštićeno zapošljavanje.

d) U poslednjoj kategoriji su ona preduzeća koja pružaju mogućnost resocijalizacije ljudima sa ozbiljnim problemima prilagođavanja, a uglavnom se radi o alkoholičarima, narkomanima ili osobama sa težim mentalnim i fizičkim poremećajima. Primer su centri za prilagođavanje za rad u Francuskoj koji obezbeđuju resocijalizaciju bivšim zatvoreniciima. Slična su preduzeća za reciklažu u Belgiji koja okupljaju osobe sa ozbiljnim socijalnim problemima. Ove organizacione forme im pomažu u socijalnoj integraciji i prevazilaženju problema. To su centri za okupacionu terapiju prilagođeni socijalnim i zdravstvenim problemima korisnika sa posebnim teškoćama. Ovde se radi o zaštićenom zapošljavanju što podrazumeva dobrovoljni rad, a sredstva države i drugih donatora su značajan podsticaj s obzirom na to da je tržišni princip ostvarivanja dohotka kod ove grupe korisnika vrlo ograničenog dometa.

3.2. PODRUČJA DELATNOSTI SOCIJALNIH PREDUZEĆA U EVROPSKOJ UNIJI

Socijalna preduzeća daju brza i inovativna rešenja, a često i adekvatne odgovore za zadovoljavanje individualnih potreba. Ona imaju veliki potencijal da smanjuju nezaposlenost, odnosno da podstaknu zapošljavanje dugotrajno nezaposlenih i ugroženih grupa što pokazuju podaci po kojima je u ovoj oblasti zaposleno preko 6 % od ukupno zaposlenih u zemljama Evropske unije. Na osnovu podataka Evropske unije može se primetiti stalni porast broja i organizacionih oblika u okviru socijalne ekonomije. U 2005. godini je u zemljama Evropske unije bilo registrovano preko 240 000 kooperativa koje funkcionišu u raznim oblastima ekonomskih aktivnosti, posebno u poljoprivredi, finansijama, stanovanju, a dobro su organizovane i proizvodne kooperative u industriji, građevinarstvu i uslugama. One direktno zapošljavaju 4.7 miliona ljudi, imaju 143 miliona članova i donose preko 4 % nacionalnog dohotka.[5] Poslednje dve dekade ovi organizacioni oblici doprinose ne samo zapošljavanju već i rešavanju brojnih socijalnih problema, jer treba imati u vidu da zdravstvo i socijalna zaštita koja se pruža na osnovu socijalne ekonomije obuhvata 120 miliona korisnika. [1]

Tabela 3. Područje delatnosti socijalnih preduzeća u Evropskoj uniji [1]

TIPOVI PROIZVODNJE I USLUGA	VRSTE SOCIJALNIH PREDUZEĆA	BROJ ORGANIZACIJA %
Socijalne usluge	29	19
Recikliranje	28	18
Usluge za preduzeća	19	12
Personalni socijalni servisi	14	9
Održavanje parkova i urbana regeneracija	12	8
Prerađivačka industrija	10	6
Građevinska industrija	9	6
Restorani i hoteli	8	5
Prevoz i telekomunikacije	7	5
Kultura i rekreacija	7	5
Edukacija	5	3
Trgovina	3	2
Usluge	3	2
Poljoprivreda	1	1
Ukupno	155	100

Kao što prvobitne kooperative (poljoprivredne kooperative, kreditne unije, stambene ili potrošačke kooperative) nastaju kao odgovor na teške uslove industrijske revolucije, tako se i nova socijalna preduzeća osnivaju da bi se popravili uslovi života ugroženih grupa u situaciji kada država blagostanja, u uslovima povećanih potreba, ne može da odgovori na izazove savremenog sveta kao što se navodi u istraživačkoj literaturi [11]. Uglavnom se radi o zadovoljavanju onih socijalnih potreba koje nisu u dovoljnoj meri ili na zadovoljavajući način ispunjene u programima klasičnih privatnih preduzeća ili u državnom sektoru, ili kada nema odgovarajućih rešenja u mehanizmima tradicionalne makroekonomske politike. Sumirajući komparativne rezultate istraživanja Giulia Galera [12] navodi da je zapošljavanje u ovim organizacionim formama veoma popularno u mnogim zemljama Evropske unije čak i u skandinavskim koje na osnovama socijalne ekonomije rešavaju krizu državnih programa. Tako je, na primer u Švedskoj 66% privatnih dnevnih centara za pomoć i negu ugroženih grupa osnovano na principu kooperativa, dok u Finskoj brojne seoske kooperative pružaju socijalne i zdravstvene usluge u lokalnim zajednicama. U Španiji su kooperative najviše orijentisane na socijalne i zdravstvene usluge kao i radnu integraciju, dok socijalna preduzeća u Engleskoj podstiču lokalno preduzetništvo da ostvarenim profitom finansira socijalne potrebe u zajednici. Najnovija istraživanja su identifikovala preko 40 različitih tipova delatnosti u okviru socijalnih preduzeća kao što pokazuje tabela. Kao što se može videti, organizovanje socijalnih usluga koje zamenjuju javne programe, naročito kada su u pitanju programi za hendikepirane, najzastupljenija su oblast delatnosti socijalnih preduzeća. Razlozi se nalaze u restrikcijama javnog sektora da svojim programima obuhvati različite ciljne grupe jer se za neke specifične potrebe ne nude dovoljno prilagođena i prihvatljiva rešenja u okviru klasičnih, državnih programa socijalne zaštite. Socijalna preduzeća i kooperative preuzimaju

socijalnu odgovornost za jedan deo populacije gde su potrebni posebni napori, empatija, jednostavnija procedura i podsticaj za jačanje socijalne kohezije. Studije koje prate razvoj ove oblasti navode da su pored socijalnih usluga delatnosti socijalnih preduzeća usmerene na brojne lokalne probleme kao što su: reciklaža, organizovanje transporta, turizam, lokalne rukotvorine ili organizovanje slobodnog vremena, socijalno stanovanje i zaštita životne sredine [13].

4. INOVATIVNI TRENDovi U FINANSIRANJU SOCIJALNOG PREDUZETNIŠTVA

Napredne fondacije i socijalni investitori su shvatili da su sadašnje metode finansiranja socijalnih preduzeća neefikasne - kako za sama preduzeća, tako i za investiture, pa su počeli rade na proširenju načina pristupu kapitala. Evo nekih primera inovacija u finansiranju socijalnog preduzetništva.

Garancije kredita

Bil i Melinda Gates fondacija (The Bill & Melinda Gates Foundation) preduzećima koje podržava sada uglavnom izdaje garancije za kredite, umesto za odobravanje direktnih sredstava. Smatraju da je to efikasan način korišćenja njihovih donacija, kao i sigurnije finansiranje organizacija. Njihova prva garancija kredita omogućila je charter školi iz Hjustona da prikupi sumu od 67 miliona dolara u vidu potrošačkog kredita sa niskom stopom vraćanja i time školi uštedeli (kao i njenim donatorima) skoro 10 miliona dolara za isplaćivanje kamata.

Kvazi-investicioni dug (Quasi-equity debt)

Neke organizacije su razvile finansijska sredstva koja kombinuju karakteristike investicionih sredstava i dugovanja. Osiguranje kvazi-investicionog duga (Quasi-equity debt) je naročito korisno preduzećima koja su formalno ustrojena kao neprofitna. Kao takva, ona ne mogu proizvesti investiciona sredstva. Ovakvo osiguranje je tehnički vrsta duga, ali poseduje važnu osobinu investicionih sredstava - povratna sredstva se knjiže kao finansijsko poslovanje organizacije. Nosioc osiguranja nema neposredno pravo upravljanja i vlasništva nad preduzećem, ali su uslovi zajma osmišljeni tako da daju podsticaje za efikasnijim upravljenjem organizacijom. Socijalni investitori kupuju ova osiguranja, koja u funkciji investicionih sredstava omogućavaju socijalnim preduzećima da bankama i kreditorima daju konkurentnu investicionu ponudu.

Bridges Social Entrepreneurs Fund iz Velike Britanije je spreman da investira 12 miliona funti u socijalno preduzetništvo. Nedavno je u vidu socijalnog zajma kompaniju HCT obavezala sa milion funti - firmu koja koristi viškove delova sa autobusa iz Londona (putničkih, školskih, kao i autobusa rekreativnih službi) da obezbedi gradski prevoz za osobe koje nisu u mogućnosti da koriste konvencionalni gradski prevoz. Ovaj zajam ima osobine kvazi-investicionog duga - Fond uzima procenat od prihoda i time preuzima neke od poslovnih rizika, ali i dobitaka. Zajam je vezan za prihode i time pruža kompaniji HCT jak podstrek za efikasnijim upravljenjem organizacijom. Za zajmove ovog tipa se sastavljaju sporazumi, koji sprečavaju udaljavanje misije socijalnih preduzeća od socijalnog cilja.

Udruživanje sredstava (Pooling)

Tehnike koje uključuju udruživanje sredstava (pooling) otvorile su nova finansijska vrata društvenim preduzećima, jer na taj način institucija udruživanja može da kontroliše

svoje obaveze prema potrebama različitih vrsta investitora. Švajcarska investitorska kuća društvenog kapitala BlueOrchard, na primer, prikuplja portfolije mnogobrojnih mikro-investitora i akumulira ih u tri tranše. Najniža tranša nudi visoke stope povratka sredstava, ali preuzima prvi gubitak. Sledeća tranša nudi manju stopu očekivanog povratka, ali ima i manje rizike. Najviša tranša omogućava nisku stopu, ali relativno bezbedan povratak sredstava. Model udruživanja sredstava se globalno proširio sa pojavom inovatora poput IFMR Trust-a iz Indije, koji doprinosi obezbeđivanju i strukturisanju finansiranja mikro-zajmova u kojima zadržavaju investicioni udeo.

Obveznice sa socijalnim značajem

Obveznice sa socijalnim značajem predstavljaju još jednu inovaciju koja zaslužuje posebnu pažnju zbog mogućnosti da pomognu vladama da finansiraju infrastrukturu i socijalne usluge, pogotovo u slučajevima "kraćenja" budžeta i opterećenosti javnim zajmovima. Ustanovljena u Velikoj Britaniji 2010. godine, ova vrsta menica se prodaje privatnim investitorima kojima se one isplaćuju samo u slučaju uspeha socijalnog poduhvata u koji su investirali– npr. ako program rehabilitacije smanjuje stopu povratnika među oslobođenim zatvorenici. Ovaj princip omogućava privatnim investitorima da rade ono što najbolje znaju: preuzmu proračunate rizike u cilju ostvarivanja zarade. Vlada, sa svoje strane, obezbeđuje povratak unapred utvrđenih sredstava investitorima na osnovu potvrđenih rezultata, a zadržava dodatno akumulirana sredstva. Zato što premešta troškove neuspeha programa sa poreskih obveznika na investitore, ovaj mehanizam je pokazao potencijalnu primenu u usmeravanju političkih interesa na proširenje programa socijalnih usluga. Od SAD-a do Australije, vlade i lokalne samouprave razvijaju pilot programme koje uključuju obveznice za finansiranje pomoći beskućnicima, unapređenje obrazovanja u ranom detinjstvu, kao i rešavanju drugih gorućih pitanja. SAD bi mogle iskoristiti ovaj pristup da podrže svoj sada već osiromašeni svemirski program npr. izdavanje obveznica "svemirskog programa", koje bi bile isplaćene u slučaju da letilica sa ljudskom posadom stigne do Marsa prema utvrđenom rasporedu i za manje novaca od sume predviđene budžetom. [2]

Dostupni EU fondovi za socijalno preduzetništvo

EaSI (2014-2020) EU Programme for Employment and Social Innovation sa globalnim budžetom od 920 miliona €. Program zapošljavanja i socijalne inovacije (EaSI) je instrument finansiranja na nivou EU, koji promovise visok nivo kvaliteta i održivog zapošljavanja, garantuje adekvatnu i pristojnu socijalnu zaštitu, borbu protiv socijalne isključenosti i siromaštva i poboljšanje uslova rada, koji će trajati u periodu od 2014. do 2020. godine. Program okuplja tri programa Evropske unije, kojima se rukovodi odvojeno između 2007. i 2013. godine: Napredak , EURES i Napredak mikrofinansija.

Od januara 2014. godine, ovi programi podržavaju:

- Modernizaciju zapošljavanja i socijalnih politika- PROGRESS (61% ukupnog budžeta);
- Mobilnost poslovanja- EURES (18% ukupnog budžeta);

- Pristup sredstvima microfinansiranja za socialno preduzetništvo- Microfinance and Social Entrepreneurship (21% ukupnog budžeta).

PROGRESS je namenjen zemljama EU da unaprede primenu lokalnih politika u tri tematske celine:

- Zaposlenost, naročito smanjenje nezaposlenosti među mladima;
- Socijalna zaštita, socijalna inkluzija, kao i smanjenje i prevencija siromaštva;
- Uslovi rada

Ciljevi:

- Razvijanje i distribucija visoko kvalitetnih komparativno analitičkih znanja;
- Omogućavanje efikasne i inkluzivne razmene informacija, uzajamno učenje i dijalog;
- Obezbeđuju finansijsku podršku za testiranje društvenih i radnih tržišnih politikato Obezbeđuju organizacijama finansijsku podršku da razviju svoj kapacitet, promoviše i podrži sprovođenje instrumenata i politike EU.

Kandidati koji ispunjavaju uslove:

- Nacionalne, regionalne i lokalne vlasti, službe za zapošljavanje, specijalistička tela predviđena prema zakonu EU, socijalni partneri, nevladine organizacije, institucije visokog obrazovanja i istraživčki instituti, stručnjaci u oblasti evaluacije i procene uticaja, zavodi za statistiku, mediji;
- Pravo učešća ima 28 država članica EU, zemlje EFTA- EEA (Island, Lihtenštajn, Norveška), kao i zemlje kandidati i potencijalni kandidati u skladu sa opštim regulativama i uslovima u okviru sporazuma zaključenih o njihovom učešću u programima Evropske unije. [14]

COSME je EU program za razvoj konkurentnosti preduzetništva i malih i srednjih preduzeća (MSP), za period od 2014. do 2020. godine, sa planiranim budžetom od 2,3 milijarde evra. COSME će podržati MSP u dole navedenim područjima,

Program za konkurentnost i inovacije (Competitiveness and Innovation Framework Programme (CIP), sa glavnom sferom interesovanja za mala i srednja preduzeća (MSP), podržava inovativne aktivnosti (uključujući i eko inovacije) i omogućava bolji pristup finansijama i pruža usluge poslovne podrške. Podstiče pokretanje i korišćenje informacionih i komunikacionih tehnologija (IKT) i pomaže razvijanju informacionog društva. Takođe promoviše i veću upotrebu obnovljivih izvora energije i koncepta energetske efikasnosti. Svaki program ima svoje specifične ciljeve, čiji je zadatak da doprinesu konkurentnosti preduzeća i inovativnog kapaciteta u konkretnim oblastima, kao što su IKT ili održiva energija:

Program preduzetništva i inovativnosti-The Entrepreneurship and Innovation Programme (EIP)

Program podrške lokalnih politika za razvoj informaciono-komunikacionih tehnologija (IKT) The Information Communication Technologies Policy Support Programme (ICT-PSP)

Evropski program za inteligentnu energiju- The Intelligent Energy Europe Programme (IEE)

Nakon daljih pregovora između Evropske komisije i Srbije, očekuje se da će Srbija ravnopravno učestvovati u programu COSME 2015. godine. [15]

5. ZAKLJUČAK

Afirmacija socijalne ekonomije i socijalnog preduzetništva treba da prevaziđe postojeće pravne i organizacione probleme kako bi se u Srbiji afirmisao novi potencijal za smanjivanje nezaposlenosti i socijalne izolacije. Treba se ugledati i preuzeti neki od modela socijalnog preduzetništva koji se već uveliko uspešno relazuje u nekoj od zemalja Evropske unije. Prevazilaženje predrasuda prema zadrugarstvu kao prevaziđenoj i kompromitovanoj praksi treba da ustupi mesto novom razumevanju ovih organizacionih formi kada se u njima vidi novi potencijal za organizovanje socijalnih usluga, terapiju, rehabilitaciju na osnovama pomoći i samopomoći na lokalnom nivou. Kao što se može i videti iz priloženog dostupni su nam brojni EU fondovi za pokretanje nekog vida socijalnog preduzeća i taj potencijal treba iskoristiti. Socijalna preduzeća su idealno rešenje za gorući problem nezaposlenosti a i neizbežan put u procesu intergacije Srbije u Evropsku uniju.

REFERENCE

- [1] Parun Kolin M., Petrušić N., Socijalna preduzeća i uloga alternativne ekonomije u procesima Evropsih integracija, Evropski pokret u Srbiji, 2008.
- [2] Flipovska A., Đerić A. Đurić A.M., Kreativno preduzetništvo za održivost programa organizacija civilnog društva, POMAK, Timočki omladinski centar, Zaječar, 2015.
- [3] Bornstein, D. How to Change the World: Social Entrepreneurs and the Power of New Ideas. Oxford University Press, 2004.
- [4] Thompson J., Alvy G., Lees A., Social entrepreneurship – a new look at the people and the potential, Management Decision Volume 38, Issue 5, 2000.
- [5] Brinckerhoff P. Mission-Based Management: Leading Your Not-for-Profit in the 21st Century, Business & Economics, 2009.
- [6] Zahra S., Rawhouser H., Bhawe N., Neubaum D., Hayton J., Globalization of social entrepreneurship opportunities, Strategic Entrepreneurship Journal, Volume 2, Issue 2, 2008.
- [7] https://www.ashoka.org/social_entrepreneur
- [8] www.emes.net

- [9] Borzaga C., and Defourny J. The Emergence of Social Enterprise, London and New York: Routledge, 2001.
- [10] Nyssens M., Social Enterprise at the Crossroads of Market, Public Policies and Civil Societies, Universite Catolique de Louvain, Belgium, 2006.
- [11] Kolin M., Uloga neprofitnog sektora i socijalnih preduzeća u novim programima zapošljavanja u knjizi Ekonomija i sociologija Institut društvenih nauka, Beograd, 2007.
- [12] Galera G., The evolution of the co-operative form: an international perspective in Borzaga, C. Spear, R (ed.) Trend and challenges for Co-operatives and Social Enterprises in developed and transitional countries, University of Trento, 2004.
- [13] Kolin, M. Paunovic, Z., Neprofitni sektor i socijalna preduzeća u Milan Podunavac, Godišnjak Fakulteta političkih nauka, Čigoja, Beograd, 2007.
- [14] <http://ec.europa.eu/social/main.jsp?catId=1081&langId=en>
- [15] http://ec.europa.eu/enterprise/initiatives/cosme/index_en.htm

ANALYZING THE DETERMINANTS OF STOCK RETURNS IN NIGERIA USING PARTIAL LEAST SQUARE-STRUCTURAL EQUATION MODELING

Ibrahim Mohammed

Ahmadu Bello University Zaria, Nigeria

Abstract: Understanding the factors that determine stock return is very important to academics and practitioners alike. Identifying these factors have implications for investment and risk management. Hence the objective of this study is to analyze the determinants of stock market return in Nigeria. Using firm-specific data for a sample of 86 firms listed on the Nigerian stock market from 2009 to 2013, the study sought to establish the effect of asset size, profitability, tangibility and growth opportunities on stock return in Nigeria using Smart PLS. The study revealed that asset size, profitability and growth opportunities are significant determinants of stock market return in Nigeria. However, tangibility did not play a significant role in determining return over the period of study. Furthermore, the nature of relationship observed between the significant variables and stock return is positive. this means that the higher are these variables for a firm, the higher is the explanatory power on its stock return. It was therefore concluded that asset size, profitability and growth opportunities explain stock market return in Nigeria.

Keywords: Stock return, PLS-SEM

QUANTIFICATION IN HUMAN RESOURCE MANAGEMENT - SPIRAL MANAGEMENT

Jana Plchova, Lubos Polakovic

Institute of Management of the Slovak University of Technology, Slovakia

Abstract: The objective of the present article is to direct the attention of scientific and expert public towards the existence of new, interesting and successfully implemented approach to the management of firms. The paper is based on the long-term work of the Czech manager and management theorist A. Kopčaj who named his unique opinion on the management of firms the Spiral management. This approach to the management is regarding a firm as a system consisting of the so-called technical and social subsystem, for which are valid different natural laws. The authors of the paper had the possibility to participate and collaborate with the originator of the above-indicated approach to the management of firms in many Slovak and Czech companies. The paper is aimed to clarify and point to the possibilities of utilizing a relatively precise quantification of the human potential of a firm implemented by means of measuring the so-called social entropy offered by this method. However, the Spiral management provides well-rounded philosophy and the instructions for successful management of firm and people which are based on the awareness of never ending development of the knowledge of the laws of nature and society and their application in the practice of the development of the firm. The article based on concrete data, points out the possibility of using principles of spiral management for measuring and managing of human capital by measuring and managing social entropy in the firm.

Keywords: spiral management, Prigogine laws, social entropy, human capital

1. INTRODUCTION

Management theory and practice has been dealing intensively with the research of new more efficient human resource management methods for several years. A lot of new methods were applied successfully in multiple firms, but there is still number of firms which tried a few new methods and they did not bring the promised results.[1]

The ability of managers to use the potential of their employees is currently a crucial factor influencing the success and competitiveness of any company. Especially in the process of economic crisis, firms must quickly adapt to constant changes not only in the local market, but also on the national and international markets. [2]

The most valuable capital in the organization are capable and educated employees. The development of personalities gives employees an occasion to show their abilities on behalf of the organization in which they work.[3]

Skills and willingness of employees to work proactively and creatively in order to achieve the best business results are particularly important for the implementation of the new system into business practice. [4]

Despite the importance of this field of management it can be stated that the theoretical approaches to the management of people rarely help real managers to solve their practical problems.

As the core of this state can be considered the fact that the authors probably have forgotten the basic principles of management of systems in the management of human resources. The principles can be easily summarized in the rule that to manage the system means to identify its initial state in the beginning, then clearly define the target state and finally be able to use the tools to manage the system towards achieving the desired state.

The present article discusses the use of the new original approach to the management that its author, Andrej Kopčaj, called Spiral management. Spiral management, unlike other approaches to human resources management allows companies to quantify parameters not only for the knowledge and technology in the company, but also for the sphere of human capital management that has not been quantifiable so far. The article points out the correlation between the level of company potential and quality of production.

2. COMPANY FROM THE PERSPECTIVE OF SPIRAL MANAGEMENT

Spiral management is based on the assumption that the company consists of two systems: technical system – non-living and social system – living. The part of the company that is subject to law of thermodynamics belongs to the technical part.

Social subsystem brings human energy to the processes taking place in the company. It's a living, open system which the Prigogine's laws, not thermodynamic laws, apply to. It is the very implementation of Prigogine's laws to management that can be considered very unique approach to management, which certainly deserves attention. [5]

According to I. Prigogine condition for the existence of the living, open system is its ability to:

1. obtain energy from the outside
2. eject the entropy into the external environment
3. in the critical increase in the entropy of the external environment to increase its degree of complexity – so adapt to a changing external environment and evolve. [6]

Approach of spiral management enables to manage the company through the management of its potential. From a management perspective we understand the potential of the company as a free (available) energy. We define entropy as non-recoverable fraction of energy. The following applies to the total potential:

$$p_c = 1 - e_c$$

p_c total potential,
 e_c total entropy

Company competitive potential is then divided into two parts – technical and social potential. Unique to this approach is that the potentials defined in this way can be measured by a single variable – entropy. It allows us to compare and combine them into a single, total corporate potential. It can be inferred that the overall potential of the company, thus the energization of the social system and knowledge of the technical system can be expressed as the product of technical and social potential of the company. [7]

The following applies to the total potential and total entropy:

$$p_c = p_t \times p_s$$
$$(1 - e_c) = (1 - e_t) \times (1 - e_s) \text{ then } e_c = e_t + e_s - e_t e_s$$

whereby: p_t potential of technical system

p_s potential of social system

e_t entropy of technical system

e_s entropy of social system

2.1 ENTROPY IN MANAGEMENT

Entropy is a key concept for the management of enterprise which is based on the principles of natural laws. In thermodynamics, the term entropy indicates the degree of system disorder. The concept of entropy is being domesticated in biology, sociology and most recently in management, too. [5]

According to second Prigogine's law the condition for the existence of living systems is their ability to shed its entropy ejecting it into the environment. The level of entropization of social subsystem reflects the degree of disorder of social energy and expresses the extent to which human energy in the system is oriented towards meeting the objectives of the organization as a whole.

In terms of the application of new management methods, this approach is useful in determining the extent to which the enterprise culture is cultivated and the extent to which the staff identify their own goals with the goals of whole organization. Spiral management approach thus allows to diagnose the state of the company and on this basis propose the most appropriate methods or management techniques designed for given starting level of the company.

2.2 TECHNICAL POTENTIAL AND TECHNICAL ENTROPY IN COMPANY

In any company, it is possible to identify basic macro-processes that must be mastered no matter in what field the company carries the business. According Kopčaj there are 7 macro-processes: [7]

1. Marketing/Sale
2. Change management
3. Economy/Finance
4. Purchase/Storage
5. Primary process

6. Logistics/Informatics
7. Administration/Human resources

Each process in the company is operating as part of the whole system and its functionality allows operation of all other processes, too.

It follows from generally applicable laws of thermodynamics that each component of the technical system (machinery, technology, know-how, knowledge...) ages, whether due to physical wear and tear, or due to changes in the business environment. The aging time is manifested by increasing the entropy of the system. The limit state for all components of the technical system is according to the third law of thermodynamics inoperable state, or complete physical and moral wear.

It was shown that in practice it is effective to assess the level of the functionality of individual macro-processes right by way of their malfunction level, therefore, the amount of entropy in the system. The spiral management of this parameter is called technical entropy e_t .

2.3 SOCIAL POTENTIAL AND SOCIAL ENTROPY IN THE COMPANY

Each person, company employee, has a certain amount of his or her life energy. Of course, they are not always capable and willing to provide the firm with the energy. One can prove that every living system may be in one of five energizing conditions. [5]

These five energy states can be characterized as follows:

- I. Creator – changes the system towards higher efficiency by changing its parameters
- II. Innovator – increases system performance within existing parameters
- III. Professional – achieves planned performance within existing parameters
- IV. Slacker – does not achieve targeted performance
- V. Destructor – destroys existing system [6]

By measuring the proportion of company employees in each energy state it is possible to determine the amount of entropy in the social subsystem of the company – so called internal, social entropy. The amount of the social entropy renders the fact, how the system is able to handle the received energy or how much of this energy the system cannot use. [7]

2.4 ENERGIZING STRATEGIES FOR MANAGING HUMAN POTENTIAL

The social system can act as a mechanical or a biological – living. For the successful management of the mechanical system, commands and prohibitions must be set and their compliance must be enforced. In managing biological system we set a supportive environment to exploit the opportunities and eliminate risks. These management practices are not interchangeable and it is therefore necessary to determine what social system should be managed.

To determine the quality of the social system the spiral management uses the parameter HRR [7] – an abbreviation of Human Resources Ratio. We calculate it on the basis of identified energizing states in the company as the ratio of the sums of states that accelerate the organization, and those that hinder the organization.

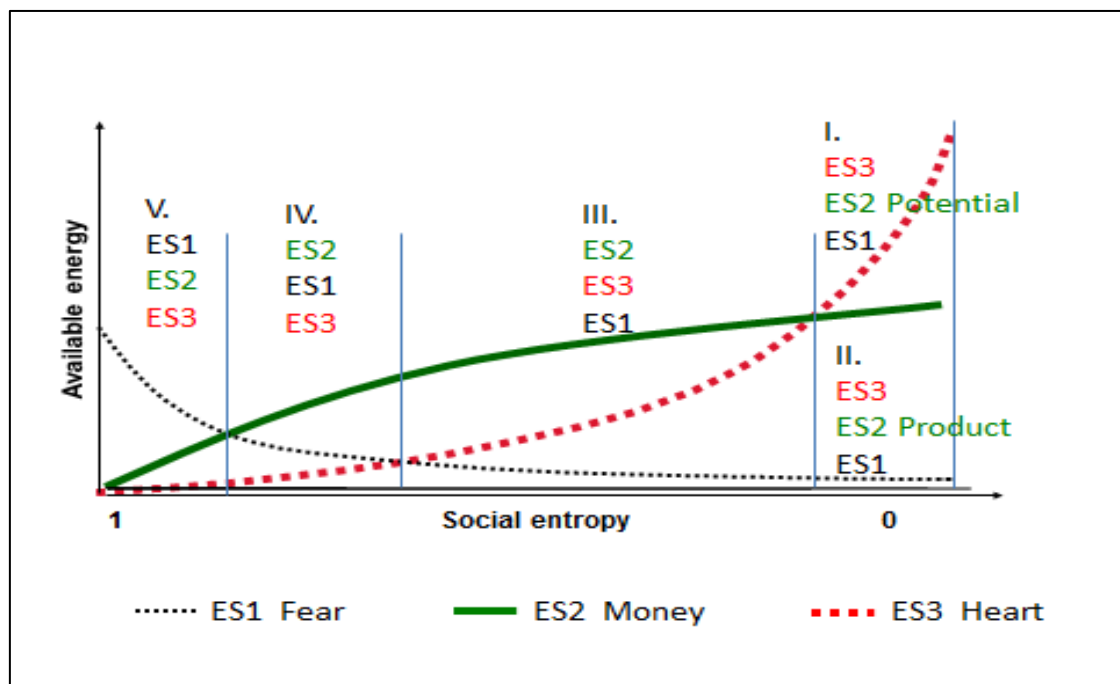
$$\text{HRR} = (I+II) / (IV+V)$$

for $\text{HRR} < 1$ the social system acts as a mechanic system.

for $\text{HRR} > 1$ the social system acts as biological system.

This knowledge allows the management of companies to use such energizing strategies, i.e. such people management methods that respect the initial state in which they are.

There are three basic types of energizing strategies (ES) whose course and use depending on the value of the internal entropy in the company is clearly shown on the graph(Fig.1.)



.Source: author's processing

Figure 1. Energizing strategies

ES1 – negative stimulation by fear of violating and nonfulfillment of orders. The line ES1 shows the progress and effectiveness of this strategy.

ES2 – positive stimulation by reward – money for desirable behaviour or results. The line ES2 shows the progress and effectiveness of this strategy.

ES3 – creating an environment in which the actors share the objectives of the system for which they work and are able to exploit the opportunities or fend off threats from environment, as well. The line ES3 shows the progress and effectiveness of this strategy.

In practice, on the basis of these findings and the measured current value of social entropy it is possible to determine the optimal settings of energizing tools appropriate to given level of social capital.

The possibility of determining the value of non-functioning of both enterprise systems, i.e. to determine the value of technical and social entropy of the company brings completely new perspective to management and opens up unimagined possibilities in this field. In this paper we point out the possibilities of improving the quality of production in the company through the management of potential. [8]

3. THE OBJECTIVE AND THE METHODOLOGY OF THE CONTRIBUTION

In the following, we would like to show a practical example using the principles of spiral management based on data collected in a particular organization in the period of 2014-2015. The principles of systems management remain the same regardless of whether it is a large manufacturing company or non-profit organization. In our example we use data measured in health facility in the private ownership.

We want to point out that the entropy of the system is a parameter by management of which the company can be controlled as a whole. We start from the postulate that to manage the system i.e. get it to the desired state requires to identify its initial state at the beginning, clearly define the target state and be able to use clearly defined tools with which the system can be managed from the initial identified state towards the desired state.

This rule is widely accepted in the management of the technical system, but current practice in the management did not allow the realistic management of the social system, because there was not clearly quantifiable parameter, which would help to measure the state of the social system. Spiral management approach is unique in it that it uses clearly defined quantitative measurements of the state of the social system and uses them for its management.

Until now in the management of the competitiveness of firms it was possible to compare the same fields only. For example, it was possible to predict that the company technologically more advanced had better chances in the competition than the company technologically backward. Similarly, it could be assumed that a company with creative, active employees would win in the economic competition over the firm with unmotivated employees who are not willing to make for the company more than they must. But so far it has been impossible to say to which extent it is possible to eliminate technological backwardness by the activity of people. This is enabled by the proposed approach of the spiral management.

The measurements were carried out in the period of 2014-2015 in the medium size Czech hospital operated by private company. All the measurements necessary for diagnostic of companies, are in practice carried out on a representatively selected sample of about 25-30 company employees. The group consists of top managers, middle managers and workers. The subjective sensational benchmarking comparative questionnaire is used as a method. The first measurement is carried out by a consulting organization and takes a few days a substantial part of which the participants unite as to the vocabulary, the perception and understanding of the different concepts and parameters. Subsequent measurements using the same sample of employees last considerably shorter and can be carried out and evaluated by management

itself. The measured results are processed by methods of statistical evaluation of the results. The measured results are reproducible and accurate enough as a starting point for diagnosing the state and the subsequent management of the company.

4. MANAGEMENT APPLICATION IN PRACTICE

4.1 MEASURING AND MANAGING OF COMPANY'S TECHNICAL SYSTEM

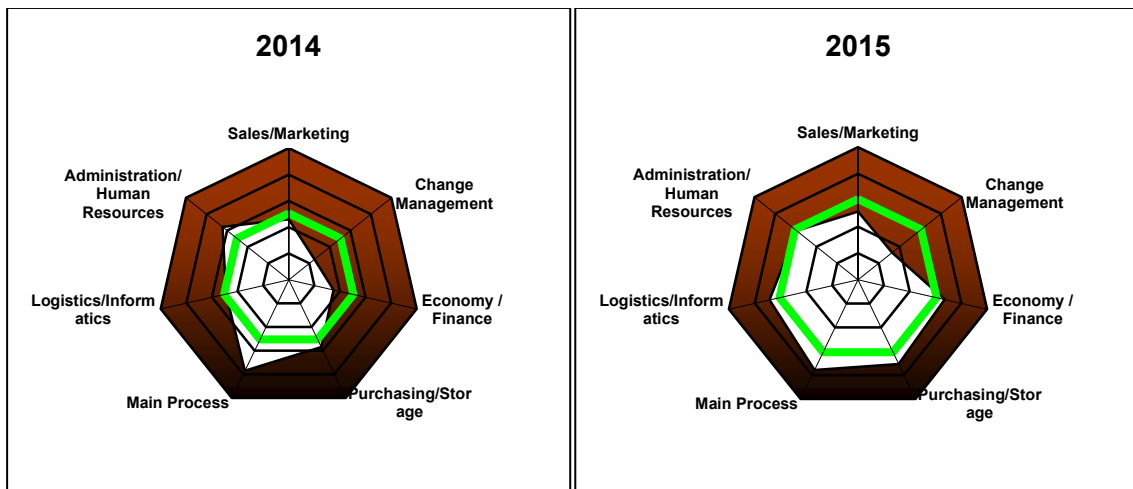
Table 1. The values of entropy for individual processes at the beginning and the end of the period

Process	2014	2015
Sales/Marketing	0,54	0,49
Change Management	0,75	0,67
Economy / Finance	0,65	0,33
Purchasing/Storage	0,43	0,29
Main Process	0,23	0,24
Logistics/Informatics	0,51	0,31
Administration/ Human Resources	0,36	0,41
technical entropy (et)	0,50	0,39

Source: author's research

Measured data show that the processes at the beginning of the monitored period operated at 50% only, while the processes economy/finance were the least functional (entropy 0,65) and change management (entropy 0,75). These results have significant explanatory power of poor management work in the organization that was reflected in the overall unfavourable results throughout the firm.

The figure 2. illustrates measured values of technical entropy in the company.

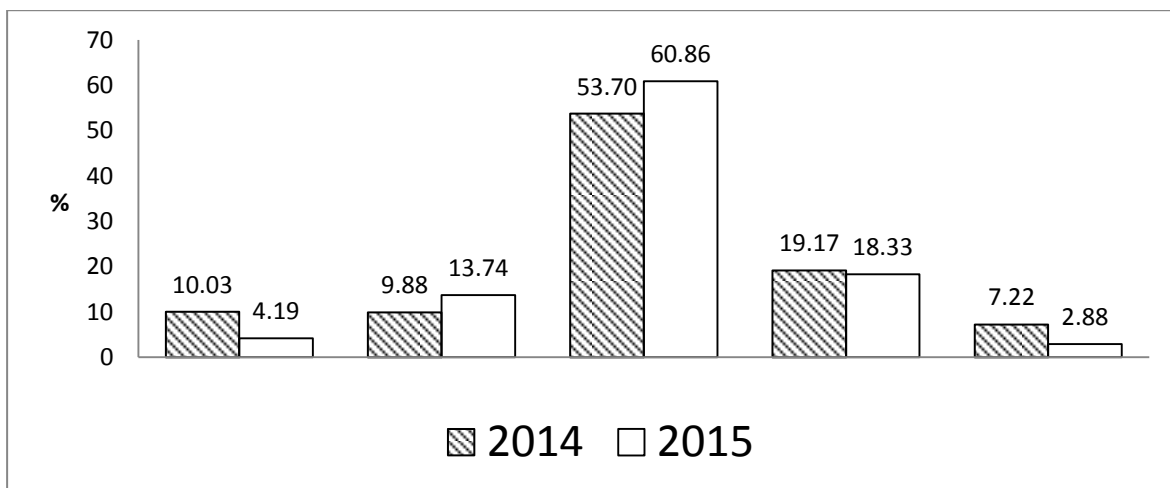


Source: author's research

Figure 2. Technical entropy measured in the company at the beginning and the end of the monitored period

4.2 MEASUREMENT AND MANAGEMENT OF SOCIAL ENTERPRISE

The results measured in the social system at the beginning of the period were even less favourable than in the technical system. Entropy at the beginning of the period was 0,64 which means only 36% use of energy of employees to the benefit of the organization and especially in the mode of passive obedience.



Source: author's research

Figure 3. The measured values of social entropy in the company during the monitored period

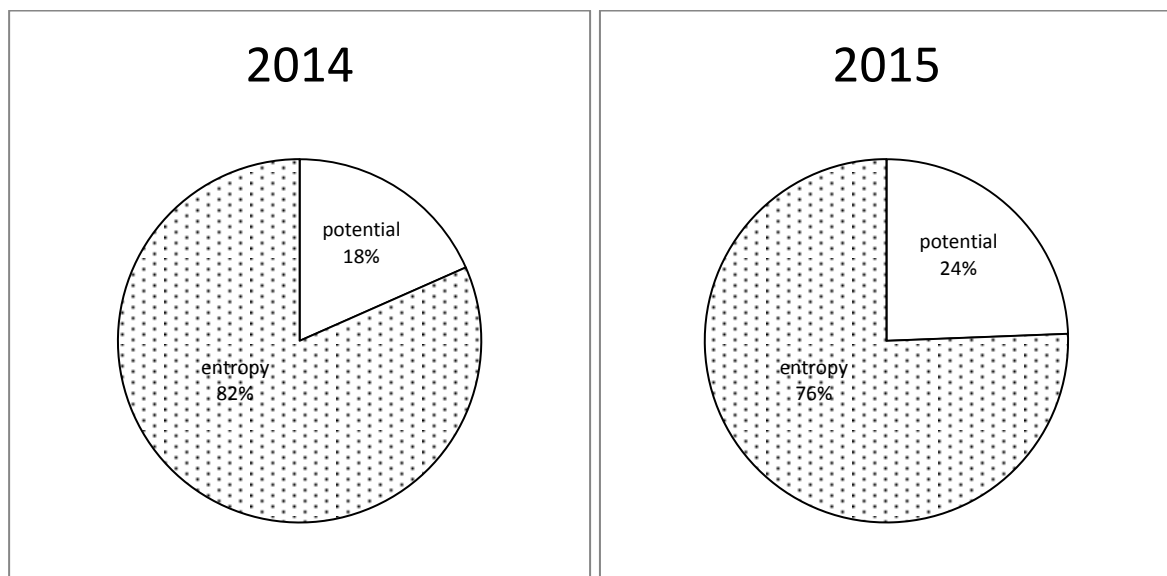
The measured values of potential of both enterprise systems at the beginning of the period resulted in the optimal management methods that management began to implement in

order to improve managed parameters. The spiral management principles in this case resulted in the priority to address dominantly the development of the social system and the two most dysfunctional technical processes in the economy and management of the organization.

4.3 DISCUSSION

At the beginning of the monitored period in 2014 the hospital was in poor economic state and had significant problems with the quality of its services. Deducting value of the total entropy at the beginning of the period in amount of 0,82 means that the organization was able to use only 18% of its potential.

The organization was able to use only 36% of social system energy. The processes operated at 50% only.



Source: author's research

Figure 4 The values of total entropy at the beginning and the end of the monitored period

After a year of management on the principles of spiral management the entropy of the social system was reduced to a value of 0,4, which is already the value above average. The discipline, i.e. execution of orders, and respect for the prohibitions, has significantly improved in the firm. The states damaging a hospital decreased and employees' satisfaction has increased. The entropy of processes decreased to a value of 0,39 after a year of new management. The key managed processes – economics/finance improved from the level of malfunctioning 0,65 to the value of 0,33. The organization was able to use 24% of total potential. That's already above average value that reflected in the growth of the various sub-indicators. The consequence of potential management was that economic indicators but also medical indicators have significantly improved.

5. CONCLUSION

The present paper objective is to call attention of the scientific and professional public on the existence of a new successfully implemented approach to management of companies in practice. Spiral management is in our country diametrically new approach to management, which is based on the respect of the laws of nature accompanying the spontaneous growth of the living and non-living systems. Spiral management uses the management and utilization of the potential of the organization while it allows successful management of not only manufacturing companies but also of organizations not based primarily on the principle of profit taking. The implementation of Prigogine's laws to management that can be considered very unique approach to management, which certainly deserves attention. Measured data show that entropy is a parameter by which it is possible to measure and manage technical and social potential of the company and thus the quality of production.

REFERENCES

1. Zatrochová, M., Herzka, P. Factors influencing the satisfaction of employees on managing the decision-making process in the company. In: *Toyotarity: Elements of the organization's mission*, Dnipropetrovsk 2011, ISBN 966150770-8.
2. Šúbertová, E. Activities of cooperatives in Slovakia during economic crisis. In: *MANEKO Manažment a ekonomika podniku* : Journal of Corporate Management and Economics 1/2014, p. 114--120. ISSN 1337-9488.
3. Kuperová, M. *Relationship between Logistics and Total Quality Management*. In: CO-MAT-TECH 2005. Proceeding of the 13th International Scientific Conference. STU Bratislava, The Faculty of Materials Science and Technology in Trnava. ISBN 80-227-2286-3.
4. Šagátová, S. : Uplatňovanie beyond budgetingu v riadení výkonnosti podnikov In: *Business performance (Výkonnosť podnikov)*. Vedecký časopis VUSEM ročník III, číslo 2/2013, s. 25-34. ISSN 1338-435X.
5. Krempaský, J. Self-development and management.(Samovývoj a manažment). In: *Management a komplexita*. Ostrava: TU Ostrava -CPIT, 2010.
6. Kopčaj, A. *Changes Flow Management. (Řízení proudu změn. Všechním způsobem nevšední rozvoj firmy, zákonitosti a metody řízení proudu změn)*. Ostrava: Silma '90, 1999.
7. Kopčaj, A. *Spiral Management. (Spirálový management)*. Praha: Alfa Publishing, 2007.
8. Kopčaj, A. 7 steps towards excellence.(7 kroků k výjimečnosti). In: *Management a komplexita*. Ostrava: TU Ostrava -CPIT, 2010.

Acknowledgement

This publication has been prepared as a partial output in the research project VEGA 1/0055/13 „Systematization of the impact of factors and conditions of knowledge management in the context of business strategy on work incentives and its reflection in growth efficiency, respectively sustainable level of business activity“.

EVALUATING INDIVIDUAL WEALTH AND ATTITUDE TOWARDS RISK BY PROSPECTIVE RETIREES IN NIGERIA USING PARTIAL LEAST SQUARE-STRUCTURAL EQUATION MODELING

Halimah Sani Sambo

Ahmadu Bello University Zaria, Nigeria

Abstract: Evaluating individual wealth is important for understanding the behaviour of individuals towards risk. The study of individual wealth effect on risk attitude is even more important for prospective retirees as it has implications for their investment planning and choices at retirement. Like in most economies, the role of wealth in determining the risk choices of individuals have become increasingly recognized in terms of investment choices at retirement. In Nigeria, the introduction of the Defined Contributory scheme has brought to the fore the role of prospective retirees in retirement planning. Despite this importance, studies on retirement planning and financing in Nigeria have largely ignored this. Thus, the objective of this paper is to evaluate the effect of individual wealth on attitude to risk of prospective retirees in Nigeria. The study employed a random sample of 3252 prospective retirees to test the effect of savings, borrowings, household values and personal income on the attitude to risk in Nigeria using Smart PLS. All the variables were measured using scales developed for financial capability studies.

Results showed that all the three variables significantly affect individual retirees' risk attitude in Nigeria. It was also observed that the nature of relationship for all the variables is positive, suggesting that the more these variables grow the more riskier investment choices become for prospective retirees in Nigeria.

Keywords: Individual wealth, attitude to risk, PLS-SEM

RFID TEHNOLOGIJA U UPRAVLJANJU ČVRSTIM KOMUNALNIM OTPADOM

Tamara Ognjanović

Tehnički fakultet Bor, Serbia

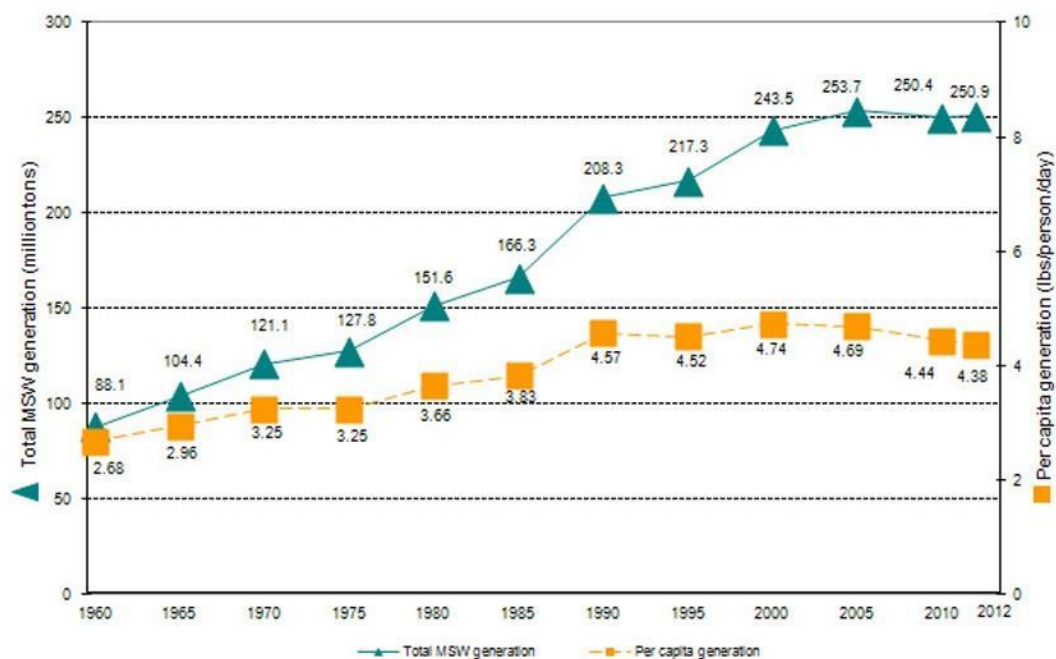
Abstract: The global problem of mankind is the accumulation of waste and inadequate waste disposal and it is a result of the increasing world population, economic growth, rapid urbanization and increasing the living standard of the population. Due to scientific and technological progress and the development of environmental awareness, solving the problem of waste becomes more successful. This paper discusses the application of radio frequency identification technology (RFID) in order to achieve more efficient management of solid waste in urban areas. RFID technology is widely used in some of the highly developed countries of the world and has found wide application in many industrial and non-industrial applications. The rapid development of RFID technology and its impact on the environment is one of the reasons why cities pay more attention to its use in a more efficient collection of waste and recyclable materials.

Keywords: RFID technology, solid waste management

1. UVOD

Savremena civilizacija se u drugoj polovini dvadesetog veka susreće sa problemom otpada koji je nastao kao posledica povećanja svetske populacije, ekonomskog razvoja, intenzivnog razvoja tehničko-tehnoloških dostignuća, ubrzane urbanizacije i povećanog životnog standarda. Aktivnošću ljudi i zadovoljenjem ljudskih potreba u smislu proizvodnje različitih proizvoda kao što su hrana, odeća, mašine, prevozna sredstva i ostalih veštački stvorenih potreba dolazi do povećanja svih vrsta roba i proizvoda, a samim tim dolazi i do povećanja količine i raznolikosti otpadnog materijala.

Posmatrano na lokalnom nivou, gradovi odnosno opštine su te koje su odgovorne za upravljanje otpadom i potrebno je da obezbede efikasan i efektan sistem kako bi zaštitile svoje stanovništvo i životnu sredinu. Međutim, često se suočavaju sa problemima van svojih mogućnosti, uglavnom zbog nedostatka organizacije, finansija i složenosti samog sistema.



Slika 1. Generisana količina otpada u svetu od 1960. do 2012. godine (izvor www.epa.gov)

Iako postoje mnoge definicije za otpad, može se reći da je otpad materijal, proizvod, predmet ili supstanca koja se odbacuje i kao takav predstavlja veliki problem za životnu sredinu. Svaki put kada se neki materijal ili predmet odbaci pokreću se čitavi mehanizmi kako bi se proizveli novi proizvodi, pri čemu se troše novi resursi stvarajući pritisak na celu planetu. Kada se jednom odbaci, predmet postaje otpad i niz operacija se uključuje u postupanju sa njim. Pored uticaja koji otpad ima na životnu sredinu, nemoguće je zaobići ekonomske i socijalne faktore. Otpad je kompleksan problem, teško ga je razumeti, sakupiti verodostojne statističke podatke, regulisati i njime upravljati. Takođe, otpad predstavlja najvidljiviji oblik negativnog uticaja na okruženje za stanovnike, koji su direktno uključeni u napore da se smanji količina otpada, ali i direktno izloženi zagađenjima koje prouzrokuje loše postupanje sa otpadom. [1]

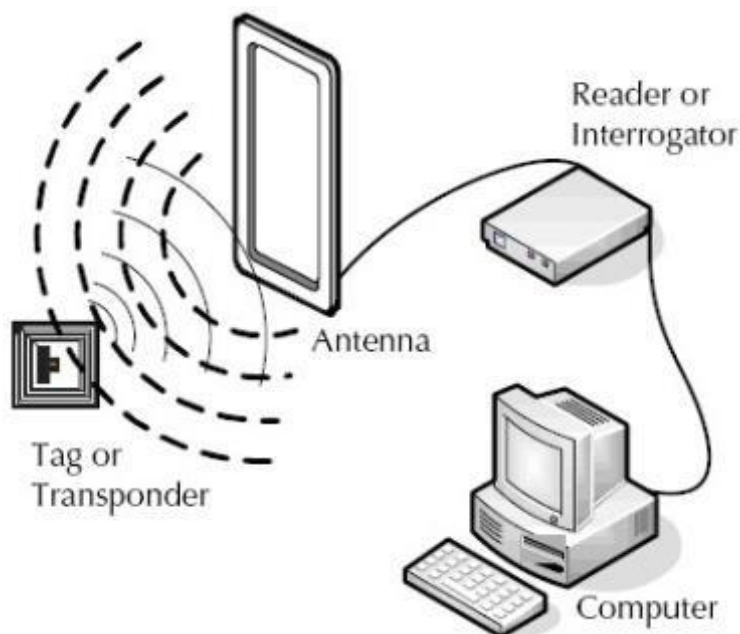
2. TEHNOLOGIJA IDENTIFIKACIJE RADIO FREKVENCIJOM (RFID)

RFID (Radio Frequency Identification) je tehnologija koja koristi radio talase za automatsku identifikaciju pojedinačnih proizvoda. Prve varijante ove tehnologije su korišćene u vojne svrhe još tokom Drugog svetskog rata. Pomoću ove tehnologije je vojska razlikovala svoje letelice od neprijateljskih korišćenjem kodiranih radarskih signala i identifikacionih tagova. Tokom osamdesetih godina RFID tehnologija nalazi veću primenu u aplikacijama za praćenje zbog svoje sposobnosti da prati pokretne objekte. Kao prefinjena tehnologija, sa neslućenim mogućnostima primene, stalno se razvija i spektar mogućih upotreba ove tehnologije se stalno širi.[2]

Danas se RFID tehnologija primenjuje u gotovo svim sektorima privrede i van privrednim aktivnostima. Može se koristiti u bilo kojoj oblasti gde je potrebna obrada podataka. RFID tehnologija se najviše koristi u transportu i logistici, proizvodnji i kontroli. Takođe, može se koristiti kod označavanja životinja, praćenja proizvoda u lancu nabavke [3], kontejnera koji se ponovno koriste [4], delova koji se kreću kroz pogon u proizvodnom lancu [5], praćenje poštanskih pošiljaka i prtljaga u avio-prevozu, naplata putarine, parkinga, karata, kontrola pristupa vozilima, zatim u trgovinama, zaštita vrednih predmeta od krađe, praćenje osnovnih sredstava, kontrola ulaza, praćenje radnog vremena zaposlenih, sigurnosna kontrola pristupa određenim lokacijama.[6]

Značaj RFID tehnologije je primećen i u zaštiti životne sredine [7], tako da su mnogi gradovi u razvijenim zemljama obratili više pažnje na upotrebu ove tehnologije za efikasnije prikupljanje otpada i reciklirajućih materijala. U zemljama Evropske unije politika reciklaže i upravljanje čvrstim otpadom predstavljaju pokretačku silu za eksploataciju RFID tehnologije u upravljanju otpadom.

RFID predstavlja sistem za automatsko prikupljanje podataka koji omogućava prihvatanje i prenos podataka u okviru proizvodnih i poslovnih procesa, bežičnim putem, koristeći radio talase [2]. Svakom pojedinačnom proizvodu se dodeljuje jedinstvena oznaka i na taj način se vrši identifikacija proizvoda od trenutka proizvodnje do konzumacije ili odlaganja na otpad u realnom vremenu. Upotrebom radio talasa, podaci se prihvataju i prenose bežičnim putem od i do proizvodne i poslovne aktivnosti u realnom vremenu. Dobijene informacije o proizvodu korespondiraju informacijama u bazi podataka kompanije ili host sistema.



Slika 2. Komponente RFID sistema

RFID sistem je prikazan na slici 2 i njega čine: računar, RFID čitač, antena i transponder– tag koji sadrži podatke.

RFID čitači se razlikuju po složenosti što zavisi od tipa transpondera sa kojim čitač radi i od potrebnih funkcija. Zadatak čitača je komunikacija sa tagovima i dalji prenos podataka do računara na kome se vrši dalja obrada podataka. Čitač se sastoji od antene i upravljačkog uređaja koji obrađuje podatke i komunicira sa računarom. Jednostavni čitači mogu čitati samo jednu vrstu transpondera i koriste samo jednu frekvenciju, dok oni složeniji koriste različite protokole, omogućavaju selekciju podataka, proveru i ispravku grešaka. Takođe, čitači mogu registrovati više transpondera istovremeno.

RFID čitač moguće je ugraditi u neki drugi uređaj npr. mobilni telefon, tako da može biti fiksni ili prenosni uređaj. Čitači se razlikuju i po dometu koji ostvaruju, odnosno frekvenciji na kojoj rade. Kao i tagovi, postoje čitači sa malim dometom (do nekoliko centimetara), srednjim dometom (do 1 metar), većim dometom (do nekoliko desetina metara ali uz dodatnu antenu). Pored navedenih postoje i čitači koji sadrže potencijometar za podešavanje dometa.

Antena se koristi za pojačavanje signala koji odašilje čitač ka tagu i signala koji tag vraća čitaču, čime se i povećava domet čitanja taga.

Tagovi predstavljaju male čipove koji se nalaze na ambalaži ili na samom proizvodu i predstavljaju bazu podataka koja putuje zajedno sa proizvodom. Reč transponder izvedena je od engleskih reči transmitter /responder, prema funkciji tog uređaja koji na transmisiju čitača odgovara (respond eng.) podatkom. Transponder je nosilac podataka o proizvodu. Osnovne komponente transpondera su mikročip koji sadrži podatke u vidu brojeva ili slova koji služe za prepoznavanje proizvoda i antena za komunikaciju bakarna žica odnosno kalem, koji su zaliveni u kućištu otpornom na uticaj okoline. Takođe, opciono može da sadrži i izvor napajanja npr. baterija. Oni se mogu naći u raznim oblicima: u vidu priveska raznih oblika, narukvice, okrugle ili kvadratne pločice, magnetne kartice, nalepnice (smart label) ili u nekom drugom obliku u zavisnosti od njegove primene.

Deo sistema je i računar na kome se nalazi odgovarajući softver i baza podataka o RFID tagovima, RFID čitačima i pravilima za izdavanje komandi.

U zavisnosti od načina napajanja tagovi se dele na aktivne, polupasivne i pasivne. [8] Aktivni tagovi poseduju svoj izvor napajanja u vidu baterije, koja omogućava neprekidno slanje signala ka čitaču. Oni imaju mnogo veći domet od pasivnih i polupasivnih tagova. Aktivni tag šalje signal čitaču uprethodno definisanim intervalima. Ovi tagovi su malo većih dimenzija od ostale dve vrste tagova, ali imaju znatno veći domet do nekoliko desetina metara. Zbog postojanja baterije cena ovih tagova je znatno veća od cene pasivnih i polupasivnih.

Polu-pasivni tagovi imaju bateriju koja napaja čip koji se nalazi u njima, ali da bi ostvarili komunikaciju sa čitačem potrebna im je dodatna energija koju dobijaju od čitača kada se nađu u njegovom dometu.

Pasivni tagovi ne sadrže bateriju, odnosno nemaju svoje napajanje već za komunikaciju sa čitačem koriste energiju koju odašilje sam čitač kada se nađu u njegovom dometu. Za razliku od aktivnih tagova pasivni tagovi nisu stalno aktivirani, već se aktiviraju tek kada se nađu u polju koje stvara čitač odašiljući radio talase odgovarajuće frekvencije. Pasivni tagovi su manjih dimenzija od aktivnih tagova jer ne sadrže bateriju. Takođe, domet

pasivnih tagova je znatno manji od aktivnih i iznosi do pola metra. Cena ovih tagova je mnogo niža od cene aktivnih tagova jer je visoka cena aktivnih tagova uslovljena postojanjem baterije, koju pasivni tag nema.

Da bi se ostvarila komunikacija između taga i čitača, moraju biti podešeni na istu frekvenciju. Najčešće korišćene frekvencije su niske oko 125KHz, visoke 13,56 MHz, ultravisoke UHF 860 – 960 MHz i 2,45 GHz. Udaljenosti za nisku frekvenciju su do 30cm do 1m za visokofrekvencijske, do oko 6m za UHF transpondere.

3. PRIMENA RFID TEHNOLOGIJE U UPRAVLJANJU ČVRSTIM OTPADOM

Čvrsti otpad uključuje sve čvrste ili polučvrste materijale za koje vlasnik smatra da nemaju upotrebnu vrednost zbog koje bi ih zadržao. Upravljanje ovim otpadnim materijalom je fundamentalna osnova svih aktivnosti uključenih u upravljanje otadom, bilo da je planiranje na lokalnom, regionalnom ili državnom nivou. Upravljanje čvrstim otpadom može biti definisano kao disciplina koja uključuje kontrolu nastajanja, čuvanja, sakupljanja, transfera i transporta, procesiranja i odlaganja čvrstog otpada. [9]

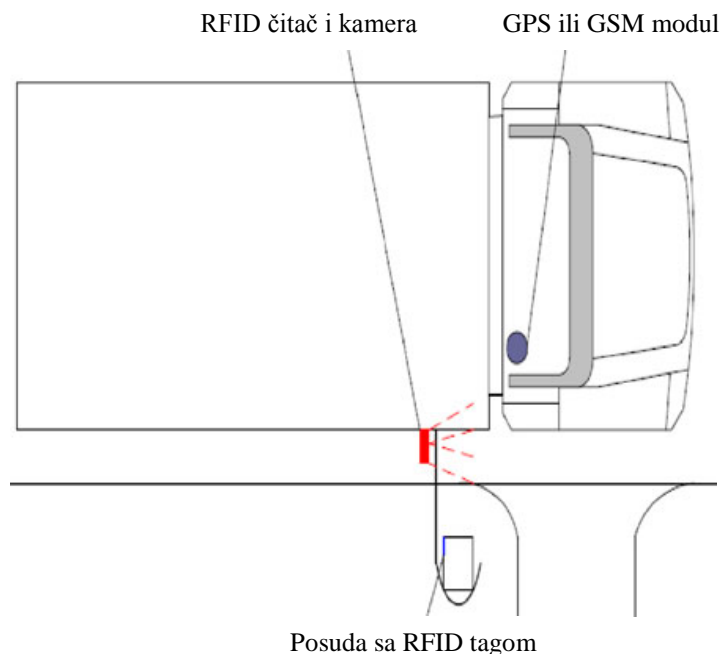
Većina potrošača i proizvođača ne razmišlja o otpadu nakon njegovog odlaganja, međutim, onima koji su zaduženi za upravljanje otpadom veoma su važne informacije o prikupljenom otpadu, o mestu nastanka, količini i kretanju otpada. Praćenje otpada je veoma spor, skup i naporan proces. Ovaj proces moguće je olakšati primenom RFID tehnologije.

U posudi za odlaganje otpada ugrađuje se RFID tag koji je identifikator sa jedinstvenim brojem koji omogućava sistemu da tačno prepozna vreme, mesto pražnjenja i identifikaciju vlasnika posude. Posude za otpad se proizvode u raznim oblicima, veličinama, mogu biti od različitih materijala, ali zajedničko im je da su sve izložene surovim uticajima okoline. Toplota, hladnoća, sneg, led kao i grubim rukovanjem, padanjem, obaranjem bilo da je od strane ljudi ili kamiona za odnošenje smeća. Takođe, na njih utiču i hemijske reakcije otpada. Uprkos tome, od posuda za otpad se očekuje da traju decenijama. Iz navedenih razloga, RFID tag se nalazi u čvrstom plastičnom kućištu i ugrađen je u posudi ili kontejneru kako bi bio zaštićen od spoljašnjih uticaja i od hemijskih uticaja otpada.

RFID čitač i antena se nalaze u vozilu za odnošenje otpada i spojeno je sa računarom. Prilikom pražnjenja posude za otpad RFID čitač pročita podatke sa RFID taga odnosno jedinstveni identifikacioni broj vlasnika, adresu kao i vreme pražnjenja posude osim toga na tagu se mogu naći i podaci o vrsti posude, njenoj težini. Pročitani podaci se šalju direktno na server koristeći bežičnu vezu, čuvaju se u čitaču ili na ugrađenom host kontroleru u vozilu, kasnije se podaci mogu ubaciti u centralni sistem upravljanja otpadom. Pomoću RFID tehnologije kao i GPS sistema pouzdano se zna mesto i vreme svakog pražnjenja posude. Formirani izveštaji daju precizan podatak datuma i vremena kada je posuda ispražnjena i koliko puta je ispražnjena u određenom vremenskom periodu, što omogućava izračunavanje količine otpada radi izdavanja računa vlasniku posude. Na taj način bi vlasnik plaćao uslugu prema količini generisanog otpada, a ne fiksno.

U radu grupe autora M. Arebey, M.A. Hassan i ostalih [10] prikazana je integracija komunikacionih tehnologija u sistem za monitoring čvrstog otpada RFID tehnologija, sistem za globalno pozicioniranje GPS (Global Positioning System), sistem za prenos podataka

GPRS (General Packet Radio Service) i geografski informacioni sistem GIS (Geographic Information System) i kamera. Cilj je bio poboljšanje usluga korisnicima u odvoženju otpada, procena odnosno merenje količine generisanog otpada po posudi bez direktnog učešća vozača vozila. Prikazani sistem se sastoji od RFID taga ugrađenog u posude, RFID čitača postavljenog na vozilu, GPRS/GSM kao web servera i GIS kao map servera, baze podataka i kontrolnog servera. Na slici 3 prikazano je vozilo opremljeno napred navedenim sistemom.



Slika 3. Vozilo za odvoz smeća opremljeno RFID čitačem

Povezivanjem sistema identifikacije korisnika i sistema za naplatu otpada moguće je napraviti listu neplatiša odnosno listu posuda za koje nisu plaćeni računi. Na taj način može se znati koja je posuda sa nepodmirenim obavezama tako da radnik može ostaviti upozorenje vlasniku o neplaćanju ili sistem može odbiti pražnjenje posude.

Prikupljanjem podataka u određenom vremenskom periodu, mogu se tačnije odrediti potrebe pojedinog područja odnosno ulice što bi dovelo do optimizacije rada, preciznije definisalo rute odvoženja otpada, izvršila se preraspodela rada. Osim toga, pomoću RFID identifikacije moglo bi se tačnije ustanoviti čiji je otpad gde i kada odložen na deponiju. Na osnovu dobijenih podataka, može se izvršiti statistička obrada količine i vrste otpada po tipu, području, vremenu radi planiranja rada deponija i pripreme za studiju o isplativosti reciklaže.

Količina čvrstog otpada je veoma bitna za proces upravljanja otpadom. Prilikom odvoženja otpada potrebno je izvršiti merenje posude i to se vrši tzv. dinamičkim merenjem odnosno merenjem u pokretu. Vaga je montirana na vozilu, vozilo radi što znači da vaga nikako nije mirna, već se trese kako radi motor i hidraulika. Vozilo ne mora biti na ravnoj površini, jer je moguće da se posuda prazni na uzbrdici ili nizbrdici. Merenje otpada se mora odvijati dok se posuda diže prema poziciji za pražnjenje i iz tog razloga vaga poseduje žiroskop i može izračunati nagib posude, trenutno meri otpad i nema zastoja u radu, nije osetljiva na teške uslove, niske ili visoke temperature. Vaga je spojena sa sistemom za

identifikaciju tako da se podatak o težini zajedno sa ostalim podacima sa RFID taga prenosi sistemu za dalju obradu.

U evropskim zemljama se već duže vreme koristi princip “plati kad baciš” što je dovelo do značajnog pomaka u svesti građana koji su više pažnje obratili na sastav bačenog otpada i odmah vršili selekciju. U Evropi je ovakav sistem uzrokovao značajan porast stope recikliranja u domaćinstvima. Predviđa se da će korišćenje RFID tehnologije postati obavezno u cilju sprovođenja programa reciklaže otpada, odnosno da će svi proizvodi morati imati RFID tagove što bi olakšalo njihovo korišćenje, posebno na kraju životnog ciklusa proizvoda.

Takođe, RFID tehnologija može da obezbedi identifikaciju svake komponente otpada pomoću RFID taga koji se očitavaju u isto vreme zajedno sa RFID tagom, koji je postavljen na posudi za otpatke, pomoću RFID čitača na vozilu. U trenutku odlaganja materijala koji može da se reciklira moguće bi bilo identifikovati ga, zatim podaci dobijeni na ovaj način mogu da se prenesu kroz centralni sistem do trgovaca sekundarnim sirovinama, kao i drugim zainteresovanim stranama, kao što su internet servisi za prodaju proizvoda, ili institucije nadležne za opasan otpad. Na taj način moguće je proizvod odnosno materijal, koji može da se reciklira ili ponovo upotrebi nakon prethodnog tretiranja, preuzeti iz kontejnera za otpatke pre sakupljanja otpada za koje je najčešće zaduženo gradsko preduzeće. Američka kompanija RecycleBank je uvela novinu da kada kompanija preuzme materijale koji mogu biti reciklirani utvrdi se njihova težina i korisnicima pošalju kuponi u vrednosti recikliranog otpada. Osim toga edukacijom korisnika ova kompanija korisnike nagrađuje poenima koje takođe mogu utrošiti.

RFID čitač može da poveća stopu reciklaže različitih vrsta komponenti otpada kao što su baterije, elektronski otpad, opasne materije i vredni reciklažni materijali. Sortiranje različitih vrsta baterija moglo bi da bude jeftinije i lakše uz korišćenje RFID taga koji je postavljen na baterije. RFID tagovi postavljeni na elektronskim aparatima mogli bi sadržati informacije o mogućnosti demontaže, sadržaju i vrsti sastavnih elemenata, načinu selekcije komponenti pri demontaži i mogućnosti ponovne upotrebe pojedinih elemenata elektronskih aparata (npr. bela tehnika kod kojih je kućište element koji je moguće ponovo upotrebiti).

4. ZAKLJUČAK

Oblast zaštite životne sredine je veoma važna, a njen kvalitet ne zavisi samo od države, lokalne vlasti, komunalnih preduzeća nego i od samih građana. Potrebno je imati odgovoran odnos prema okolini i otpadu, razvijati kulturu pravilnog postupanja sa otpadom i na taj način imati zdravu i čistu okolinu.

Efikasnom sistemu upravljanja otpadom u velikoj meri pomaže razvoj tehnike i tehnologije. Korišćenjem RFID tehnologije u uslugama sakupljanja otpada ne samo da se povećava efikasnost upravljanja otpadom kroz automatizaciju, nego se i povećava odgovornost prema životnoj sredini. Ovo su glavni pokretači koji uzrokuju da mnogi gradovi obrate više pažnje na unapređenje svojih organizacija za upravljanje gradskim čvrstim otpadom korišćenjem RFID tehnologije. Ovom tehnologijom se povećava pouzdanost i javno prihvatanje procesa naplaćivanja korisnicima usluga odnošenja otpada.

REFERENCE

1. V. Božanić, B. Jovanović, Sistem menadžmenta otpada, FON, Beograd, 2012, str. 8
2. D. Hunt, A. Puglia, M. Puglia, RFID-A Guide to RadioFrequency Identification, John Wiley & Sons, 2007.
3. S. Lewis, A basic introduction to RFID technology and its use in the supply chain, Laran RFID, 2004.
4. L. Shutzberg, Radio Frequency Identification (RFID) In the Consumer Goods Supply Chain, Rock-Tenn Company, 2004
5. R. Want, An introduction to RFID Technology, IEEE Pervasive Computing, vol. 5, no. 1, pp. 25-33, Jan.-Mar. 2006.
6. R. Weinstein, RFID: A Technical Overview and Its Application to the Enterprise, IT Professional, Vol. 7, No. 3, June 2005, pp. 27-33.
7. V. M. Thomas, Environmental implications of RFID, Electronics and the Environment, 2008.
8. J. Wyatt, RFID Technology Selection for Waste Management Applicatins, Texas Instruments, April 2009.
9. M. Ristić, M. Vuković, Upravljanje čvrstim otpadom, Bor, 2006
10. M. Arebey, M.A. Hannan, H. Basri, R.A. Begum, H. Abdullah, Integrated technologies for solid waste bin monitoring system, Environ Monit Assess. 2011.

MODERN APPROACH OF MARKETING COMMUNICATIONS

Aleksandra Vuković¹, Dejan T. Riznić², Milovan Vuković², Danijela Durkalić²

¹High Railway school Belgrade; ²University in Belgrade, Technical Faculty in Bor, Serbia

Abstract: Marketing is a modern business concept that stands out as the dominating way of business thinking and action in today's successful companies. The emergence of new forms of modern communication has influenced the fact that the professional public begins to stand out position on the imminent end of direct contacts and direct sales. As the main reason for that, we can underline high level of costs associated with this form of marketing communication as well as the emergence of technically sophisticated mass media that allow personal communication with significant savings (Internet etc.). These changes have caused that the term promotion in the marketing mix is replaced with the term communication. One reason for this is the fact that there are often addressed remarks on account of promotion for its suggestive and manipulative character. Communication, on the other hand, points to the importance of establishing and maintaining contacts with customers but also with all the others with whom the company has contact, through the establishment of two-way connections and exchange of information, primarily by modern means and forms of communication.

Keywords: marketing, integrated marketing communications, promotion.

1. UVOD

Kada je marketing postao dominantna poslovna koncepcija pojavio se veliki broj teorijskih koncepata poput društvenog marketinga, upravljanja kvalitetom (TQM) i totalne satisfakcije potrošača, čime se javila potreba za boljom komunikacijom, ne samo sa potrošačima, već i ostalim zainteresovanim za poslovanje preduzeća. Početkom devedesetih se uvidelo da komuniciranje u marketingu ima presudan uticaj na razvoj odnosa sa potrošačima i stvaranje lojalnih kupaca. Tada se začeo još jedan novi koncept u marketingu – integrisane marketing komunikacije (IMK), kao izraz težnje za uspostavljanjem što bolje interakcije između preduzeća, potrošača i ostalih zainteresovanih strana. Termin promocija kod koncepta marketing miksa 4P, koji je do tada figurirao, zamenjen je terminom komuniciranje. Jedan od razloga za to jeste činjenica da su na račun promocije često upućivane primedbe da je sugestivnog, pa čak i manipulativnog karaktera.

Savremeni autori komuniciranje i marketing posmatraju kao dva paralelna procesa koji se, u osnovi, sastoje od sličnih elemenata. Osnovni elementi procesa komuniciranja su: (1) pošaljilac poruke, (2) poruka, (3) kanal kroz koji poruka prolazi, (4) smetnje koje mogu negativno da utiču na prijem, (5) primalac poruke i (6) povratna veza koja se uspostavlja između pošaljioaca i primaoca. U marketing procesu svakom elementu procesa komuniciranja odgovara neki od elemenata marketinga, i to sledećim redom: (1) preduzeće, (2) proizvod, (3)

kanali distribucije, (4) konkurencija, (5) potrošač i (6) prodaja (zajedno sa servisom za opsluživanje potrošača i istraživanje marketinga) (slika 1)[1, str. 6].

U prilog prethodno iznetoj tezi govori i pristup marketing komunikacijama u savremenim uslovima u kojima se naglašava komunikativna uloga svakog pojediong elementa marketing miksa. Uočeno je da pored promotivnih aktivnosti preduzeće komunicira i svojim proizvodima, cenama i načinima distribucije. Svaki instrument marketinga kupcima prenosi odgovarajuću informaciju. Proizvod komunicira svojim fizičkim karakteristikama kao što su oblik, pakovanje, boja i druga estetska obeležja, ali i svojim kvalitetom, odnosno mogućnošću da zadovolji potrebu potrošača i ispuni i/ili prevaziđe njegova očekivanja. Cena prenosi informaciju o kvalitetu, tako da potrošači nisku cenu povezuju sa niskim kvalitetom i obrnuto. Prilikom odlučivanja o kupovini potrošač razmišlja o ceni koju je spreman da plati za taj proizvod, određujući time praktično koliko taj proizvod za njega vredi. Ukoliko je njegova stvarna cena mnogo niža, potrošaču to može govoriti da je reč o nekvalitetnom proizvodu, dok ukoliko je ona mnogo viša, to mu može stvoriti negativnu predstavu o namerama preduzeća.



Slika 1. Paralela između komuniciranja i marketinga [1, str. 6]

Distribucija takođe deluje u pravcu izgradnje imidža preduzeća i njegovih proizvoda, pa nije ista informacija koju prenosi ekskluzivni sistem distribucije i sistem intenzivne distribucije; drugačije komunicira preduzeće koje razvija sopstvenu maloprodajnu mrežu od preduzeća koje koristi veliki broj posrednika.

2. PROMOTIVNI MIKS ILI IMK

Potrošači danas dobijaju informacije o preduzeću iz mnogo više izvora nego što su to preduzeća do sada pretpostavljala ili uzimala u obzir. Osim planiranih poruka koje preduzeće upućuje na različite načine preko brojnih medija koji su mu na raspolaganju, potrošači informacije dobijaju i iz šireg okruženja i nezavisnih izvora informisanja kao što su prijatelji, poznanici, interesne grupe i slično. Preduzeća nastoje da kontrolišu različite izvore informisanja potrošača. U tom cilju oni danas primaocu poruka pronalaze unutar različitih segmenata javnosti. Savremeno preduzeće komunicira sa sve širim krugom pojedinaca, grupacija, organizacija i institucija. Javnost od čijeg stava prema preduzeću može da zavisi njegova sudbina više ne čine samo potrošači, nego i zaposleni radnici, vlasnici i akcionari, novinari, predstavnici vlade, predstavnici lokalne zajednice, te razne interesne grupe.

Promocija kao jedan od četiri osnovna instrumenta marketinga, čija je komunikativna uloga najvidljivija, tokom više decenija korišćena je kao tradicionalni oblik koji uglavnom prenosi poruke u jednom smeru – od preduzeća ka velikom broju kupaca. Celokupna promotivna aktivnost je zbog toga pre bila ubeđivačka nego komunikativna. Od nedavno dolazi do izvesnih promena u shvatanju promotivnih aktivnosti. Razvijaju se novi instrumenti promocije i novi način komuniciranja, broj ciljnih publika kojima se preduzeće obraća se širi, insistira se na uspostavljanju dvosmerne komunikacije i ličnog odnosa sa pripadnicima ciljnih grupa. Novi pristup promociji zasniva se na razmeni informacija između preduzeća i njegovih ciljnih grupa, što uslovljava razvoj koncepta IMK koji u najvećoj meri pokriva oblast promocije, ali i prevazilazi njene okvire. Upravo koncept IMK posebno ističe značaj marketing komuniciranja za uspeh preduzeća na tržištu.

Komuniciranje s potrošačima je sve do poslednje decenije prošlog veka bilo zasnovano na promotivnom miksu, kao strateškoj kombinaciji četiri osnovna oblika promocije: (1) propagande, (2) lične prodaje, (3) unapređenja prodaje i (4) publiciteta. Nakon pojave masovnih medija, propaganda je dugo bila dominirajući oblik promocije. S pojavom novih tehnoloških rešenja koja su omogućila uspostavljanje novih načina komuniciranja s potrošačima, razvijaju se i novi oblici promocije. Sve veći društveni značaj i odgovornost preduzeća uticali su na to da ona shvate neophodnost i komuniciranja sa širom javnošću. Kako bi se odgovorilo na uočene promene javila se potreba za preispitivanjem koncepta promotivnog miksa. Pokušaj njegovog redefinisavanja išao je u pravcu proširenja promotivnog miksa uključivanjem novih oblika promocije i integrisanja svih njegovih instrumenata; upravo na toj ideji zasnivao se koncept IMK. Ovim konceptom obuhvaćeni su svi postojeći ali i novi oblici komuniciranja koji bi trebalo da budu koordinirani tako da se različitim ciljnim publikama, putem različitih oblika komuniciranja i kroz različite medije, uputi konzistentna poruka o samom preduzeću i njegovim proizvodima ili uslugama.

Krajem osamdesetih godina 20. veka, prateći promene na tržištu i u društvu, veliki oglašivači počinju da uviđaju prednosti koordiniranog pristupa razvoju promotivne strategije. U nastojanjima da se objedine i usaglase različiti oblici promocije, prepoznaje se šansa za povećanjem efikasnosti komuniciranja. Promotivna strategija, koja se zasnivala na odgovarajućim strategijama pojedinih oblika promocije, zamenjuje se jedinstvenom komunikativnom strategijom preduzeća. Pri tome se polazi od ideje da se u kreiranju

strategije komuniciranja sa ciljnim publikama krene obrnutim redosledom. Umesto objedinjavanja više različitih strategija promotivnih instrumenata u jednu, pristupa se polazeći od jedinstvene strategije izvođenju pojedinačne za svaki oblik komuniciranja [1].

Promociju, kao termin, sve više zamenjuje novi pojam marketing komuniciranje, a naglasak se stavlja na uspostavljanje međusobnih odnosa između preduzeća i njegovog okruženja, odnosno ciljnih grupa koje ga sačinjavaju a okrenute su tržištu. U uspostavljanju takvih odnosa smatra se da komuniciranje, kao proces razmene informacija, ima ključnu ulogu.

Promene u promotivnom miksu, kao i nepobitne činjenice o značaju komuniciranja u marketingu, dovele su do toga da se početkom devedesetih godina 20. veka u teoriji marketinga počeo razvijati koncept IMK. Uzroci ideje sa integrisanjem marketing komunikacija, međutim, mnogo su dublji i povezani su sa narastajućom praksom povezivanja marketing agencija u cilju pružanja šireg spektra usluga. Ideja je bila da se za račun klijenata kreira kampanja kojom će biti objedinjeni različiti oblici komuniciranja i različiti mediji. Krilaticom „jedan izgled, jedan zvuk” (*one site, one sound*, engl.) ukazivalo se na prednosti ovakvog pristupa koji treba da omogući da do ciljne publike stigne informacija o preduzeću. Razvojem koncepta IMK zapravo je učinjen pokušaj teorijskog preispitivanja novog pristupa promociji, te iznalaženje rešenja koja bi njegovu praktičnu primenu učinili efikasnijom i efikasnijom.

U uticaju brojnih faktora koji su uslovlili pojavu koncepta IMK sprovedena su opsežna istraživanja – iz njih uglavnom provejava optimizam kad je o samom konceptu reč, kako u teoriji marketinga, tako i u praksi propagandnih agencija. Doduše, nekolicina autora je zauzela veoma kritički odnos prema konceptu IMK. Sve u svemu, može se konstatovati da su integrisane marketinške komunikacije prihvaćene kao alternativni termin za promociju; ova sintagma često se sreće u naslovima najnovijih udžbenika, kao i u literaturi teorijskog i praktičnog karaktera u oblasti marketing komuniciranja.

3. MARKETING ODLUČIVANJE I KOMUNIKACIJA

Bez efikasnog programa marketing komunikacije strategija marketinga ne bi bila uspešna. Ciljni potrošači moraju biti svesni proizvoda i njegovih prednosti, kako bi bili podstaknuti da preduzmu akciju. Stvaranje svesti, razumevanje i interesovanje su nophodne faze prilikom izgradnje visokih nivoa odgovora samih potrošača. Efikasna komunikacija je osnovni cilj većine oduka koje se odnose na promociju. Posao marketing-menadžera je da kombinuje različite forme promotivnih aktivnosti za efikasno razmenjivanje specifičnih poruka kompanije sa ciljnim potrošačima, partnerima, stejkholderima i, uopšteno, sa širom javnošću. Promotivni miks sadrži dosta komunikacionih aktivnosti kao što su reklamiranje, prodajna promocija, lična prodaja, odnosi s javnošću (PR) i direktni marketing.

Celokupan program marketing poslovne komunikacije, koji se zove promocioni miks, sastoji se od: (1) oglašavanja, (2) lične prodaje, (3) prodajne promocije i (4) PR delovanja. Odluke u vezi oglašavanja su one koje su najčešće uslovljene kulturnim razlikama različitih zemalja. Potrošači reaguju u skladu sa njihovom kulturom, stilom, osećanjima, sistemom vrednosti, stavovima, verovanjima i percepcijom, a funkcija oglašavanja je da predstavi ili

prenese kvalitet proizvoda i usluga u skladu sa potrebama potrošača, željama i težnjama. Žalbe, simboli, ubedljivost pristupa i druge karakteristike jednog oglašavanja moraju se podudarati sa kulturnim normama ako se stremi delotvornosti oglašavanja. Ovo je u mnogim slučajevima neostvarivo zbog jezičkih i regulatornih razlika između nacija, ili razlika u medijskoj dostupnosti.

Nasuprot tome, tzv. multi-domestic reklamiranje je međunarodno reklamiranje namerno prilagođeno pojedinim tržištima i ciljnim grupama u smislu poruka i/ili kreativnih izvršenja. Donosilac odluke u globalnom okruženju se suočava sa nekoliko problema i to:

Kako će rasporediti dati budžet za reklamiranje na različitim tržištima?

Kakve će se poruke koristiti na različitim tržištima?

Koji će mediji biti odabrani?

Međutim čak i pre rešavanja navedenih pitanja, oglašivač mora da definiše ciljeve oglašavanja.

Većina menadžera pristupa globalnom oglašavanju sa namerom korišćenja globalnog dometa medija i sličnosti poruke da poboljša svest i na jedinstven način pozicionira brend ili proizvod. Putnik koji prepozna brend oglašen u nekom stranom letovalištu može da obrati više pažnje na njega tamo, nego što bi on ili ona to učinili kod kuće.

Intenzivna takmičenja na svetskim tržištima i povećanje sofisticiranosti inostranih potrošača dovela je do potrebe za sofisticiranim marketing strategijama. Povećani troškovi, problem koordinacije programa za oglašavanje u mnogim zemljama, kao i želja za širu kompaniju ili sliku proizvoda prouzrokuju multinacionalne kompanije (MNC) koje traže veću kontrolu i efikasnost bez žrtvovanja. Naime, efekti promotivne strategije mogu da budu izloženi opasnosti od strane mnogih faktora koji moraju biti sigurni da se ne može kontrolisati predviđeni uticaj. Međunarodni rukovodioci koji razumeju proces komunikacije su bolje opremljeni da rukovode na raznolik način suočavajući se sa međunarodnim promocijskim programom.

Danas se promocija prodaje obavlja putem različitih promocija i svaka teži da se prikaže ciljnoj javnosti i nudi mogućnost za dobijanje aktivnog odgovora. Promocija prodaje podrazumeva marketing aktivnosti koje stimulišu kupovinu potrošača i poboljšavaju efikasnost i saradnju prodavca na malo ili posrednika. To su kratkoročni naponi usmereni ka potrošaču ili prodavcu na malo kako bi se postigli specifični ciljevi, kao što su isprobavanje proizvoda od strane potrošača ili direktna kupovina, predstavljanje prodavnice potrošaču, dobijanje slike o prodajnim mestima, ohrabrivanje prodavnica da prave zalihe proizvoda i podsticanje reklamiranja i ličnih napora u prodaji.

Uloga odnosa s javnošću je stvaranje dobrih odnosa sa popularnim štampanim medijima i ostalim medijima kako bi se kompanijama pomoglo da prenesu svoje poruke tržišnoj javnosti i potrošačima, ali i opštoj javnosti i donosiocima propisa u vladajućim organima. Ovaj posao ne sastoji se samo od štampe da objavljuje pozitivne priče o kompanijama, već i da upravlja nepovoljnim glasinama, pričama i događajima. Efikasna kontrola štete – aktivnosti preduzete kako bi se ograničilo negativno javno mišljenje – zahteva i dobre odnose sa javnošću i pravo vreme delovanja (tajming). Korporativno osoblje za komunikaciju u sedištim kompanija i njihovi saradnici u drugim zemljama služe kao

promoteri korporacija za različite akcionare i interesne grupe koji su zainteresovani za ekspanziju kompanije na stranom tržištu. Ove interesne grupe obuhvataju različite grupacije: finansijere, zaposlene, potrošače, distributere, dobavljače, finansijsko okruženje, medije, grupe aktivista, opštu javnost i vladu.

4. MOBILNI MARKETING I INTERNET PROMOCIJA

Premda se internet smatra globalnim kanalom komunikacije, reklamne poruke koje se šalju putem ovog medija često u lokalnom kontekstu opazaju i potencijalni potrošači. Ovde i leži dilema koja često smatra rezultate promocije na internetu slabijim od očekivanog. Tradicionalni mediji omogućavaju: izgradnju brenda i direktni marketing. Generalno govoreći, većina promotivnih formi je korisna i za jedno i za drugo. Internet, međutim, ima karakteristiku i masovnog medija za prenos informacija i direktnog reklamiranja.

U tradicionalnom modelu komunikacije na tržištu postoji jasna razlika između pošiljaoca poruke i primaoca, a kontrola poruke je na pošiljaocu. U tzv. „marketing prostoru“ kontrola poruke se deli između pošiljaoca i primaoca zbog interaktivnosti medijuma, sposobnosti medijuma da vrati poruku nazad kao odgovor na onu koja je poslata, te uticaja informacione tehnologije (IT) na vreme, prostor i komunikaciju. Gore navedeni uticaji na ciklus povratne veze (*feedback*) ugrađeni su u internet i zbog toga dolazi do sve većeg uplitanja. Međutim generalno gledano, verovatnije je da ovo mešanje potiče od gužve na internetu, a ne od spoljašnjih izvora.

Svetska računarska mreža predstavlja promenu od strategije guranja u promociji – gde se proizvođač koncentriše na ubeđivanje posrednika da predstavi proizvod ili usluge, ili distributera da gomila na zalihama njegovu robu – ka strategiji izvlačenja (povlačenja) u kojoj proizvođač komunicira direktno sa potrošačem. U ovom tranzicionom procesu se smanjuju su promotivni i drugi transakcioni troškovi.

Strategija „push“ promocije koristi kompanijsku prodajnu silu i unapređenja tržišnih aktivnosti kreiranju distributera koji zahteva proizvod. Proizvođač promovise proizvod kod trgovaca na veliko, trgovci na veliko promovisu proizvod kod trgovaca na malo, a trgovci na malo predstavljaju proizvod potrošačima. Odličan primer strategije guranja je mobilni telefon, gde veliki proizvođači telefona promovisu svoje proizvode preko maloprodajnih objekata kako bi ohrabрили trgovce na malo da prodaju veće količine. Sa ovom vrstom strategije, lična prodaja, unapređenje prodaje i promocija prodaje su najčešće korišćena sredstva promocije.

Strategija „pull“ prodaje zahteva dosta troškova na reklamiranje i promociju potrošača kako bi izgradili zahteve kod kupaca. Ako je strategija uspešna potrošači će potražiti proizvod kod trgovaca na malo, trgovci na malo će potražiti proizvod kod trgovaca na veliko, a trgovci na veliko potražiće proizvod kod proizvođača. Odličan primer povlačenja je ogromno reklamiranje bankarskih kredita i dečijih igračkaka, uglavnom na televiziji.

Ono po čemu se internet razlikuje od drugih promotivnih sredstava je njegova interaktivnost; ona dovodi do druge specijalne karakteristike koju internet kombinuje: karakteristike i prodaje i reklamiranja. Suprotno televiziji, na primer, gde potrošač pasivno posmatra, kod interneta postoji aktivna namera da se potrošač uloguje na internet, i veća količina zadovoljstva, kao rezultat. Pomoću interneta potencijalni potrošač ima veći stepen

pristupa reklamiranju. Od korisnika se zahteva neprekidni tok donošenja odluka: svaki klik predstavlja jednu odluku i zbog toga je ova mreža medijum u koji je njen korisnik veoma uključen. Pored toga, nasuprot tradicionalnim medijima, internet je medijum pomoću koga korisnik jednim klikom može dobiti još više informacija ili jednostavno kupiti neki proizvod. Reklamiranje na internetu može biti i često je usmereno ka profilu korisnika koji za uzvrat deluje na način na koji će poruka biti primljena. Sve češće reklame koje se pojavljuju na mreži su u skladu sa interesovanjima korisnika i pojavljuju se kada se otkriju njegova interesovanja, dok korisnik surfuje netom.

Mobilni marketing ili m-marketing trebalo bi posmatrati u kontekstu m-poslovanja i m-trgovine. Nastala iz najnovijeg razvoja komunikacione tehnologije, m-poslovanje predstavlja tzv. „mobilno“ poslovanje i odnosi se na nove tehnologije i modele prenosa informacija nastalih sa nastankom telekomunikacija i interneta. Tako se m-marketing definiše kao primena marketinga na mobilno okruženje smart telefona, mobilnih telefona, ličnih digitalnih asistenata (*personal digital assistants* – PDAs) i telematika. M-marketing karakteriše i interakcija sa *World Wide Web*-om i kontekst specifičan za lokaciju, što poboljšava komunikaciju i isporuku informacija. Marketinška komunikacija i informacije mogu se isporučiti do mobilnog uređaja preko portala koji se aktiviraju glasom, ili „vortal“-a, primene teksta u vidu MSM, korišćenjem elektronske pošte (postojeća l-mode aplikacija) i preko web-a upotrebom 3G spektruma.

M-trgovina kombinuje moć i brzinu interneta sa geografijom, slobodom mobilne telefonije u uslovima primanja i prenošenja podataka i sposobnošću da obavlja transakcije. Postojanje kapaciteta da se komunicira sa bilo kojim pojedincem, sa svakog mesta, preko bilo koje mreže i na bilo koji uređaj, bez obzira na vreme ili geografsku lokaciju, obezbeđuje ogroman potencijal za marketing eksperte. Ono što je ovde najbitnije je naglasak na interakcijama u realnom svetu i stvaranje uočljivih razlika između m-aplikacija i tradicionalne isporuke putem web-a. Mobilno okruženje nije odgovarajuće za surfovanje netom, selekciju informacija među ogromnom akumulacijom informacija, što zahteva i mnogo vremena; zbog toga, informacije moraju biti u malim „paketima“, a proizvodi i aplikacije koji se razvijaju oko poslovnih modela trebalo bi da predstavljaju realnu vrednost korišćenja jedinstvenih karakteristika i trenutne mobilne interaktivnosti kako bi se stiglo do potrošača.

Marketing menadžeri danas traže način da uključe društvene mreže u strategiju integrisane marketing komunikacije. Društvene mreže kao sredstvo komunikacije poseduje dva povezana reklamna pravila [2]: Kao prvo, one treba da budu dosledne sa korišćenjem tradicionalnih sredstava integrisane marketing komunikacije, što znači da kompanije treba da koriste društvene mreže i razgovaraju sa svojim potrošačima kroz platforme kao što su blogovi, kao što je Fejsbuk, Majspejs ili Tviter. Ove mreže mogu biti sponzorisane od strane kompanije ili od strane nekog pojedinca ili neke organizacije. Kao drugo, društvene mreže takođe omogućavaju potrošačima da razgovaraju i međusobno. Ovo je dodatak u tradicionalnoj od usta, do usta, komunikaciji. Kompanije ne mogu direktno da kontrolišu razgovore potrošača, ali zato imaju sposobnost da utiču na njihov razgovor. Međutim, potrošačka sposobnost komunikacije sa drugim potrošačem ograničava količinu kontrole kompanija oko određene teme i širenje informacija. Potrošači imaju kontrolu, imaju veći pristup informacijama i veću kontrolu nad potrošnjom putem medija nego ikad pre.

Tradicionalna komunikaciona paradigma, koja je zasnovana na klasičnom promocijskom miksu, da bi se dobila strategija integrisane marketing komunikacije, mora dati prednost novoj paradigmi koja uključuje sve oblike društvenih mreža kao potencijalno sredstvo za kreiranje i sprovođenje integrisane marketing komunikacije. Savremeni prodavci ne mogu da ignorišu fenomen društvenih mreža, gde je dostupna informacija zasnovana na iskustvu pojedinačnih potrošača.

Uticaj interakcija među potrošačima na društvenim mrežama na razvijanju i izvršenju IMC strategija je ilustrovano na nekoliko tačaka [2]: internet je postao sredstvo javnog informisanja između potrošača i prodavca. On zauzima prvu poziciju kada se govori o sredstvu informisanja potrošača na poslu i zauzima drugu poziciju kada se govori o sredstvu informisanja potrošača kod kuće. Potrošači okreću leđa tradicionalnim načinima informisanja kao što su radio, televizija, magazini i novine. Takođe, potrošači konstantno zahtevaju više kontrole nad njihovom potrošnjom putem medija. Oni traže informacije na zahtev i momentalni pristup informacijama radi njihovih pogodnosti, pa se zato okreću različitim društvenim mrežama da bi potražili informacije i doneli odluku o kupovini. Društvene mreže se u očima potrošača doživljavaju kao siguran izvor informacija u vezi proizvoda i usluga, pre nego kompanijski sponzorisan reklama koja se emituje putem nekih od tradicionalnih elemenata promocijskog miksa.

5. VIŠEKANALNI MENADŽMENT POTROŠAČA (MCCM) – KOMBINOVANJE KOMUNIKACIJE I DISTRIBUCIJE

Kompanije u savremenim uslovima poslovanja teže ka svetu višekanalne integracije, kao još višem nivou integracije, gde se može videti povećanje integracija između distribucionih kanala (sa kojim proizvodima ili uslugama ćemo dopreći do potrošača putem dobavljača, uključujući i prenos svojinskih prava) i komunikacionih kanala (sa kojim potrošačima i dobavljačima ćemo komunicirati pre, tokom i posle obavljenog posla distribucionog kanala –lanca).

Širi smisao definicije MCCM može se izraziti na sledeći način: „Multikanalni menadžment potrošača je korišćenje više od jednog kanala ili posrednika za upravljanje potrošačima na način koji je dosledan i koordiniran kroz sve kanale i medije“. Na primer, u složenom, tehničkom, „*business to business*“ okruženju, prodavac može ponuditi najbolji mogući način da predstavi proizvod, ispuni ciljeve, bavi se upitima i uspostavlja nove kontakte, dok se mreža ili pozivni centar koristi za preraspodelu ili proveru progressa isporuke. Takođe, kanali mogu biti iskorišćeni u diferencirane svrhe: na primer, ako osoba želi da kupi karte koje je u poslednjem minutu otkazao neki drugi kupac (bilo šta, od karte za let do narudžbine neke opreme), ona se preusmerava na veb-sajt za aukciju pošto neki drugi kanali ne mogu da podrže ovaj način interakcije i mnogo više koštaju [4].

Mnoge kompanije su u tranzicionom procesu kada je u pitanju menadžment ovakvih kanala – udaljavaju se od kanala koji su posvećeni određenim zadacima i koji ne komuniciraju sa ostalim kanalima. Pri tome ne znaju koliko da se posvete kanalima koji obavljaju poslove sa istim podacima i istim zadacima. Videli su neke mane kod različitih, i verovatno nekompatibilnih, tehnoloških platformi za svaki kanal, ali još uvek nisu sigurni u

ovim kompanijama koje beneficije mogu ostvariti ako pređu na jednu ovakvu platformu. Neke kompanije, od gore pomenutih, su bile u procesu uspostavljanja odvojenih vebajtova koji često imaju svoje ciljeve, menadžment, kadrove i sisteme, obično iskusni u eskaliranju troškova, obezbeđujući iskustvo potrošača koje se razlikuje od nekih drugih kanala, i u nekim slučajevima stvaraju štetu brendu i povećavaju nesigurnost kod kupaca.

Multikanalna strategija obezbeđuje mnogobrojne dodirne tačke kod potrošača – tačke koje pokazuju koji proizvodi su prodati i koje usluge su pružene – kroz nekoliko distribucionih kanala, kao što su:

- (1) direktni kanali, na primer telefon, Internet, mobilni telefon (razgovor, SMS) i interakcija putem TV-a;
- (2) tezge i reklamni stubovi na društvenim mrežama ili u maloprodajnim objektima – partneri i alijanse – prodajna sila;
- (3) uslužna sila ili sila usluga.

U nekim slučajevima, ovo može biti podržano od strane elektronskih medija u kojima potrošači nisu indetifikovani (na primer TV, radio, štampa ili neke druge internet aplikacije).

Značaj koncepta MCCM ogleda se najmanje na dva bitna polja:

- (1) ***Napredak u novim kanalnim tehnologijama:*** povećanje pouzdanosti i brzine skladištenja i telekomunikacione tehnologije, skup glasa, videa i podataka;
- (2) ***Potrošački zahtevi i očekivanja:*** neki (ne svi) potrošači očekuju da kroz tehnologiju i procese budu dosledno usmereni kroz kanale, ne samo komunikacione.

Iako je sada lakše da se osigura da svaki kanal deluje direktno, sa određenim potrošačima, važno je da poseduje najnovije informacije između dobavljača i potrošača, i da prati povezane procese, sa minimalnim troškovima i bez tehničkih problema. Kompanije, za koje je predloženo da koriste MCCM, imaće najviše koristi samo ako mogu da ostvare to. Oni će imati najveće trgovinske centre, najkompleksniju liniju i najdužu istoriju unapređenja, sa mnogo kritičnih biznis sistema koji podržavaju da procesi potrošačkog menadžmenta ne budu zastareli. Ovo danas primenjuju mnoge kompanije u finansijskim servisima, logistici i proizvodnoj industriji.

6. ZAKLJUČAK

Kod određivanja ciljnih grupa kojima treba preneti poruku, preduzeće koje se opredelilo za primenu koncepta IMK ima širi pristup. Efikasno komuniciranje preduzeća podrazumeva kontaktiranje većeg broja ciljnih javnosti, koje pored potrošača čine i drugi zainteresovani za sudbinu preduzeća. Svima njima potrebno je uputiti odgovarajuće poruke koje treba da budu jasne i da prenose isto značenje za sve učesnike u komunikaciji. To, međutim, ne podrazumeva da poruke koje preduzeće šalje pojedinim ciljnim grupama treba da

budu identične, već se insistira na njihovoj usaglašenosti u pogledu informacije koju prenose. Poruka upućena potrošačima treba da bude usklađena sa porukom koju primaju zaposleni ili ostali akteri poslovanja; naime, veliku grupu potrošača često čine upravo oni i njihove porodice.

Početi komunikaciju od potrošača ili potencijalnog kupca važno je zbog toga što je to početak svih aktivnosti u marketingu i početak strategije integrisanih marketing komunikacija, koje podrazumevaju korišćenje što većeg broja raznih oblika komunikacije za uključivanje što više ciljane publike i prezentiranje željenih poruka. Ključno obeležje ovakvog načina komunikacije jeste potreba kombinovanja poruka i medija na način da se postignu što bolji učinci komunikacije. Komunikacijski oblici se dopunjuju dajući sinergetski efekat uz postizanje jakog, jedinstvenog imidža robne marke ili preduzeća čime pokreću potrošače, ali i sve ostale aktere poslovanja na akciju. Dugoročni odnos sa kupcem je ključ savremenog marketinga, a integrisane marketinške komunikacije su ključ izgradnje dugoročnih poslovnih odnosa.

REFERENCE

1. Galjina Ognjanov (2004): "Komunikativna moć prodaje", AIZ Dosije, Beograd;
2. W. Glynn Mangold and David J. Faulds (2009): "Social media – The new hybrid element of the promotion mix", Kelley School of Business, Indiana University, USA;
3. L.E. Boone and D.L. Kurtz (2007): "Contemporary Marketing", 13 edition, Cengage Learning, Boston, USA;
4. Kerry Reilly (2015): Adobe Named a Leader Once Again in Gartner Magic Quadrant for MCCM", Cleveland OH, USA;
5. Aleksandra Vuković, Dejan Riznić, Milovan Vuković, Nada Štrbac i Danijela Voza (2013): "The role of communication in new technologies and innovations introduction", International May Conference on Strategic Management, Univerzitet u Beogradu, Tehnički fakultet u Boru, Bor, 24-26. 05. 2013, Zbornik radova, str. 456-467.
6. M. Manić, D. Riznić, D. Petrović (2010): „Upravljanje inovacijama u marketingu u izmenjenim tržišnim uslovima“, XV internacionalni naučni skup: "Strategijski menadžment i sistemi podrške odlučivanju u strategijskom menadžmentu", Subotica - Palić 22. maj 2010, Zbornik radova u elektronskoj formi ISBN 978-86-7233-252-0.
7. D. Riznić (2009): „Inovativna marketing strategija u funkciji makroekonomske stabilnosti“, rad na konferenciji Naučnog Društva Ekonomista - Akademije Ekonomskih Nauka i Ekonomskog fakulteta u Beogradu, „Ekonomska politika Srbije – Ka novom modelu makroekonomske stabilnosti“, Beograd, 26. 12. 2009 godine, zbornik radova str.391-407;

THE HUMAN CAPITAL IN THE FUNCTION OF BUSINESS ACTIVITIES IN THE ORGANIZATION

Danijela Durkalić, Dejan T. Riznić, Snežana Urošević

Univerzitet u Beogradu, Tehnički fakultet u Boru, Serbia

Abstract: The role of human resources is a key one for the development of the individual and the organization as a whole. Human capital has always been the most valuable economic resource and a major driver of economic development. Also, knowledge and physical activity have become the deciding factor of productivity. The growing interest in human capital in organizations runs the importance of this discipline and the necessity of reviewing all aspects of this issue. As one of the areas of study of the organization, human resources represent an important function in the organization. From this perspective, the paper represents the importance of human resources as a key factor for the functioning of the organization. The aim of the paper is to assess the importance and influence factors of human resources in the functioning of the organization. Bearing in mind that human resource management study all aspects of employment in the organization, the people and their organizational culture, this paper analyzes various aspects of the role of human resources and the level of development needs of employees.

Keywords: human resources, human capital, organization.

1. UVOD

Svaka organizacija se, tokom svog životnog veka, oslanja na svoje konkurentske prednosti i jake strane svog biznisa. Ipak, može se kao najvažniim faktor konkurentske prednosti u svakoj organizaciji izdvojiti njeni zaposleni. Ljudski faktor predstavlja pokretačku snagu svih pozitivnih ekonomskih promena, ali i zaokruženu celinu rada i delanja u jednoj organizaciji. Ljudski resursi postaju glavno oruđe konkurentske prednosti na izrazito globalnom i probirljivom svetskom tržištu [10].

Interesovanje za ljudski kapital nije novijeg datuma. Nove su samo organizacione jedinice koje dobijaju na značaju u svakom preduzeću poput službe razvoja kadrova, HR službe i slično. U tom smislu, ljudski resursi dobijaju na važnosti u većini organizacija. Imajući napred navedeno u vidu, inicijalna tačka istraživanja predstavlja sagledavanje uticaja i značaja ljudskih resursa na funkcionisanje organizacije. Imajući u vidu da je menadžment ljudskih resursa veoma važan za nivo razvojnih potreba zaposlenih, osnovna hipoteza od koje je istraživanje pokrenuto je da ljudski faktor predstavlja najvažniji resurs za poslovanje organizacije. U smislu istraživanja ljudskog faktora uključuju se interna komunikacija, motivacione politike i politike razvoja zaposlenih. Cilj istraživanja je rangiranje važnosti ljudskog faktora na lestvici poslovanja organizacije, odnosno visina preferencija koje pojedini zaposleni i poslodavci imaju na ljudski kapital i njegov razvojni put.

2. DEFINISANJE POJMA ORGANIZACIJE I FAKTORI KOJI UTIČU NA RAZVOJ ORGANIZACIJE

Da bi ljudi upravljali organizacijama, neophodno je da se upoznaju sa odnosima i faktorima koji funkcionišu u njoj. Imajući u vidu da svaki čovek deo svog životnog veka provede u nekoj od organizacija, važno je razumeti pojam organizacije i organizovanja. Razumevanje organizacije je važno ne samo menadžerima, već i članovima organizacija kako bi zajedno radili na ostvarenju ciljeva i zadataka organizacije.

Organizacija, kao faza menadžmenta predstavlja naučnu disciplinu koja se prožima kroz sve aspekte privređivanja. Kao takva, organizacija je proces koji se vezuje za veštine organizovanja i rukovođenja u privrednim i drugim jedinicama rada u praksi. Kao naučna disciplina, organizacija predstavlja jednu zaokruženu celinu koja analizira funkcionisanje svih aspekata procesa organizovanja i regulisanja odnosa u tom procesu.

U stručnoj literaturi se mogu uočiti različiti aspekti shvatanja organizacije. Najpre, organizacija je posmatrana kao organizam i mehanizam u okviru klasične teorije menadžmenta, da bi se kasnije ona izdvojila kao socijalni sistem i radna celina u okviru modernijih shvatanja [8]. Organizacija, kao deo menadžmenta je nauka sa vrlo izraženim interdisciplinarnim karakterom. Upravo zato je organizacija veoma bliska sa drugim naučnim disciplinama, kao što su psihologija, sociologija, antropologija, i druge nauke. Danas, organizacija se izvojila kao kompleksna i zasebna interdisciplinarna menadžment nauka koja predstavlja proces menadžmenta koji integriše članove organizacije kako bi na najbolji način ostvarili postavljene ciljeve pri ograničenim resursima. Kao što organizacija utiče na druge naučne discipline, tako postoji i uticaj različitih naučnih disciplina na organizaciju. Ipak, četiri su područja koja su se izdvojila iz organizacije i stvorila sopstveno mesto u organizacionom menadžmentu [7]:

- teorija organizacije,
- organizacione promene,
- organizaciono ponašanje i
- menadžment ljudskih resursa.

Svaka od disciplina koja su se izdvojile u okviru organizacije su veoma značajne, a njihov razvoj predstavlja i stadijum razvoja organizacije.

Kako bi se na adekvatan način shvatila i razumela organizacija, neophodno je da se shvate njena obležja, odnosno karakteristike. Svaka organizacija osnovana je radi ostvarenja nekog cilja. Bilo da se radi o individualnim ili zajedničkim ciljevima, to je proces koji zahteva organizovanje određenih zadataka i funkcija. Takođe, u poslovanju organizacije nastoji da se, kao i u svakoj ekonomskoj disciplini, ostvari maksimalan rezultat uz minimalno trošenje raspoloživih resursa. Prema tome, može se reći da je organizovanje plansko i smiljeno delovanje radi ostvarenja nekog unapred definisanog cilja.

Svaka organizacija posluje u nekoj grani delatnosti, pri čemu se te delatnosti razlikuju. Različite organizacione aktivnosti nameću i različite faktore uticaja na određenu organizaciju. Međutim, kao ključni faktori svake organizacije mogu se izdvojiti:

- okruženje,
- organizaciona kultura,
- veličina organizacije,
- tehnologija i strategija.

Svaka organizacija svoju delatnost obavlja u nekom *okruženju*. Okruženje organizacije predstavlja skup svih entiteta i pojava koji egzistiraju izvan organizacionog sistema a pri tome imaju uticaj na functionisanje organizacije [9]. Okruženje organizacije predstavlja veoma kompleksan proces kroz koji organizacija razmenjuje proizvode, usluge, energiju, kao i informacije. Organizacija može da opstane jedino ako vrši produktivnu razmenu sa okruženjem, odnosno ako se prilagođava sredini u kojoj funkcioniše. Od prilagođavanja okruženju zavisi i kako će organizacija realizovati svoje aktivnosti. Okruženje može biti stimulatívno u vidu konkurencije ali i ograničavajuće u smislu zakonskih, tehničko - tehnoloških i drugih okvira. Tako okruženje direktno ili indirektno vrši uticaj na dinamiku i fleksibilnost organizacija.

Kultura u jednoj organizaciji može imati uticaj na različite organizacione oblike. Organizaciona kultura ima uticaja na sve segmente organizacionih promena u smislu da organizaciona kultura određuje način na koji preduzeće posmatra svoje okruženje i definiše svoju poziciju u njemu, omogućava definisanje vizije organizacije, olakšava koordinaciju i timski rad [4]. Organizaciona kultura predstavlja sistem verovanja i vrednosti po kojima određena organizacija treba da deluje. Na osnovu tih verovanja i vredosti formira se model odgovarajuće organizacije.

Starost i veličina predstavljaju veoma bitne faktore strukturiranja organizacije. Postoje značajne razlike u načinu organizovanja malih i velikih preduzeća. Sa povećanjem veličine organizacije povećava se i diferenciranost zadataka i multiplikuje se broj radnih operacija [6]. Povećanjem organizacije, raste i broj organizacionih i hijerarhijskih nivoa. S druge strane, u "malim" organizacijama veći je sadržaj posla ali niži stepen formalizacije i specijalizacije, za razliku od velikih organizacija.

Korišćenje savremene *informacione tehnologije* je značajno smanjilo troškove preduzeća i poboljšalo kvalitet odluka koje menadžeri donose [7]. Prenos informacija je veoma značajan i on danas počiva na tehnologijama. S druge strane, *strategija* predstavlja sponu između organizacije i njenog cilja. Prilikom formulisanja organizacione strategije, ona mora biti u funkciji ostvarenja definisanog cilja. Izbor optimalne strategije zavisice i od menadžmenta preduzeća i pristupa adaptiranju promenama u okruženju.

3. ZNAČAJ LJUDSKIH RESURSA KAO FAKTORA ORGANIZACIJE

Većina autora upotrebljava izraz ljudski resursi sa značenjem vrste kapitala kojim raspolaže neka firma, organizacija ili zajednica [3]. Ova vrsta kapitala se odnosi na ono što ljudi daju svojoj radnoj organizaciji, svojim znanjem, umećem i angažovanjem. Kapital koji firmi

donose ljudi svojim odlukama i svojim angažovanjem neki autori bliže specifikuju kao ljudski kapital podrazumevajući pod tim izrazom znanja, veštine i sposobnosti zaposlenih u organizaciji [1]. Ljudski kapital je jedan od tri elementa intelektualnog kapitala organizacije, pored socijalnog kapitala, koji se oblikuje interakcijom ljudi iz organizacije i onih van nje, i pored organizacijskog ili strukturalnog intelektualnog kapitala, koji organizacija čuva u preduzeću kao značajnu vrednost.

Ljudski kapital predstavlja veoma važan faktor organizacije u savremenoj tržišnoj ekonomiji i značajan faktor poslovanja svakog preduzeća. Ukoliko je ljudski kapital značajan i vredan u jednom preduzeću, koristi će se multiplikovati. Povećanje zadovoljstva radnika vodiće i povećanju zadovoljstva kupaca, što će se pozitivno odraziti i na prihode preduzeća.

Danas ljudski faktor u privredi dobija na važnosti, pa se ovim segmentom organizacije bavi sve više naučnika, istraživača i menadžera kako bi dobili što bolje rezultate i unapredili postojeće stanje. Može se istaći da upravljanje ljudskim potencijalima postaje najznačajnija poslovna funkcija, ali i specifična strategija menadžmenta koja ljude smatra najvažnijim potencijalom i ključnom strategijskom i konkurentskom prednošću [5].

Vажnost ljudskog faktora ističe se u prvi plan u svakoj organizaciji. Ljudski resursi nisu samo važna poslovna funkcija već i nosioci svih promena koji podrazumevaju napor i kontinuirano unapređenje [2]. Kvalitet rada u organizaciji meri se zadovoljstvom radnika i njihovom satisfakcijom na radnom mestu.

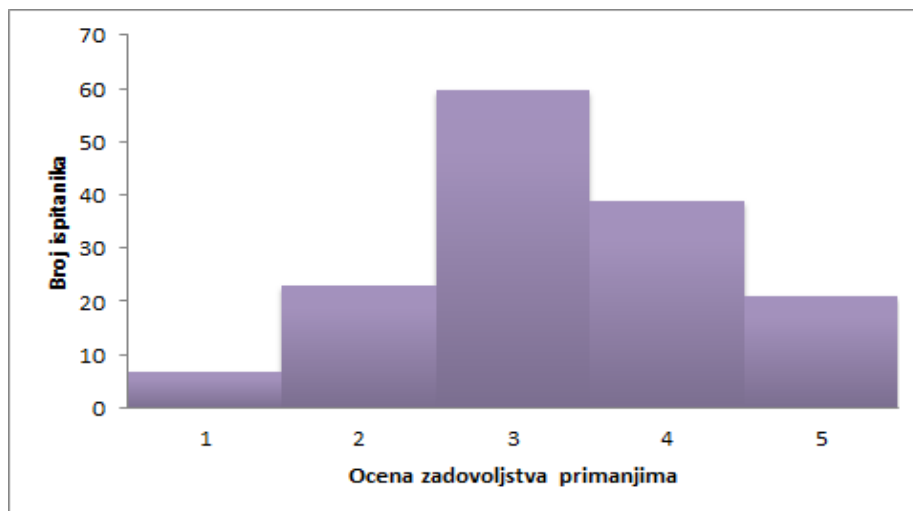
4. KVALITET RADA U ORGANIZACIJI I VAŽNOST LJUDSKOG FAKTORA

Ljudski resursi su tema koja podstiče na razvoj i razmatranje značaja ovog segmenta organizacije u svakom preduzeću. Oni su bitni za ostvarenje rasta preduzeća, pozicioniranje na tržištu, ali su i značajna komparativna snaga preduzeća. Sve veće interesovanje za ljudske resurse dovelo je do toga da se postavi pitanje koliko u stvari preduzeća u Srbiji vrednuju kvalitet rada i ističu važnost ljudskog faktora u svojoj organizaciji. U tom smislu, obavljeno je istraživanje metodom anketiranja. Istraživanje je obuhvatilo teritoriju Istočne i Jugoistočne Srbije. Anketirano je ukupno 150 ispitanika, sa različitim institucionalnim uređenjima u kompanijama, preduzećima i privrednim društvima. Pitanja su se odnosila na obuke zaposlenih, načine objavljivanja oglasa za posao, zadovoljstvo primanjima, ali i kvalitet rada i isticanja značaja ljudskog faktora u organizaciji. Cilj je bilo sagledavanje značaja ljudskog faktora u pojedinim organizacijama.

Kada je reč o obukama zaposlenih, 69%, odnosno 118 ispitanika se izjasnilo da njihova organizacija nudi odgovarajuće obuke za posao, dok 31% organizacija ne nudi svojim radnicima mogućnosti obučavanja i usavršavanja na radu.

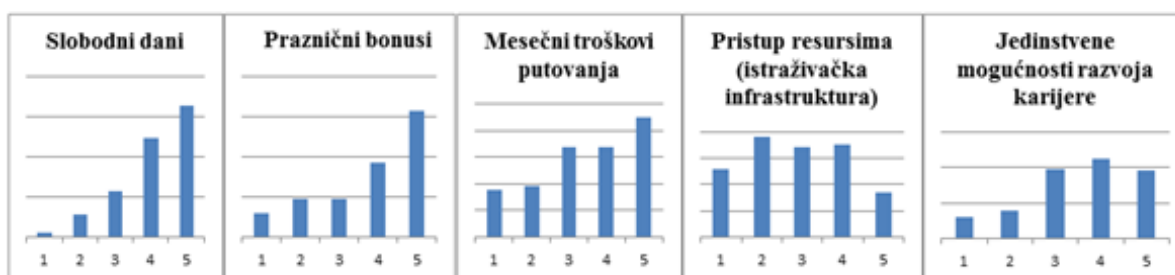
Kada govorimo o stavu analiziranih organizacija po pitanju dostupnosti obuka zaposlenima, stanje je neočekivano. U 36% preduzeća svi zaposleni imaju dostupne odgovarajuće programe za obuku, dok u 19% organizacija postoje programi i obuke za nekoliko izabranih pojedinaca iz firme. Svega 31% organizacija nudi svojim zaposlenima obuke ako se ukaže prigodan kurs ili trening, dok 14% preduzeća smatra da zaposlenih nemaju potreba za bilo kakvim obukama.

Kao rezultat rada i angažovanja zaposlenih u organizaciji stvara se profit, ali i zarada zaposlenog. Zarada kao osnovni motiv rada predstavlja važno merilo privrednog razvoja ali i individualnog standarda zaposlenog. Zaposleni u različitim preduzećima vrednovali su visinu svoje zarade različitim ocenama. Na skali od 1-5, može se zaključiti da je najveći broj zaposlenih prosečno zadovoljan svojim primanjima, odnosno da je mali broj zaposlenih koji su apsolutno nezadovoljni svojim primanjima. Interesantno je da je najveći broj zaposlenih u javnom sektoru dao niže ocene zadovoljstva primanjima, koje su rezultat Vladinih mera štednje i smanjenja zarada.



Dijagram 1. Zadovoljstvo primanjima zaposlenih

Beneficije zaposlenih takođe mogu da utiču na kvalitet rada u organizaciji. Imajući to u vidu, na skali od 1 - nevažno do 5- veoma važno, rangirali smo vrednosti koje su zaposleni dali različitim beneficijama u organizaciji.

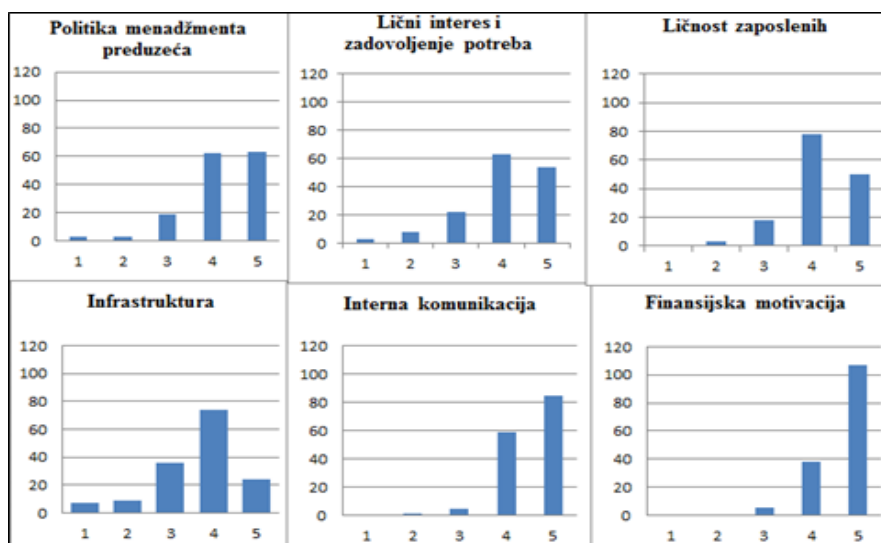


Slika 1. Ocene beneficija zaposlenih u organizacijama

Na osnovu definisanih beneficija, može se zaključiti da ispitanici najviše preferiraju slobodne dane, praznične bonuse i mesečne troškove putovanja na posao. Na skali od 1 do 5, pristup resursima nije zauzeo visoku važnost kod zaposlenih, odnosno ispitanicima su važnije druge beneficije. Takođe, jedinstvene mogućnosti razvoja karijere kroz usavršavanja i obuke

zaposlenih nisu ocenjeni najvišom ocenom, već zauzimaju prosečno bitnu beneficiju. Tako se može izvesti zaključak da najveći uticaj na kvalitet rada imaju novčane stimulacije u vidu prazničnih bonusa i pokrivenih troškova putovanja, kao i mogućnost korišćenja slobodnih dana.

Kada je u pitanju istraživanje o važnosti faktora za razvoj ljudskog kapitala u anketiranim organizacijama, istraživana je ocena šest faktora razvoja ljudskog kapitala, i to: infrastruktura, interna komunikacija, finansijska motivacija, politika menadžmenta preduzeća, lični interes i zadovoljenje potreba, kao i ličnost zaposlenih. Na osnovu formiranih ocena, vidi se da zaposleni ne smatraju podjednako važnim sve faktore za razvoj ljudskog kapitala.



Slika 2. Ocene važnosti pojedinih faktora za razvoj ljudskog kapitala

Na osnovu prikazanih dijagrama, kao najvažniji faktor razvoja ljudskog kapitala za zaposlene i poslodavce je finansijska motivacija. Istraživanje pokazuje da, ukoliko postoji odgovarajuća finansijska motivisanost i interna komunikacija, biće postignut viši stepen razvoja ljudskog kapitala. Postavlja se pitanje šta se događa sa ostalim faktorima, odnosno, da li još neki od faktora mogu uticati na razvoj ljudskog kapitala? Prema važnosti, ličnost zaposlenih se može svrstati kao i interna komunikacija u veoma važne faktore razvoja ljudskog kapitala. S druge strane, kao važan faktor ispitanici su istakli i infrastrukturu, odnosno posedovanje materijalne i fizičke opremljenosti za rad. Ono što su istakli kao manje važno za razvoj ljudskog kapitala to je lični interes i politika menadžmenta preduzeća.

5. ZAKLJUČAK

Ljudi, ljudski resursi i kadrovi predstavljaju živi faktor organizacije koji sa svojim znanjem, veštinama, sposobnošću i kreativnošću najviše doprinose konkurentnosti i uspešnom ostvarenju ciljeva organizacije. Ljudski potencijal je jedan od elemenata koji određuje

vrednost organizacije, njime se naglašava značaj ljudi i njihovog znanja kao kreativnog potencijala za poslovni uspeh.

Ljudski kapital je u savremenim uslovima poslovanja jedan od najvažnijih izvora konkurentske prednosti. Iz ove činjenice i proizilazi obaveza menadžmenta da se intenzivnije posveti upravljanju intelektualnim performansama preduzeća. Pred menažerima ljudskih resursa nameću se izazovi za koje ne postoje trajna rešenja i trajno otklonive prepreke. Brze promene tržišta utiču i na intenziviranje procesa rada i promenama strateških ciljeva sa kojima se organizacije suočavaju, što ima značajne implikacije, kako na zaposlenost tako i na politike ljudskih resursa u organizacijama. Ograničenja istraživanja ogledaju se u statistički malom uzorku koji je obuhvatio samo deo Srbije. Ipak, subjektivno mišljenje je da su rezultati verno prikazali mišljenja različitih pravnih uređenja po pitanju ljudskog kapitala i da se on može istaći kao najvažniji faktor razvoja i poslovanja organizacije. Za dalja istraživanja mogu se nametnuti odnosi hijerarhijskih pozicija i odnosa između kadrova. Pored toga, može biti interesantno i pitanje kreativnosti ljudskih resursa u poslovanju organizacija.

REFERENCE

1. Armstrong, M., (2001), *A Handbook of Human Resource Management Practise*, Kogan Page Limited, London (UK), Milford (USA).
2. Bogićević Milikić, B., (2010), *Menadžment ljudskih resursa*, Centar za izdavačku delatnost Ekonomskog fakulteta u Beogradu, Beograd.
3. Čukić, B., (2004), *Menadžment ljudskih resursa*, Izdavački centar za industrijski menadžment, Kruševac.
4. Erić, J., Šapić, S., i Stojanović Aleksić, V., (2009), Uticaj organizacione i nacionalne kulture na prihvatanje organizacionih promena: istraživanje u srpskim preduzećima, *Sociologija*, (LI No 4), 399-422.
5. Jambrek, I., Penić, I.,I. (2008), Upravljanje ljudskim potencijalima u poduzećima– ljudski faktor, motivacija zaposlenika kao najvažniji čimbenici uspešnosti poslovanja poduzeća, *Zbornik Pravnog fakulteta Sveučilišta u Rijeci*, 29(2), 1181-1206.
6. Jaško, O., Čudanov, M., Jevtić, M., i Krivokapić, J. (2013), *Osnovi organizacije i menadžmenta*, FON, Beograd.
7. Petković, M., Janićijević, N., Bogićević Milikić, B., (2010), *Organizacija: dizajn, ponašanje, ljudski resursi, promene*, Centar za izdavačku delatnost Ekonomskog fakulteta, Beograd.
8. Stavrić, B., Riznić, D. (2007), *Osnovi teorije organizacije*, KIZ Centar, Beograd.
9. Stefanović, I., Jaško, O., Damnjanović, P. (2010), Analiza prirode savremenog organizacionog okruženja, *Industrija*, 38(2), 23-43.
10. Urošević S., Sajfert Z., (2012), *Menadžment ljudskih resursa*, Don Vas, Beograd.

THE IMPACT OF MOBILE TECHNOLOGY ON THE DEVELOPMENT OF E-BUSINESS

Časlav Kalinić¹, Miladin Kalinić², Radovan Vladislavljević²

¹*Prirodno matematički fakultet, Novi Sad;* ²*Visoka škola strukovnih studija za menadžment i poslovne komunikacije, Sremski Karlovci, Serbia*

Abstract: Scope of this paper is introduction a model of e-business with new products based on mobile communications. The issue of new products lies above all in the diffusion of the same, through the electronic communication we could educate the market and get feedback. Electronic communication support in almost all segments of the transaction, that is before the sale, during the sale and after-sale products. Electronic business must be supported with strong business model capable for maximizing capacities of information technologies. The emergence of mobile technology provides new challenges for e-business. The present model provides a framework in which it is possible to maximize the benefits of mobile technology.

Keywords: electronic business, mobile technologies, new products, feedback, logistics, Internet.

1. UVOD

Nove tehnologije nude niz mogućnosti za postizanje višeg stepena efikasnosti u poslovanju jedne kompanije. Očiti primer tome je upotreba računara u domenu tržišnih komunikacija. Na ovaj način se probijaju fizičke granice preduzeća i postiže se čvršća integracija svih zainteresovanih strana. U današnjem poslovanju dobavljači i proizvođači su u sprezi kako bi povećali efikasnost poslovanja, smanjili troškove i povećali prihode. Sve ovo vodi ka širenju prodajne mreže, a uz pojavu Interneta tržište se višestruko povećava. Sa druge strane, sama tehnologija koja stoji iza ovoga je prošla i još uvek prolazi kroz dinamičnu evoluciju. Od prvih računara koji su bili u upotrebi samo za naučne svrhe do današnjih IT sistema je prošlo svega nekoliko decenija, ali svaka promena je menjala način funkcionisanja poslovanja kompanija.

Težište rada je na difuziji novih tehnologija opredmećenih kroz nove tehnologije. Oduvek je postojao problem kako novim idejama osvojiti tržište, a sa pojavom elektronskog biznisa koji u sebi obuhvata direktnu prodaju preko Interneta ovaj proces je olakšan. Pojavom mobilnih tehnologija brzina, kvantitet i kvalitet informacija koje podržavaju prodaju novih proizvoda su u fokusu mnogih menadžerskih disciplina. Mobilni telefoni, tableti, fableti i sl. uređaji pružaju potpuno novu dimenziju poslovanja. Ono što je jako važno napomenuti jeste da iza tehnologije koja se koristi u elektronskom biznisu mora postojati i jak poslovni model koji to može podržati.

2. ELEKTRONSKI BIZNIS

Razvoj Interneta i ICT usloville su pojavu novih procesa i izmene starih. Postepenom transformacijom poslovna sfera se menja, a informacije postaju centralna tema mnogih procesa. Sa druge strane, menjaju se i društvene paradigme, tako da danas imamo veliki broj ljudi koji se „saživeo“ sa novim vidovima komunikacija. Društvene mreže, blogovi, ali i elektronska kupovina postaju sastavni deo života milionima ljudi. Kroz rad nećemo praviti razlike između elektronske trgovine i elektronskog poslovanja, jer jedno bez drugog ne ide. Bez elektronskog poslovanja nemoguće je uspostaviti elektronsku trgovinu.

„Međutim, elektronska trgovina (ili e – commerce) uključuje mnoge druge aktivnosti, poput poslovne trgovine sa drugim poslovnim subjektima i interne procese koje kompanija koristi za potrebe nabavke, prodaje, zapošljavanja, planiranja, i ostalih aktivnosti.“ (Schneider, 2011 ,4) Mnogi autori se slažu sa prethodnom tvrdnjom, ali treba dodati i to da se mnogi poslovni procesi moraju uskladiti modernim tehnologijama.

Elektronska trgovina i uopšte elektronsko poslovanje je relativno nova poslovna paradigma, međutim, iako je ovaj fenomen relativno mlad već je doživeo nekoliko transformacija. U sledećoj tabeli možemo videti grubi prikaz evolucije elektronskog poslovanja. Naglašavamo da su u poslednjih nekoliko godina mobilne tehnologije igrale izuzetno veliku ulogu u uobličavanju elektronskog poslovanja.

Tabela 1. Evolucija elektronskog poslovanja

1995 – 2000 nastanak	2001 – 2006 konsolidacija	2007 – i dalje re-invecija
Tehnološki pokretači	Poslovni modeli	Mobilne tehnologije
Naglasak je na prihodu	Naglasak je na zaradi i profitu	Naglasak je na publici i socijalnim mrežama
Start-up (veture capital) finansiranje	Tradicionalno finansiranje	U manjem delu imamo start-up kapital i kupovine manjih kompanija od strane većih

izvor: po uzoru na Laudon, 2014, 35

Zahvaljujući mobilnosti podaci se unose u informacioni sistem tamo gde se kreiraju, bez učešća posrednika i pojave vremenskog zaostatka. Drugim rečima, informacije dobijaju jedan „prirodniji“ karakter. U prethodnom vremenskom periodu posrednici su često mogli iz nepažnje ili nečeg drugog da izmene informacije. Danas se informacije prezentuju u svom prirodnom obliku, onakvom kakva jesu zahvaljujući mobilnim tehnologijama. U ovom radu nećemo se baviti tipovima mobilnih tehnologija jer se na tržištu izbacuju uvek nova rešenja. Na primer mobilni telefoni su imali nekoliko tehnoloških revolucija i teško je danas tačno definisati mobini telefon.

Sve ovo vodi ka pojavi Internet stvari, a ovaj pojam je još uvek nov i nedovoljno definisan. „Sa stanovišta korisnosti, Internet stvari će povezivati sve od kompjutera, Interneta, industrijskih proizvoda, svakodnevnih objekata, koji će moći da međusobno razmenjuju podatke“ (Shen, 2011, 266) Informacije su i ovde u središtu problematike, kroz informacije mogu se dobiti razna saznanja na osnovu kojih se smanjuju rizici i povećava efikasnost poslovanja.

3. MOBILNE TEHNOLOGIJE

Sami uređaji nisu u centru razmatranja ovog rada već njihova korisnost u poslovnoj sferi. Razlog za zaobilazak analize tipova mobilnih uređaja je taj što se na tržištu uvek pojavljuju novi proizvodi. Od osamdesetih godina dvadesetog veka do danas došlo je do nekoliko revolucija u razvoju mobilnih uređaja. Međutim, sa pojavom operativnih sistema i razvojem Interneta došlo se do nove paradigme mobilnih tehnologija. Danas postoje uređaji koji su u stanju da obrade veliku količinu podataka, da prikazuju multimedijalni sadržaj i da koriste servise Interneta.

Zahvaljujući mobilnim tehnologijama i socijalne mreže su se u velikoj meri izmenile. Današnja komunikacija na socijalnim mrežama je nešto drugačija nego pre deset godina. Zahvaljujući novim tehnologijama kreirani su novi servisi, razmena iskustva i znanja postaje izuzetno lako i opšte prihvaćena od strane velikog borja korisnika.

„Pojava hiper konektivnosti znači da komunikaciju i informacije o našim iskustvima emitujemo kao korisnici i potrošači proizvoda ili usluga.“ (Gil-Pechuán, 2014, 12) Drugim rečima, današnji potrošači imaju pristup velikoj bazi znanja i iskustva. Ovo vodi ka višem stepenu edukacije potrošača koji sada zahtevaju da za svoj novac dobiju najveću moguću vrednost. Ovo pritiska preduzeća da na tržištu nastupaju najbolje što mogu.

Sa druge strane, znanje postaje lako dostupna roba koja se brzo širi. „Brzi tehnološki progres je kreirao globalni proces interkonektivnosti koji ide dalje od pukog transformisanja informacija i dozvoljava socijalizaciju znanja, koja za uzvrat stimuliše kreiranje novog znanja.“ (Gil-Pechuán, 2014, 106) Ovaj proces je nemoguće zaobići, a pokušaji da se zanemare ovi procesi mogu dovesti preduzeće u nezavidnu tržišnu poziciju.

4. NOVI PROIZVODI

Najvažniji segment kreiranja novog proizvoda je njegovo lansiranje na tržište. U prvih nekoliko nedelja moguće je kreirati relativno tačan trend daljeg razvoja istog. Ukoliko tržište počne da odbacuje novi proizvod tada je preduzeće u velikom problemu. U velikom broju slučajeva novi proizvod bi trebalo da zameni postojeći proizvod i da donese sveži kapital. Ukoliko ovo izostane tada preduzeće mora da učini sve u svojoj moći da izmeni negativan trend.

Ovaj rad uzima novi proizvod kao najbolji primer moći mobilnih tehnologija u elektronskom biznisu. U radu se nećemo baviti problematikom novog proizvoda, da li se radi o novom proizvodu na tržištu ili je to novi proizvod na nivou kompanije. U oba slučaja pojavljuju se nove informacije i novi izazovi. Potrošači lideri, oni koji prvi počnu da koriste novi proizvod, su odlučan pokazatelj daljeg trenda prihvatanja novog proizvoda.

„U današnjem svetu distribuiranog znanja, inovativne kompanije ne mogu više da priušte razvoj samo sa svojim znanjima i istraživanjem.“ (Noble, 2014, 299) Ovo vodi ka kreiranju informacionih sistema koji mogu uključiti veći broj učesnika na nivou razvoja novih proizvoda. Današnja tehnologija pruža mogućnost kompanija da uključe dobavljače i kupce u proces kreiranja novog proizvoda. Ovo vodi ka kreiranju novog proizvoda koji ima veće tržišne šanse.

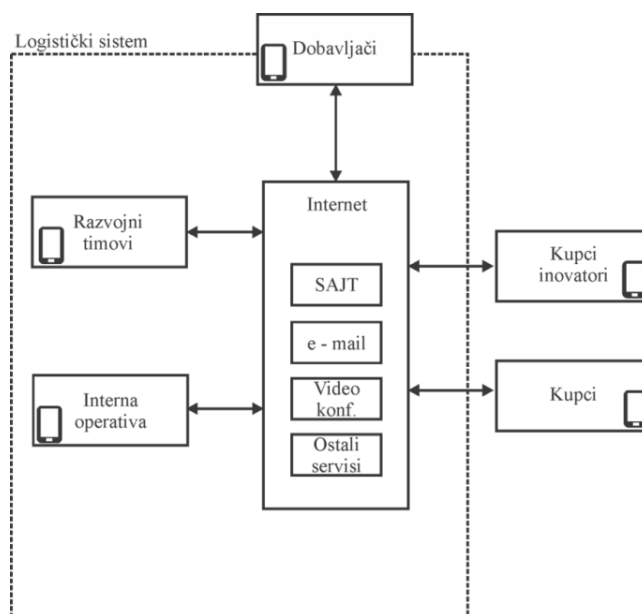
5. DIFUZIJA TEHNOLOGIJA

Novi proizvodi se često baziraju na novim tehnologijama, što pruža dodatne izazove kreatorima novih proizvoda. Difuzija ima različite definicije u zavisnosti od stanovišta pojedinih autora. „Difuzija je način na koji se inovacije prenose na društvene i ekonomske benefite.“ (Tidd, 2010, 1) Prema ovoj definiciji difuzija je važan činilac društvenog blagostanja i napretka, neki autori imaju drugačije definicije. „Difuzija je proces kojim se inovacije komuniciraju kroz određene kanale u određenom vremenu članovima socijalnog sistema.“ (Everett, 1983, 5) Prema ovoj definiciji komuniciranje igra centralnu ulogu u ovom procesu.

Bez obzira na različite definicije difuzija ima važnu ulogu u procesu kreiranja novog proizvoda. „Istraživanje difuzija pokušava da identifikuje uticaje, stope i direkcije prihvatanja inovacija.“ (Tidd, 2010, 13) Na ovaj način moguće je kreirati kvalitativne i kvantitativne analize na osnovu kojih se može smanjiti rizik lansiranja novog proizvoda.

Centralna problematike difuzije tehnologije je vezana za znanje i informacije. Kako bi se uspešno izvršila difuzija potrebno je edukovati potencijalno tržište. Zahvaljujući mobilnoj tehnologiji pristup tržištu postaje olakšana, sa duge strane i potencijalnim kupcima je lakše da dođu do kvalitetnih informacija vezanih za novi proizvod. Nove tehnologije pružaju mogućnost kreiranja povratnih veza između korisnika sajtova i ostalih servisa sa preduzećima koja lansiraju nove proizvode. I sami korisnici postaju na neki način edukatori, naročito u slučajevima kada iznose svoje stavove i iskustva vezana za korišćenje novog proizvoda.

6. MODEL UTICAJA MOBILNIH TEHNOLOGIJA NA ELEKTRONSKI BIZNIS



Slika 1. Model uticaja mobilnih tehnologija na elektronski biznis

Na prethodnoj slici možemo videti model elektronskog biznisa i uticaj mobilnih tehnologija na isti. Ono što je važno napomenuti je to da se radi o grubom modelu koji je za

potrebe rada generalizovan i lišen mnogih važnih pojedinosti. Važna karakteristika modela je uticaj logističkog sistema, jer je u skoro svim segmentima poslovanja, bez snažnog logističkog sistema elektronski biznis praktično nemoguć. Istorijski gledano, mnogi poslovni poduhvati u domenu elektronskog poslovanja su propali baš zbog neadekvatnog logističkog sistema.

Napravili smo distinkciju između kupca i kupca inovatora, jer se ove dve važne kategorije u velikoj meri razlikuju. Kupci inovatori su često prvi koji prihvataju inovacije i mogu aktivno učestovati u procesu kreiranja novog proizvoda. Sa druge strane, većina kupaca neće aktivno učestvovati na kreiranju novog proizvoda, ali zahvaljujući mobilnim tehnologijama mogu vrlo lako izraziti svoje mišljenje i novom proizvodu.

Dobavljači su na samoj granici logističkog sistema, ali bi i oni morali aktivno da učestvuju u sistemu razvoja novog proizvoda. Bez njihove pomoći novi proizvod bi bio lansiran bez potrebnih optimizacija logističkih sistema. Ovo bi vodilo ka naknadnim „doradama“ logističkog sistema i to u domenu proizvodnje, transporta i skladištenja. Drugim rečima, novi proizvod bi imao visoku cenu baš zbog loše optimizacije i dodatno bi odbijao potencijalne kupce.

Kupci su van logističkog sistema, iako celokupan logistički sistem postoji potrebe tržišta i kupaca. Opet naglašavamo da se radi o grubom nacrtu u kojem nismo prikazali materijalne tokove. Bez materijalnih tokova imamo tokove informacija i hijerarhijsku strukturu. Kako logistički sistem ne može direktno da utiče na kupce tako smo kupce ostavili van istog.

7. ZAKLJUČAK

U prethodnom delu rada smo govorili o nedostacima modela, međutim, i pored svih nedostataka prikazani model nam daje pregled uticaja mobilnih tehnologija na elektronsko poslovanje. Ono što se iz modela slabo vidi je mobilnost učesnika u modelu. Svi učesnici imaju mogućnost da se geografski dislociraju, to znači da ne moraju biti svi učesnici na istom mestu i u isto vreme kako bi saradivali. Sa druge strane, mobilne tehnologije pružaju brži način komuniciranja ideja i mišljenja korišćenjem multimedijalnih sredstava. Nažalost, veliki deo komunikacije među ljudima vrši se i govorom tela, što nove tehnologije ne podržavaju, međutim, korisnici novih tehnologija se sve više adaptiraju novim vidovima komunikacije.

Budućnost razvoja mobilnih tehnologija je neizvestan u smislu daljih platformi i hardverskih rešenja, ali se već sada vidi da će ove tehnologije igrati ključne uloge u modernom društvu. Sa druge strane, elektronsko poslovanje sa svim svojim prednostima i manama će i dalje imati svoj put razvoja. Kompanije sve više prihvataju nove tehnologije kao važne delove svog poslovanja. Sa strateškog aspekta nemoguće je zaobići elektronsko poslovanje. Ono što kao kupci vidimo je samo manji deo elektronskog poslovanja. Veći deo elektronskog poslovanja je vezan za interne komunikacije i poslovanje između kompanija.

REFERENCE

1. Everett, M., R. (1983) "Diffusion of Innovations", The Free Press, USA
2. Gil-Pechuán, I., Palacios-Marqués, D., Peris-Ortiz, P., M., Vendrell, E., Ferrer-Ramirez, C. (Ed.) (2014) „Strategies in E-Business: Positioning and Social Networking in Online Markets”, Springer, USA
3. Laudon, C., K., Traver, G., C. (2014) „E – commerce business technology, society 10 ed.“, Person, Boston, USA
4. Noble, H., C., Durmusoglu, S., S., Griffin, A. (2014) „Open Innovation: New Product Development Essentials from the PDMA”, Wiley, New Jersey
5. Schneider, P., G. (2011) "*Electronic Commerce*", Course Technology, Australia
6. Shen, G., Hunag, X. (Ed.) (2011) "Advanced Research on Electronic Commerce, Web Application, and Communication", Springer, Wuhan, China
7. Tidd, J. (2010) "Gaining Momentum: Managing the Diffusion of Innovations", Imperial College Press, UK

FOOD QUALITY MANAGEMENT SYSTEM

Ružica Milovanović

Ekonomski fakultet u Kragujevcu, Serbia

Abstract: Packaging is the key element of a product and significant marketing tool and as inseparable part of a product is one of the tools of modern marketing communication. It attracts consumers' attention, provides information and influence formation of attitude of purchase. These are elements that determine increasingly usage of packaging in stimulating purchases, market share increase and advertising costs decrease. In modern business, role of packaging in the marketing communication is intensified by technological progress. New packaging materials contributed to expansion of modern ways selling, primarily food products. Also, the design is projecting in line with the technological innovations, according to the current trends and consumers' behaviors and attitudes. The area of packaging is increasingly being regulated by law in order to protect consumers and the environment. Sustainable development strategy stipulates the activities in protection, restoration and enhancement of natural relationships. Therefore, in addition to the health safety of consumers, packaging materials and packaging, have to have less influence on the environment. Ecologically justifiable packaging is obtained from materials which ensures less energy lost and pollution during its usage and recycling, which is, also, and marketing's success.

Keywords: commodity, marketing, food, safety, packaging, design.

1. INTRODUCTION

Packaging as part of the product, have to be adapted to the consumers' needs and demands. It represents the most valuable tool of modern marketing promotions. Essentially, producers are communicating with consumers by packaging. Therefore, design of packaging provides an advantage in a competitive environment. Consumer's choice and design features are key elements of the marketing strategy.

Researches show that the products are buying without prior planning and mostly are the result of impulsive decisions. Consequently, container's design helps and represents a significant factor of abstractivity of products. Modern packaging gives more opportunities for product to be spotted and selected. Novelties in design of packaging require constant management attention. Contemporary materials replace traditional ones but still enable recognizable shapes and sizes of packaging [3]. By innovative packaging notable advantage is achieved, so investment in new materials and design is very profitably.

Great importance of packaging confirms and legislation rules, according to which the manufacturer is obliged to provide high-quality packaging. During use of packaging criteria of safety and efficiency are provided by standardization of production. Also, application of standards regulates traceability of procedures and thus the maximum control in the chain of process of production and usage.

Commodity's packaging has specific ecological and economic importance. It represents a complex pollutant that affects the natural relations within the living environment. Polluted environment with waste materials pose a serious problem regarding the health and safety of food. Sanitary-hygienic effect must be carefully considered. Its state is improving by general measures that must be respected, so preservation of the living environment is achieved by the implementation of adopted laws and their procedures. Standards of ISO 14001 series define the elements of system of environmental protection, on the basis of which is carried out systematic control of impact on the living environment [6].

Also, implementation of fundamental principles of the European Union in the field of packaging waste, which are determined by national strategy of waste management, creates the basis for a rational and sustainable waste management [5].

This is justified because the average European household weekly produces 3-4 pounds of packaging waste. According to statistics, recycling of packaging is the most common in Sweden. Currently, in Serbia is recycling up to 10% of waste packaging, while in the European Union is processed more than 50%. This determined that new legislation in the Republic of Serbia defines an integrated approach to planning in the field of waste management. Result would be the establishment of a sustainable system that provides: regulation of pollution, development of the recycling industry with financial benefit.

2. IMPACT OF MARKETING

Markets are increasingly complex and customers' needs are more demanding. In such circumstances, organizers are forced to constantly adjust its business policy. Progress of a company is conditioned by ability of management to understand consumers and provide real value.

Access to the market and consumers are increasingly changing, because new relationships are establishing among the participants. Thus definition of expected value is very important for ensuring a higher level of customers' satisfaction. Today, they are becoming partners of companies, include themselves in the processes and thus make a source of necessary information.

Changes in consumers' needs and demands include harmonization of research and development, technology and marketing strategies and their direction towards creation of marketable ideas. The strategy focused on value, is a creative process, which incorporates defined activities and guides them towards creating value for consumers.

Basic activities are related to the necessary implementation, Figure 1.

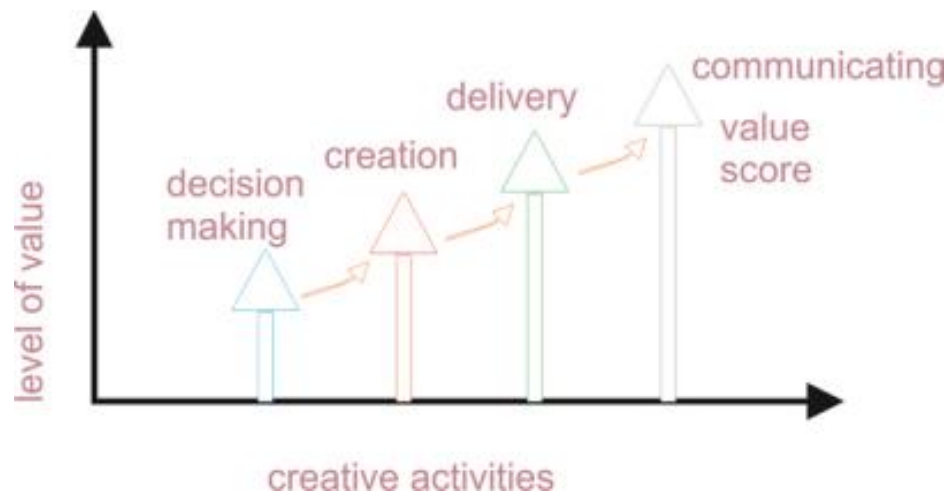


Figure 1. The creating value process

Marketing strategy focused on value provides: standardization of quality of products and services, effective communication and creation of loyal customers [8]. Successful creation of expected value is important for achieving higher level of satisfaction of customer. Most organizations aspire to greater value than that is created by competition. It is necessary to plan them in detail in order to achieve this. In that way fitted concept of value is estimated by the teams of experts.

Practice has proved that the organization's success increasingly depends on the behavior of foreign participants. Among them dominate suppliers, customers and competition, which means that they can't independently, successfully and autonomously managing and controlling their activities. Solutions are found in affiliation with other institutions.

Statistics of in that way formed successful system confirms that cooperation with institutions contributed creation of positive value for consumers. According to studies, more than 60% of purchases are conducting impulsively, where attractive packaging can act very motivationally and can be holder of new values.

3. SALES ROLE OF PACKAGING

The packaging does not have significance only during storage and transportation of goods, but it is also very powerful factor of selling products to demanding buyers. Which means that overcomes its primary purpose of protection of products in order to preserve product's fundamental qualitative characteristics. In this way, the packaging conveys a message that is incorporated into the design.

According to researches, packaging is the most often mean by which company affects the customers. Consumer usually considers packaging as an integral part of the total offer of product, such as alimentary products, which are exhibited in the carefully designed packaging. Therefore, marketing professionals and designers have to adapt packaging and its design to needs and aspirations of consumers. Also, today, creation of effective packaging is an integral part of the strategy of company's brand development. In addition, the packaging must conform to the prescribed standards, as well as the product itself.

Need for innovative products constantly exist. In order to meet these needs new solutions are finding and in the part of making packaging. Modern packaging and designs techniques are result of increased competition among companies. This situation is contributing to numerous innovations in new materials usage as well as the creation of contemporary design.

Advantages of functional and attractive packaging are product's levity of handling and safety. Example of creating value for a user can be the cardboard packaging with plastic bottle opener, instead of glass packaging, which is increasingly use for milk and juice packaging. Also, manufacturers tend to reduce the shape and type of packaging. By changing the graphic identity, lighter package are designed, that enable achievement of certain savings in transport.

Packaging and ambalage designing was developing with the aim that experience that provides packaging have to be decisive for the choice of the consumer. In addition, numerous factors fond their place and contribute to the improvement of food packaging, Figure 2.

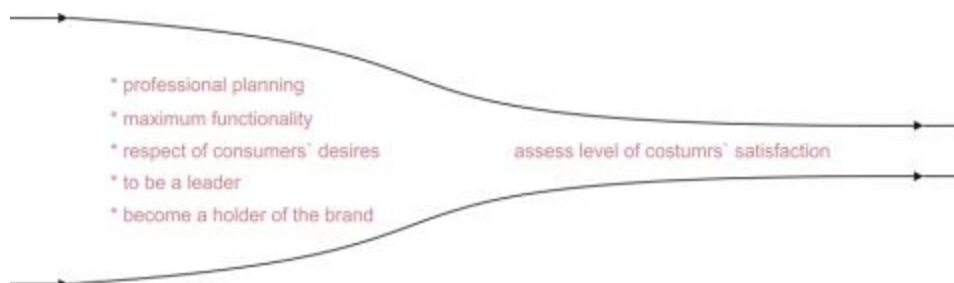


Figure 2. Elements of a successful design

In addition to its technical features, packaging provides information about product's brand. Regarding to strong competition, some manufacturers decide to choose an unethical behavior. Possible form of such behavior, which is sanctioned by law, is giving incorrect information about product through its packaging. Unprofessional behavior on the market of food is known since ancient times. Originality of food has two aspects in terms of modes of production and origin. Such products are appreciated and have a huge economic value. Although prices for products with marked origin may be subject to falsification.

Advancement of technology and industry, primarily in the field of development of packaging and packaging materials, caused that pollution of the living environment became increasingly prominent. Awareness about consequences of pollution is present, but not sufficiently in order for pollution reduction and more rational usage of resources. In countries with developed legislation, living environment is keeping by implementation of predefined standards.

4. LAWS AND REGULATIONS AFFECTING PRODUCTION, USAGE AND DISPOSAL OF PACKAGING

Application of standards is a mandatory element of business in contemporary society. Organization in operation of business enterprises and institutions is achieved by introduction international standards. Particular importance belongs to the packaging for packing alimentary products, which must meet austere standards, and before all, it must be healthy safe. For these reasons, choice of adequate packaging material is one of the most important segments in food industry development.

Importance of packaging industry of alimentary products, from the standpoint of legal legislation, could be presented in the following way, Figure 3.

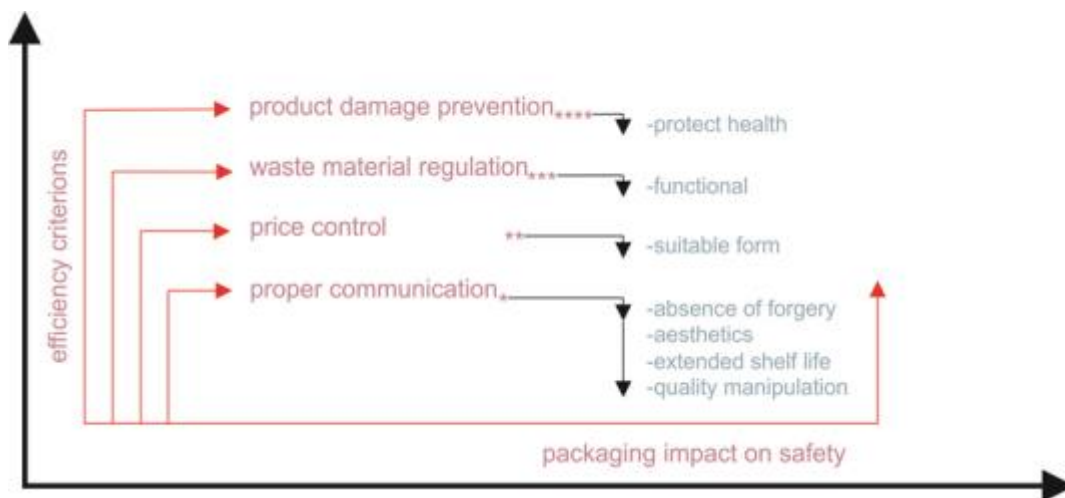


Figure 3. Effects in implementation of legal regulations

Standardization of the production process ensures that packaging satisfies set standards and meets the criteria of safety and efficiency. Manufacturers of packaging, in order to improve production and existing level of competitiveness, increasingly apply international standards of ISO (International Organization for Standardization). First of all, these are ISO 9001 and 14000 international standards. Also, great importance belongs to the HACCP system (Hazard analysis and critical control points), which is a modern safety system. HACCP standard provides maximum prevention for the production of high-quality and safe products.

These issues are defined by legal regulation so that from 2011. this system became mandatory in all objects, which are engaged in the production, processing and distribution of food and alimentary products [7]. This system is primary and in the field of production of packaging and packaging materials that are used during packing, storage and distribution.

The essence of the HACCP system is based on an integrated approach, information traceability, effective decision-making and on control of the risk assessment. For the purpose of more successful trade with EU countries, compliance with the requirements of the European Directive 94/62/EC in the field of packaging and packaging waste is essential. Waste material management is an integrated approach of planning these issues and contributes

to establishment of sustainable system. Characteristics of such system are: reduction of environmental pollution, development of the recycling industry and significant financial gain.

The environmental sector is subject to continuous improvement in the countries of the European Union. Their program is based on a sustainable model of economic and social development. These are the basic parameters for greater efficiency and competitiveness. Analyzing the environmental sector, it should be noted that packaging is complex pollutant that affects change of natural relations. For these reasons, the sustainable development strategy prescribes standards in all production sectors, in order to overcome critical situations.

5. SUMMARY

Packaging as part of a product is gaining growing importance in the sales process. It is serving for identification of high-quality and very popular products. Among them, alimentary food products are highly ranked.

In modern business conditions, its protective role is increasingly moving towards attracting the attention of consumers. Therefore, definition of design is very important and represents a multidisciplinary approach.

Importance of design is increasing with advent of shopping in big shopping malls. Self-service caused shifting function of informing from the seller to the product's packaging and design. The packaging carries information about a product, its quality and usability. In this way it helps customer in making decision and is becoming element of product attractiveness.

Industrial food production, including production of packaging and packaging materials, requires strict and complex compliance with rules. In the system of legislation, HACCP standard is forced, which has become a legal obligation for all those involved in the food business. It is based on the recommendations of the Codex Alimentarius for application of the general principles of food hygiene.

HACCP standard is based on the well-organized prerequisite programs, primarily on, good hygiene and manufacturing practices. Beside health safety, preservation of living environment is increasingly taking into account. Sustainable development strategy dictates actions towards protection, restoration and improvement of the living environment.

Studies have shown that the environmental acceptability of materials and finished products is important criterion in part of usage of packaging. Also, in the current market conditions, it is necessary that designers constantly adapt packaging to needs and desires of consumers. This confirms the fact that product's packaging is a key element of the marketing strategy.

REFERENCES

- Kotler P., 2001., *Marketing management - analysis, planning, implementation and control*, Mate, Zagreb

- Jevtić P., Mihajlović P., 2011., *Responsibility of humanity for the environment and biodiversity*, *Ecologica*, vol. 18, no 63, page 614-617, Beograd
- Jobber D., Fahy J., 2006., *Fundamentals of Marketing*, Data status, Beograd
- Jurjan J. M., Gryna F. M., 1999., *Design and analysis of quality*, Mate, Zagreb
- Milovanović R., 2013, *Ecological aspect of packaging materials*, Meat and meat products-Perspectives of sustainable production, International 57th meat industry conference, Beograd, page 268-271
- Milovanović R., 2013., *The impact of quality management systems in food safety*, thematic collection of papers: Features, concepts and challenges of management in contemporary business conditions, Faculty of Economics in Kragujevac, Kragujevac, page 133-150
- Stojanović D., 2007., *Health food safety*, Faculty of Medicine in Niš, Niš
- Stanković Lj., 2004., *Marketing strategy focused on value*, Faculty of Economics in Niš, Niš
- Vujaković I., 2003., *Trends in the production and application of packaging from the point of view of sustainable development*, Faculty of technology in Novi Sad, Novi Sad
- Food Safety Law, Official Gazette of the Republic of Serbia, no 41/09
- Guide for development and implementation of prerequisite programs and HACCP principles in food production, 2009, the Ministry of Agriculture, Forestry and Water Management, Department of Veterinary Medicine, Belgrade
- National Waste Management Strategy of the Republic of Serbia, 2009., Belgrade

OCCUPATIONAL MOTIVATION AND MOTIVATION FOR SAFE WORKING CONDITIONS AS SOME OF THE MAIN OBJECTIVES IN HRM WITH THE AIM OF CREATING MORE EFFICIENT AND MORE PLEASANT WORKING ENVIRONMENT

Tomislav Rakić

TommyR Corptex d.o.o. Leskovac; Serbia

Abstract: The main objective of this paper is to gain insight into the structure of employee motivation in terms of social and organizational crisis and establish mutual relations of occupational motivation and motivation for safe operation. Thus set the overall goal is broken down into several specific objectives, with appropriate correlation established among them.

Inclusion in world trade flows, foreign investment in domestic companies and market liberalization require a radical change in relation to human resources, as well as the manner of their use.

Establishing safe working conditions is a complex process, which is defined by specific individual motivation for occupational safety and health and by the organization of work processes, organizational culture and other factors. Occupational safety and health motivation is only one aspect of occupational motivation. Given that personal and environmental motivation are not universal, for what applies for one environment or one organization does not necessarily apply for the second, a survey has been conducted of all relevant factors of occupational motivation and motivation for safe operation.

By detailed analysis of collected data, some standard deviations, correlation coefficients and hierarchical relationships between responses were calculated by different criteria and according to them final models have been formed the results analysed.

Keywords: motivation, occupational safety, correlation, efficiency, models.

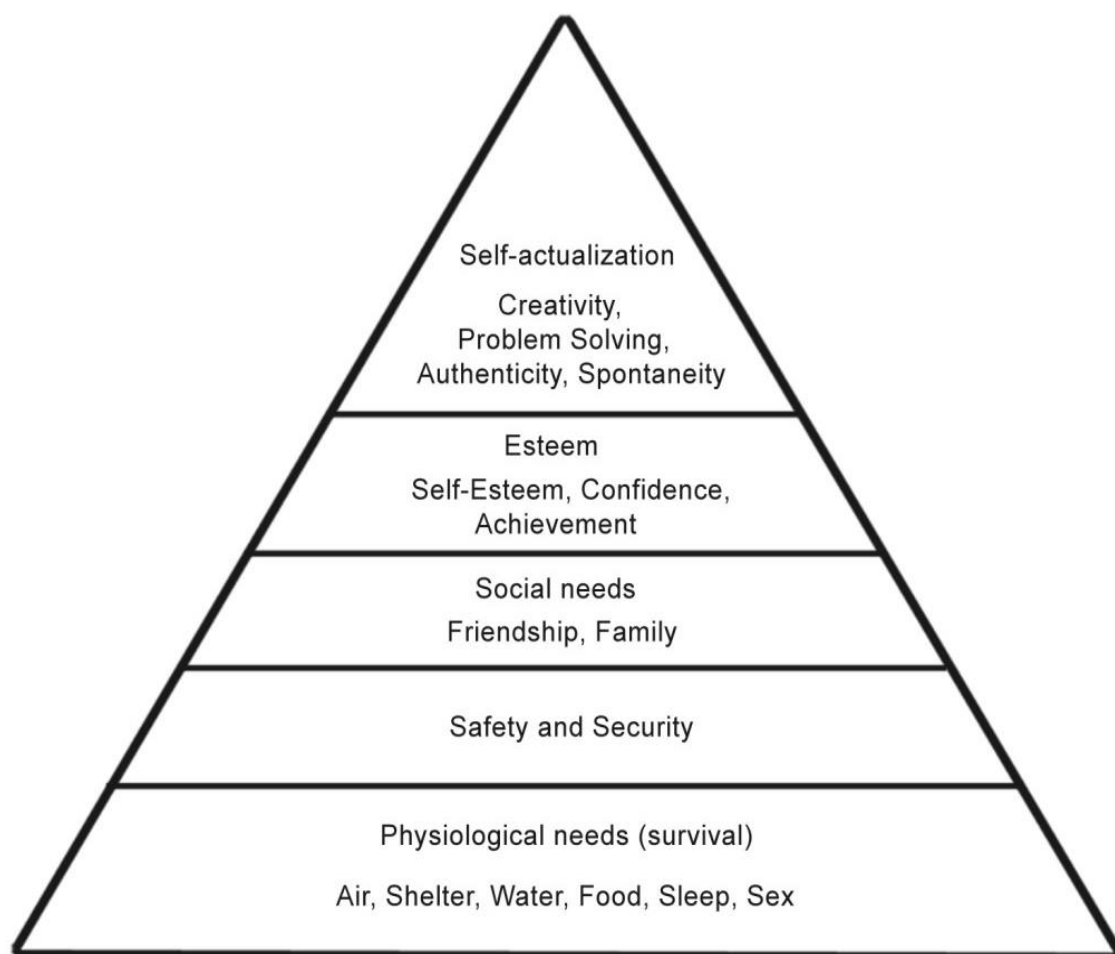
1. INTRODUCTION

Most theories (either traditional or contemporary) were created in the countries that belong to the economically developed part of the world, ruled by clearly defined, stable socio-economic and organizational conditions. In such circumstances, theoreticians and researchers of the phenomenon of occupational motivation were provided in advance with a sort of control of important variables, especially those related to social status, performance evaluation, property, work organization, working conditions ... In the circumstances in which our society is, i.e. the process of transition and restructuring, all these very significant effects on the efficiency and productivity of workers are exposed to almost unpredictable changes. These changes concern the prevailing forms of property, the way of economy organization, the market development level... In such dynamic environment, it is logical to assume that the occupational motivation of people is exposed to changes.

Results published in this paper represent a part of an extensive survey conducted in late 2014, in the Company "Luka Bar AD CONTAINER TERMINAL AND GENERAL CARGO JSC" (<http://www.ctgc.me/>), the winner of the prestigious award "Brand Leader 2015" at the second business conference "Transportation & Logistics of the Southeast Europe and the Danube region", organized by Mass Media International.

Analyzing the existing theories, we can conclude that in science there are some generally accepted views on the nature and origin of motivation.

For all of these reasons, and because of the specific objectives of this research, while formulating this problem, the hypothetical framework and research variables, we didn't follow the theoretical explanation of motivation as a whole, although *Abraham Maslow's hierarchy of needs* theory was taken as a starting one.



Picture 1. Abraham Maslow's hierarchy of needs theory⁰¹.

The hierarchical arrangement of these needs means that there is an order in their satisfaction. This means that the needs of "higher" order cannot be satisfied unless the needs of "lower" order, i.e. the needs closer to the base of the hierarchical pyramid, have been

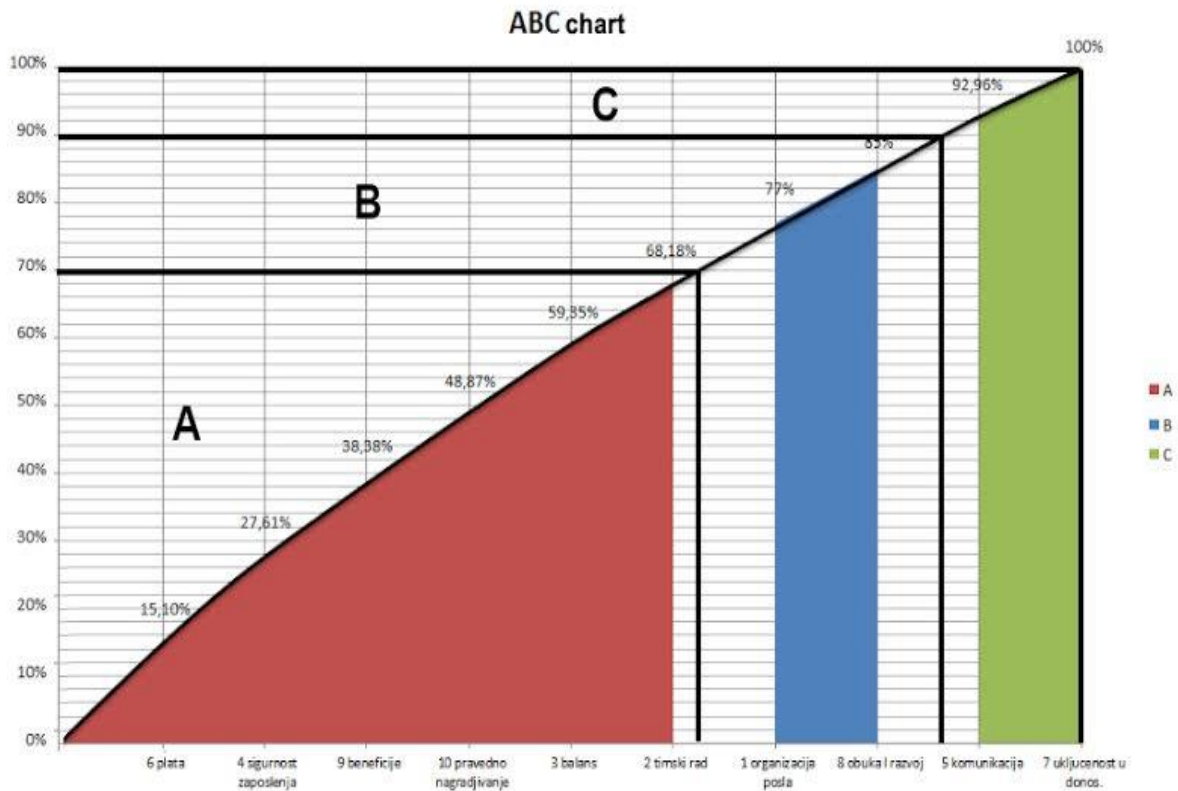
satisfied. Physiological needs must be satisfied first, and as long as they are not satisfied, the satisfaction of other, higher needs, is not possible.

Although at first sight it may seem quite natural and logical, Maslow's hierarchy of needs has been severely criticized. First of all, there is little empirical confirmation of this theory. Further, the rigid hierarchical arrangement of needs has not been proved in practice. There are many examples of actions of employees which are focused on satisfying the needs of a higher order, without having the lower-order needs been satisfied.

Based on the results got by using the questionnaire No.5⁰², which is aimed at ranking factors of motivation of the employees, we started the processing using the ABC diagram.

Table 1. Results collected using a questionnaire no.5⁰²

Question	Ranked	frequency	percent	Cum. percent	GROUP
1. Organization of work	6. Salary	1.528	15,10%	15,10%	A
2. Teamwork	4. Job security and career prospects	1.266	12,51%	27,61%	A
3. The balance between work and private life	9. Benefits	1.090	10,77%	38,38%	A
4. Job security and career prospects	10. Fair remuneration and personal integrity	1.062	10,49%	48,87%	A
5. Communication	3. The balance between work and private life	1.060	10,47%	59,35%	A
6. Salary	2. Teamwork	894	8,83%	68,18%	A
7. Involvement in the decision-making process	1. Organization of work	892	8,81%	77,00%	B
8. Training and development	8. Training and development	810	8,00%	85,00%	B
9. Benefits	5. Communication	806	7,96%	92,96%	C
10. Fair remuneration and personal integrity	7. Involvement in the decision-making process	712	7,04%	100,00%	C
		10.120			



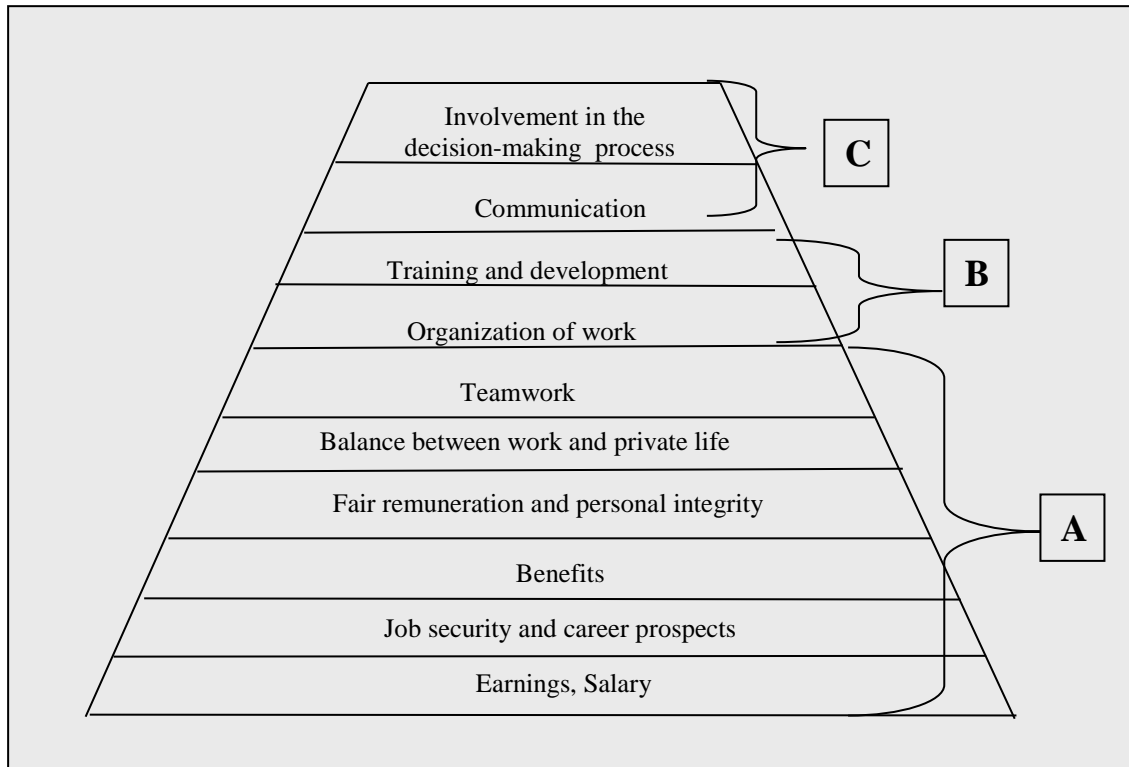
Picture 2. Graphically presented results obtained using the questionnaire No.5⁰²

ABC chart (Picture no.2) clearly shows which factors had the greatest impact on the respondents.

The issues found in the square A have the greatest impact on employees and HRM department should pay the greatest attention to them.

Questions from squares B are important, but they should be considered only after the questions from square A have been done, or, if it is impossible to satisfy all the conditions of the square A, it is advisable to mix squares A and B with the aim of costs rationalization, while the square C should not be specifically considered in the beginning, since it requires great expenses and effort, and the results are almost miserable .

Based on the results obtained by analyzing the Questionnaire No.1 and using the ABC diagrams shown in Table no. 1 and Picture no.2, and following the Maslow 's hierarchy of needs theory as an example(picture no.1), which was the starting point in preparing this paper, the following model was established, and shown in Picture no.3



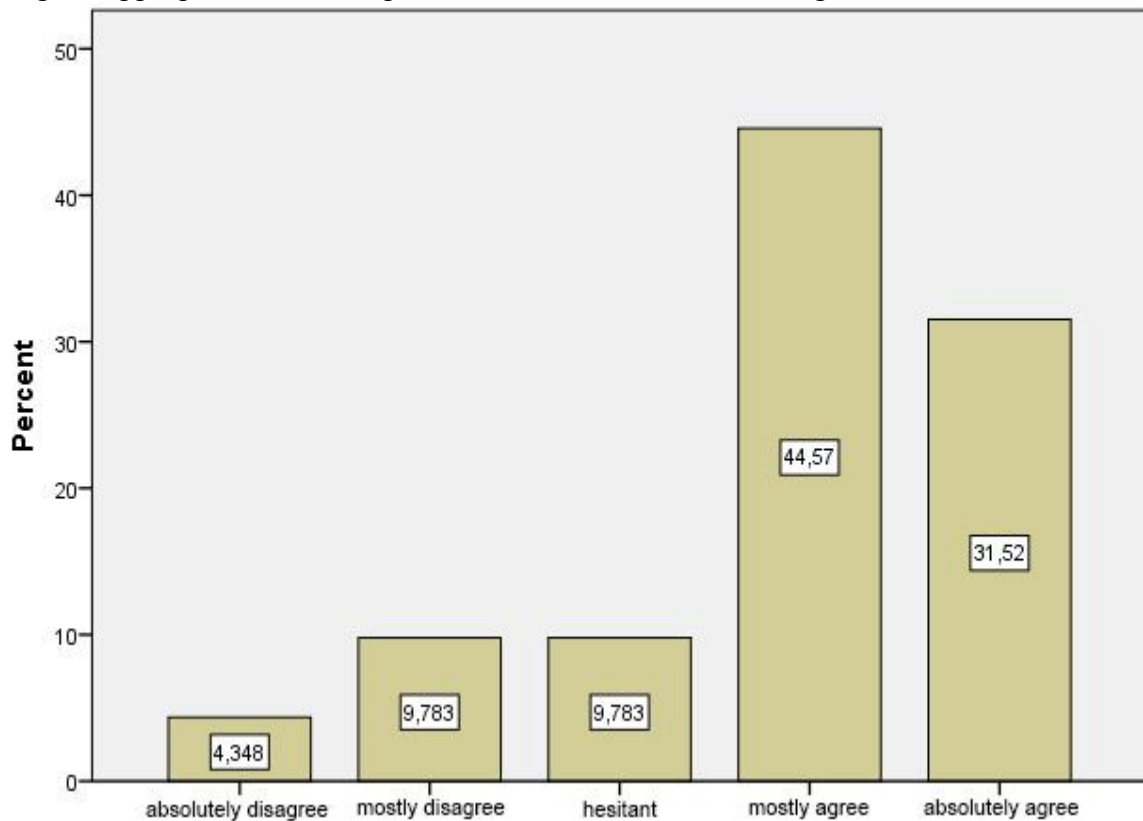
Picture 3. Significance of satisfaction pyramid

Based on Pyramid of importance of satisfaction (pic.no.3) formed according to the collected data of the population surveyed and their detailed treatment, it is possible to get clear conclusions on the direction in which the activities of the HRM department of an organization should continue :

- It is necessary to respect the order of satisfying the needs,
- The needs closer to the basis should be satisfied first, and then the higher level ones,
- Since in this case the needs have been classified into three segments (segment A, segment B and C segment, pic.no.3) the needs of segment A must be satisfied, then the needs from segment B, and only in the end the needs from segment C can be satisfied.
- If it is not possible to adequately satisfy the needs of segment A, since there are six of them, they can be mixed with the ones in segment B, and thus achieve cost reductions while increasing productivity;
- Although often pointed out as a very important factor in employee satisfaction, communication and involvement in decision-making process, according to this study, occupy the last position, and there is no need to engage funds and resources for this purpose, or at least not as long as there at least one unsatisfied need within the Segment A and Segment B, whose satisfaction is not very demanding.

Some answers, obtained by this research, collected by using a scale for measuring occupational motivation⁰³, will be presented:

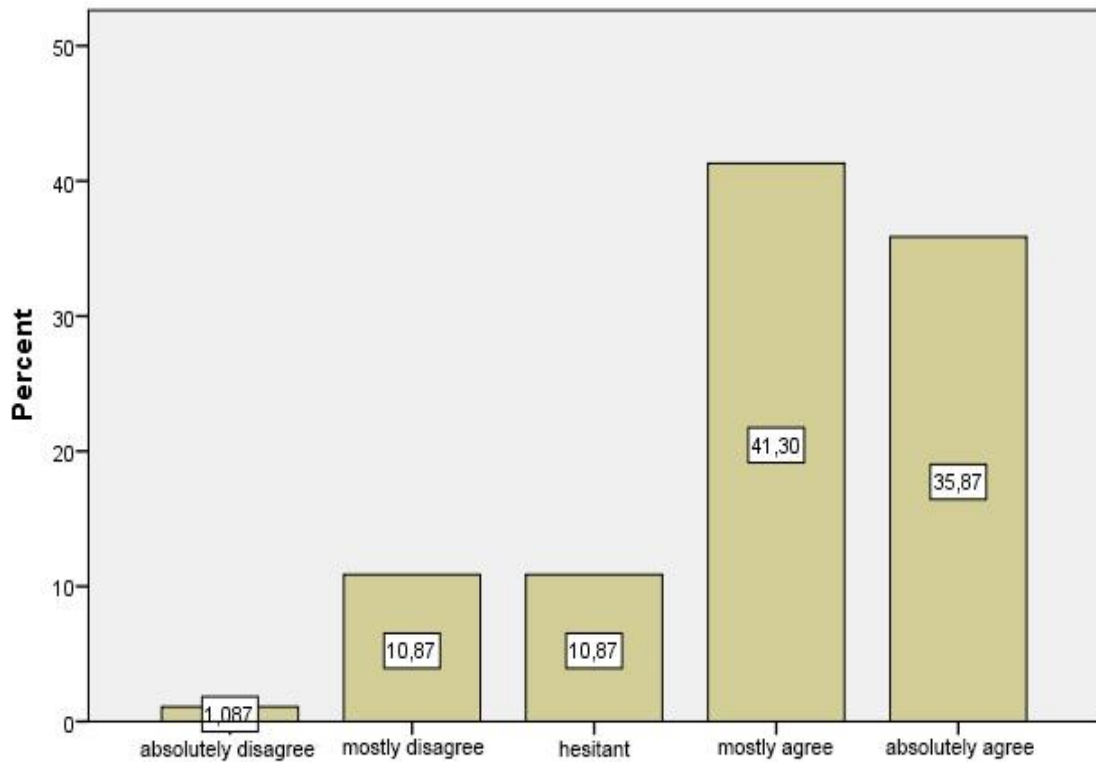
The distribution of answers to the question: "Do you feel safer and better when using the appropriate means of protection at work" is as following:



Picture 4. Graphically displayed answers to the question : "Do you feel safer and better when using the appropriate means of protection at work"

As it can clearly be seen on the graphic, the largest percentage of respondents (44.57 %) generally agrees with the above statement, 31.52 % of respondents fully agree with this statement, the number of hesitant and those who generally do not agree is 9,783 %, while 4.348 % of them do not agree with the given statement. Based on the obtained distribution of answers, we can conclude that the largest percentage of respondents (76.09 %) feel much safer and better when they use appropriate means of protection at work.

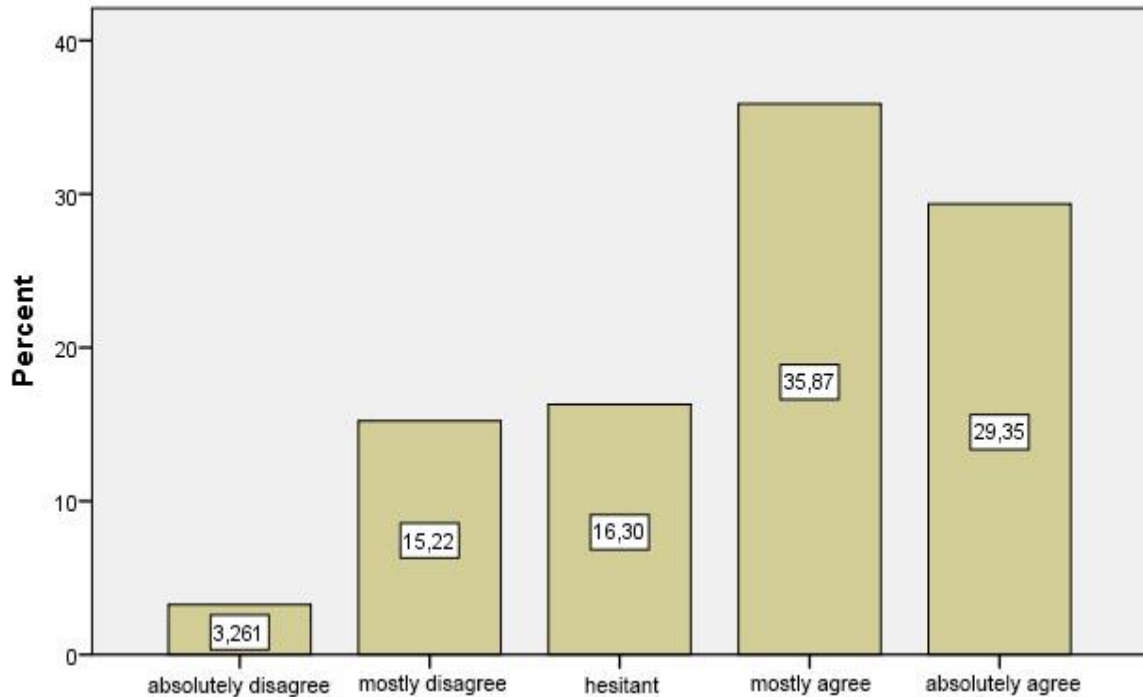
To the question " Does good protective equipment at work contribute to your engagement in the work process", we received the following answers :



Picture No.5 : Graphically displayed answersto the question : ''Does good protecting equipment at work contribute to your engagement in the work process''.

Most respondents generally agree with the above assumption (41.30 %), 35,87 % of the respondents completely agree, hesitants and those who generally do not agree make 10.87 %, and those who disagree make only 1.087 % . Based on the obtained distribution of responses we can conclude that the largest percentage of respondents, 77.17 %, agree that good protecting equipment at work really contributes to their involvement in the work process .

To the statement "One of the most important indicators of unselfish and positive care for workers that positively affects the production is organized application of means of protection at work", the respondents gave the following answers :



Picture 6: graphically displays answers the statement : ' ' One of the most important indicators of unselfish and positive care about workers , which positively affects the production is organized application of means of protection at work '

The largest percentage of respondents, 35.87 %, generally agree with the above assumption, fully agree 29.35 %, 16.30% are hesitant , largely disagree 15.22 % and only 3.261 % of respondents disagree.

Based on the formerly stated, it is clear that most of the respondents, 65.22 %, fully or mostly agree with the above assumption that an organized application of means of protection at work is one of the most important indicators of unselfish and positive care for workers, which positively affects the production.

Answers to the question "Do you most often use means of protection at work because there are control and punishment" were distributed as follows :

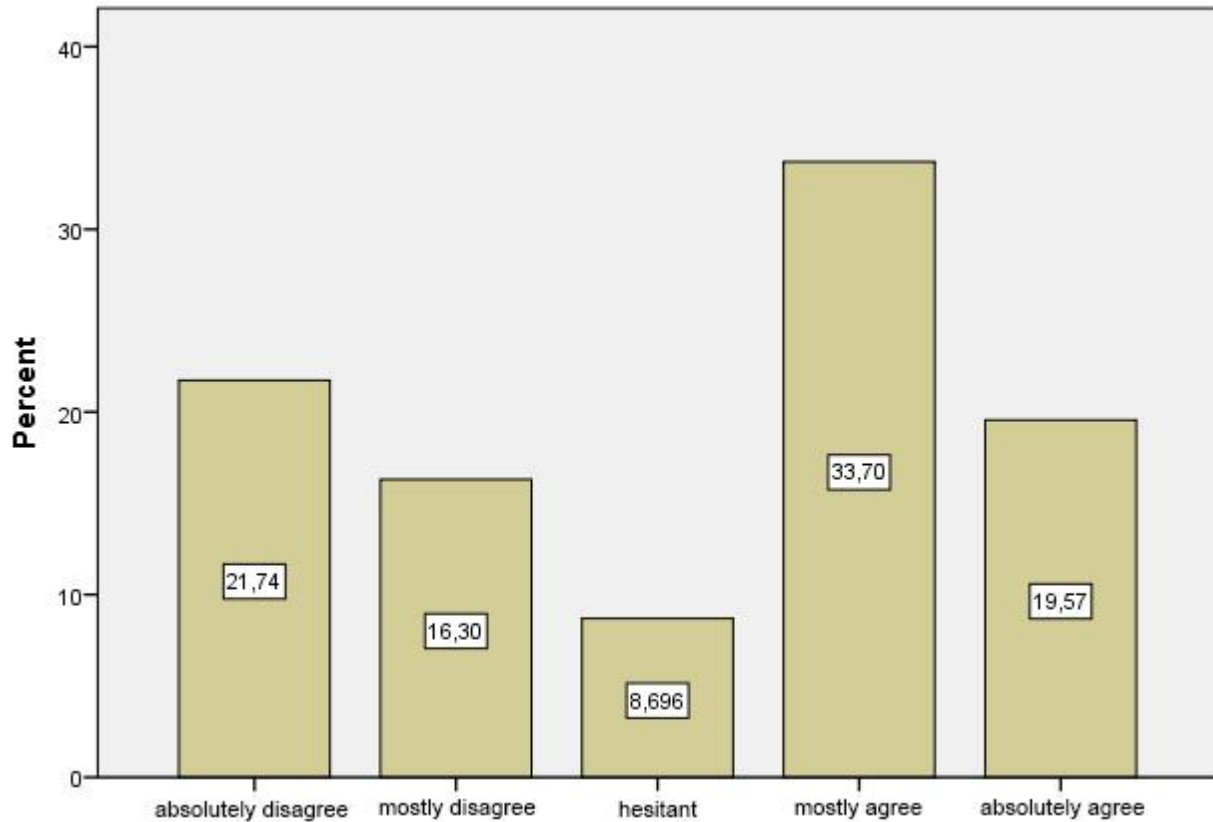
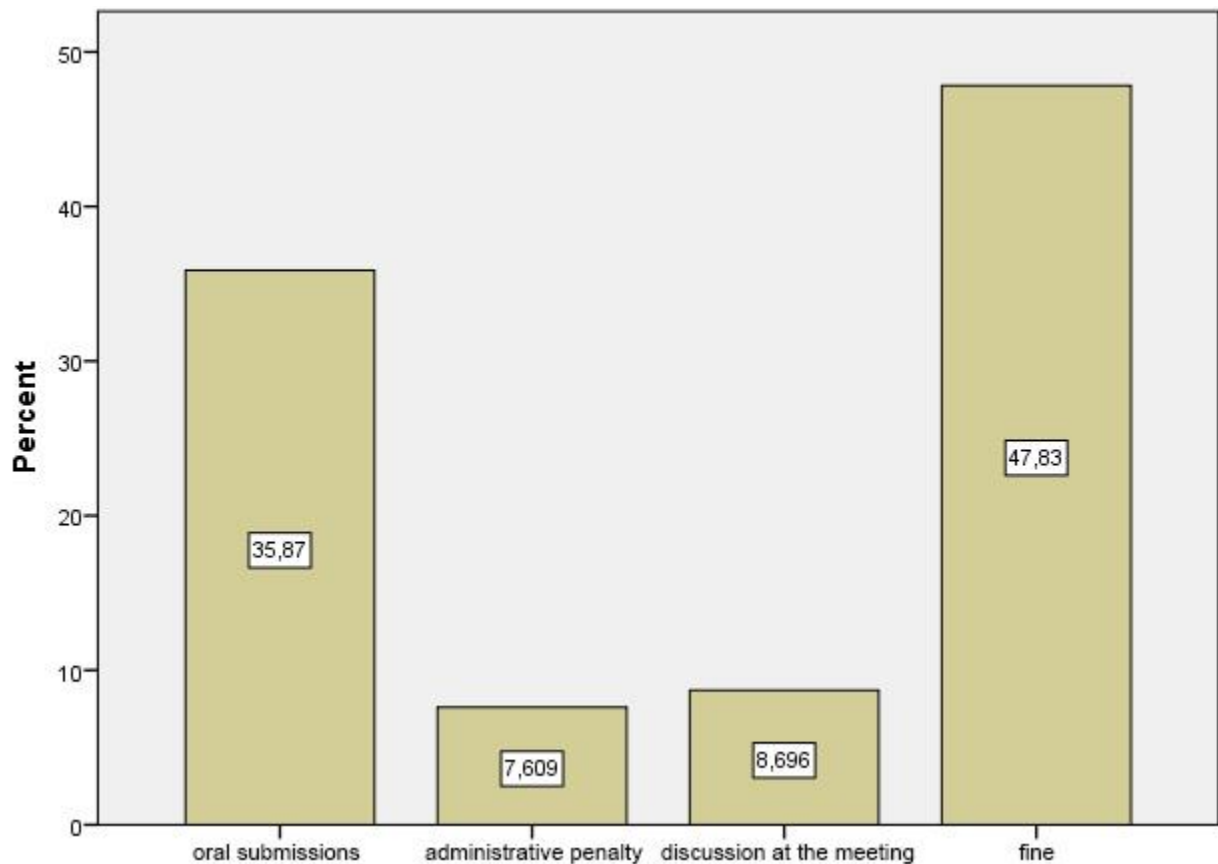


Figure 7. Graphic shows the responses to the question: "Do you most often use means of protection at work because there are control and punishment"

The largest percentage of respondents, 33.70 %, generally agree with the default assumption , 19.57 % of respondents completely agree, 8,696 % are indecisive, mainly disagree 16.30% of respondents , while 21,74 % of respondents disagree with the above assumption.

Based on the obtained distribution of responses it can be noticed that 53.27 % of respondents mostly or fully agree with the above assumption. However, one should not ignore the 38.04 % mainly or not at all agree with the above statement, which means that the control and punishment are essential factors for the use of safety at work, but not the only relevant.

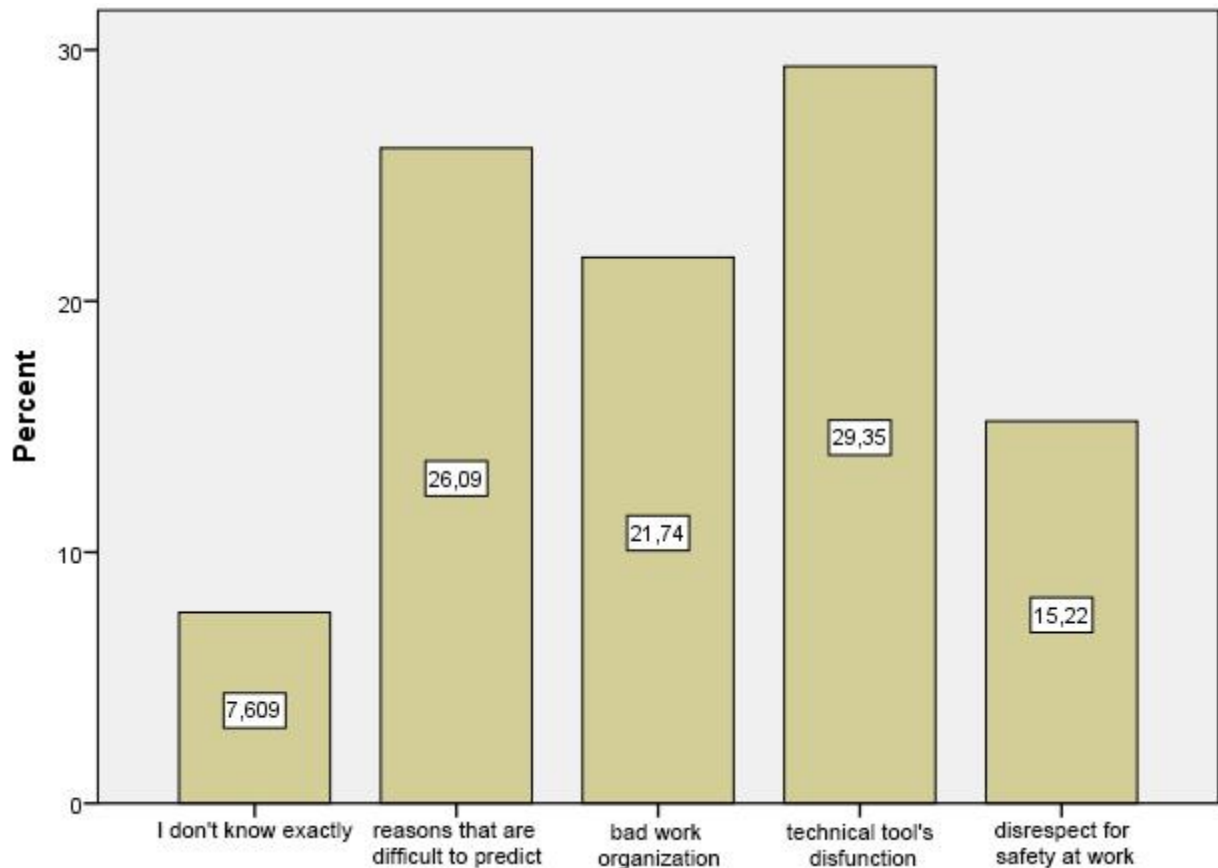
Answers to the question "What are the most effective measures in case of violations of work safety regulations" :



Picture 8. Graphical presentation of the response to the question, 'What are the most effective measures against violations of work safety regulations ' '

In case of the question: “ What are the most effective measures in case of violations of work safety regulations?“, based on the ranking of answers the following two measures emerged: fine - 47.83 % and warning - 35.87 % , and the company should focus on them. Warning orally should be prior to a fine.

Answers to the question ' ' Specify the reason that you think is the cause of getting hurt at work ' ' were not uniform. According to their opinion, there was not a single clearly defined reason.



Picture 9. graphical presentation of the response to the question: " Specify the reason that you think is the cause of injury at work?".

The cause of injury at work, according to the answers, is complex since it includes several reasons. As a cause of injury at work 29,35% of respondents stated technical malfunction of the tools, reasons that are difficult to predict prompting 26.09% of respondents, bad work organization led 21,74% of the respondents, 15,22% of respondents stated disrespect for safety at work, while 7,609% of respondents did not give any specific reason.

Management of a company should primarily eliminate technical malfunction of tools, then bad work organization, as well as disregard of safety at work, so as to bring the injuries at work to a minimum.

If we take into account the fact that fine is the most effective measure to eliminate the problem of violations of work safety regulations, HRM department should exploit that conclusion for the purpose of minimizing the cases of injury at working place.

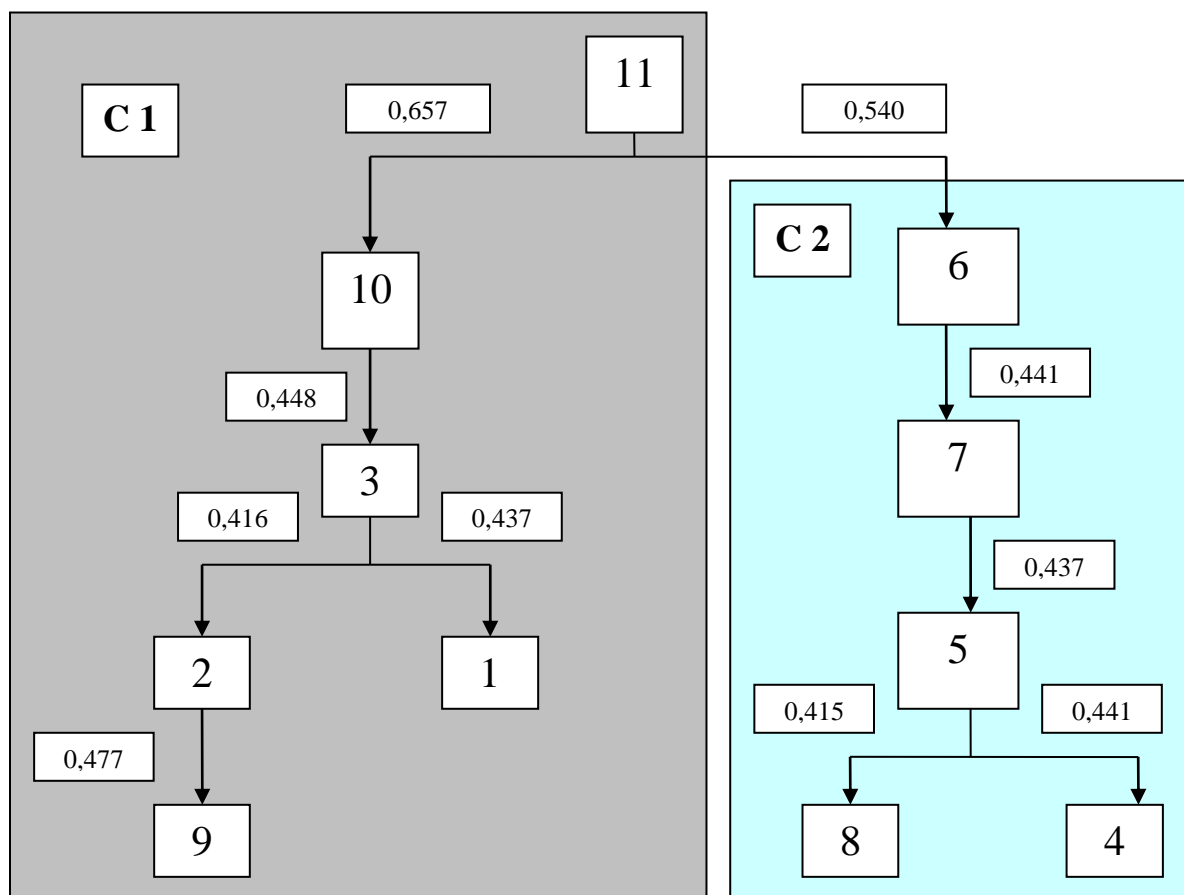
One of the most important tasks of the research was the determination of the correlations between different factors that affect the motivation of workers:

Var01 - satisfaction with salary, Var02 - satisfaction benefits, Var03 - satisfaction with care and attention of the superiors, Var04 - being at work,

Var05 - satisfaction with career development prospects, Var06 - satisfaction with the system of remuneration, Var07 - satisfaction with the system of training and development, Var08 - satisfaction with the balance between life and work, Var09 - collective satisfaction, Var10 - satisfaction with the organization of work, Var11 - satisfaction with working conditions.

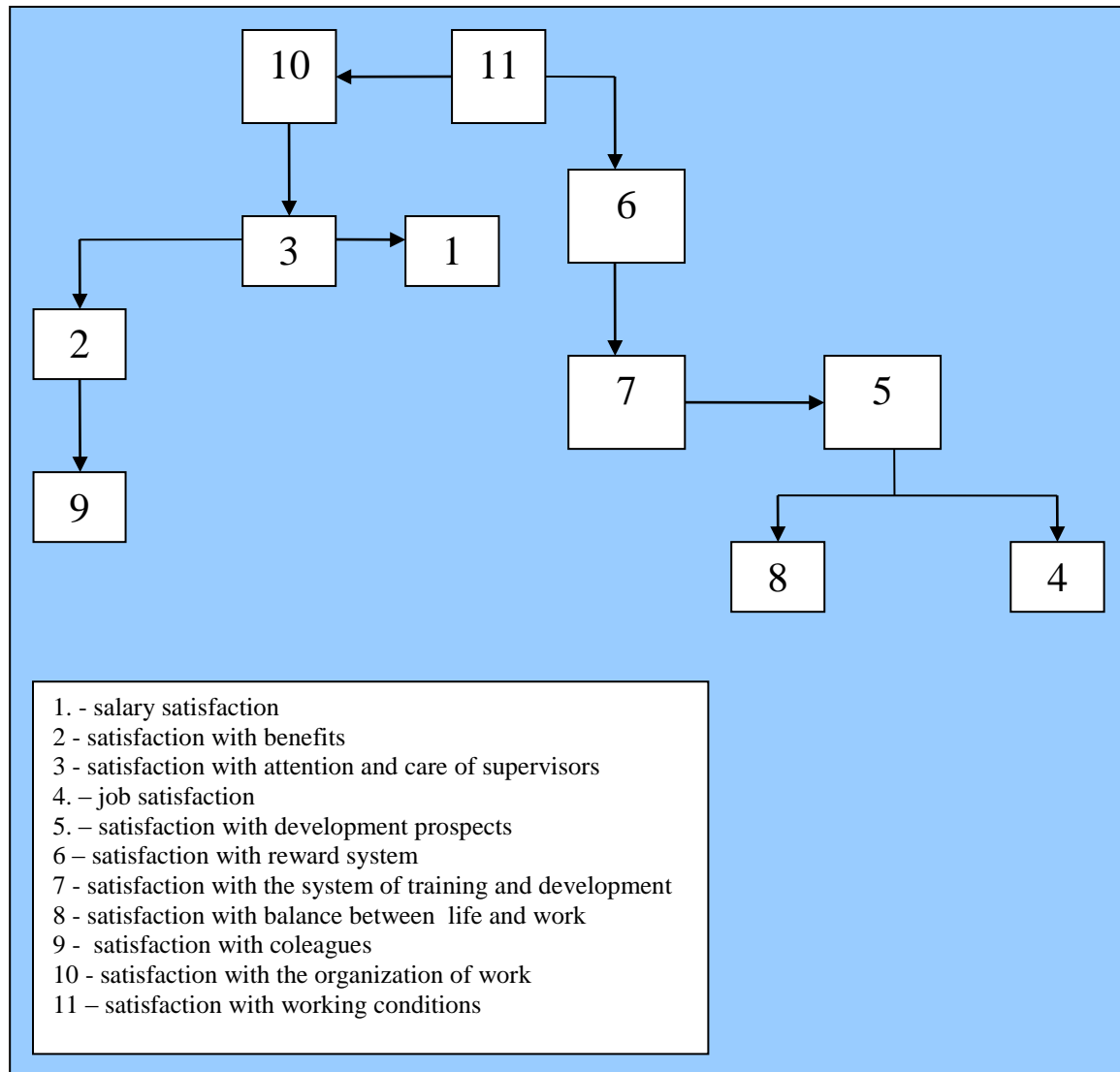
Correlation coefficients tell us about the strength of the connections between the questions and they are used for forming models by which, and on the basis of certain hypotheses, there can be tested the awareness of population of the subject of the given survey.

Using *SPSS*⁰⁴ software, based on the obtained correlations among variables there was formed the initial model, where, as it is clearly evident, certain issues turned out as a separate group, forming clusters of particular groups of issues, designated C 1 and C 2:



Picture 10. Initial model based on correlation coefficients

In addition to the bond strength of the relationship, the correlation coefficients are the basis for further examination of the hierarchy of importance of individual pairs of questions. The analysis of pairs of questions was made by Paired sample t – test, and we have formed a final model:



Picture 11. The final model

As the graphics clearly show, satisfaction with working conditions (11) is closely related to satisfaction with the organization of work (10) and is located at the same hierarchical level . Therefore , if the working conditions are at a sufficiently high level, it is logical that the job satisfaction is on a high level, too. The greatest impact on satisfaction with the organization of work have the satisfaction with the attention and care of superiors (3), which is closely related (they are on the same hierarchical level) with salary satisfaction (1) . This is the logical link if we take into consideration that in a healthy business environment salaries are directly dependent on the performance and the effect is directly related to the organization of work .

According to the presented model, satisfaction with the care and attention of superiors is in direct function of the satisfaction of benefits (2) , which is related to satisfaction with the colleagues (9).

Satisfaction with the colleagues may be seen as a "total satisfaction" with the organization in which the employee works.

Satisfaction with working conditions (11) is caused by satisfaction with the reward system (6), which is in function of satisfaction with training and development system (7), which is closely related (located at the same hierarchical level) to satisfaction with development prospects.

Satisfaction with career development prospects is in function of satisfaction with balance between work and life (8) and job satisfaction that workers do (4).

Logically, if someone progresses, his and his family's living standards will be higher. Again, the standard of living is higher after promotion only if the correct reward system is established in the company.

It is particularly necessary to be careful and take care not to disturb the balance between work and life, as this will automatically lead to negative motivation of workers.

Satisfaction with working conditions basically derives from the satisfaction with the job that the workers do, and a special attention should be paid to this segment.

The main objective of this study was to present a part of the data collected by an extensive research, and, on the basis of them, to provide a guidance to the HRM department which way to go. Of course, this study does not provide definitive models that can be applied to all companies around the world, but it will, I hope, help the companies recognise the desires and needs of workers in the societies in transition, and satisfy them in the right way in order to achieve a better productivity, better competitiveness, greater profitability and, eventually, to raise living standards.

REFERENCES

01. Abraham Maslow , A Theory of Human Motivation , Psychological Review , 50
02. Tomislav Rakić,: '' The impact of human resource management at the motivation of employees in small and medium-sized enterprises ' , Master Thesis , Faculty Bor , 2007.
03. Snezana Zivković,: '' The motivation for occupational safety '' , Faculty of Occupational Safety in Nis , Nis (2008)
04. www.spss.com

SYSTEM APPROACH TO THE ANALYSIS OF COPPER CONCENTRATE PRODUCTION

Ivica Nikolić¹, Ivana Jovanović², Ivan Mihajlović¹, Igor Miljanović³

¹University of Belgrade, Technical Faculty in Bor, Management Department, Bor; ²Mining and Metallurgy Institute Bor; ³Faculty of Mining and Geology, Serbia

Abstract: In this paper, the production of copper flotation concentrate in the copper mineral processing plant „Veliki Krivelj“ (RTB Bor) was analysed. The correlation between the input parameters (copper content in the feed, consumption of lime, consumption of frother, collector consumption in the rough flotation stage, collector consumption in the scavenger stage and the pulp density in the rough flotation stage) and output parameters (copper content and recovery in the final concentrate) is accomplished by a systemic approach. The data for analysis were obtained in the time period November 2009 – February 2010 of the plant operation. Data were collected on a daily basis for all three shifts. For the analysis of obtained data, the techniques of linear and nonlinear statistical analysis were applied. Accordingly, the starting data were used to develop optimization model, which could be useful for the further analysis of the influence of input parameters on the final outputs – i.e. final concentrate grade and recovery.

Keywords: Systems approach, copper concentrate, flotation, linear and non-linear statistics.

1. INTRODUCTION

Modeling of the technological processes in the modern operational management, represents a significant element of its further optimization [1]. In operations management it is implied that absolute optimization of any process cannot be achieved. Therefore, each process can be re-analyzed in order to continue seeking for opportunities to improve its economic and technological parameters. The above fact is of special importance in industrial conditions, considering that contemporary technical and technological processes usually consist of a large number of phases and activities. Also in addition to optimization of technological and economic parameters, optimization from the perspective of ecology and environmental protection should be addressed. Therefore, a large number of input variables, at the same time, can have significant impact on the optimal output of the process.

In this regard, an attempt was made to define a numerical model of the processes for flotation concentration of copper. Accordingly, copper content and recovery in the final concentrate – the outputs of the process were taken as the qualitative variables. At the same time a large number of input variables were considered, according to a systemic approach of the process. Data for the analysis were obtained by process recording and acquisition of real data from the Flotation plant „Veliki Krivelj“.

Flotation plant in Veliki Krivelj represents a significant segment of the technological process of copper extraction in Mining and Smelting Complex Bor – RTB Bor. It was put into trial operation in December 1982. It was designed and built for an annual capacity of eight

million tons of ore, with a three-stage crushing and two-stage grinding in three identical milling sections. After a number of reconstruction, with the introduction of modern processing equipment, today flotation plant in Veliki Krivelj works with the capacity of 10.6 million tons per year (ore from the deposit “Veliki Krivelj”) [2].

Copper deposit “Veliki Krivelj” is located at a distance of about 4 km northeast of Bor and belongs to porphyry deposits of large scale. It is estimated that the balance reserves of copper ore in this deposit (with the threshold content of 0.15% Cu, categorized as B+C1 reserves) amount 474.291.085 t, having 1.533.821 tons of copper [3].

Flotation concentration is a process of separation of minerals which occurs due to differences in physical-chemical properties of mineral surfaces. It is mainly used for the concentration of metallic ores, for cleaning of solid fuel or enrichment of non-metallic minerals, but can also be applied to extract solid particles from liquids or the separation of non-mineral particles one from another [4].

Given the complexity of considered technological process, the most important input parameters were selected: copper content in the feed, consumption of lime, consumption of frother, collector consumption in the rough flotation stage, collector consumption in the scavenger stage and the pulp density in the rough flotation stage. Those input parameters were analyzed simultaneously with their influence on the output parameters: copper content and recovery in the final concentrate, using statistical techniques and tools. Given that a large number of parameters are simultaneously monitored, the correlation between inputs and outputs is followed by a systematic approach. The considered technological process is a complex transformational system with specific subprocesses and inputs, therefore modeling and optimization of this system is very complex. The biggest problem is made by certain input parameters that are optimal for one sub-process, while at the same time not optimal for the other sub-process. The technological process, as a complex production transformational system, will be briefly described in the second part of the paper [5].

The aim of this research is to perform modeling of the flotation process, in order to simulate and test the resulting model so that the range of the input parameters, consisting mostly of reagents, could be optimized. Namely, the selection of reagent dosages as input parameters is justified from economic point of view, because the increase in overall copper recovery for 1-2% –caused by reagent optimization– is considered as exceptional economic result. Therefore, in commercial plants, control of reagents is the most important part of the flotation strategy [6,7].

The modeling procedure was performed using linear and nonlinear statistical analysis.

The first attempt of modeling was carried out on the basis of Multiple Linear Regression Analysis (MLRA). This statistical tool did not provide satisfactory results, therefore further modeling of the process was based on the use of non-linear statistics - Artificial Neural Networks (ANN). Since this technique was also proven as insufficient, modeling was carried on by using different presentation of input data through fuzzy numbers and application of Adaptive Network-based Fuzzy Inference System (ANFIS). However, none of the above modeling methodologies did not provide adequately useful model, hence further modeling was based on the application of structural equations (SEM). For these

purposes, LISREL was used as a tool for SEM modeling. Utilization of the SEM methodology provided the corresponding useful results.

2. DESCRIPTION OF TECHNOLOGICAL PROCESS - SUBJECT OF MODELING

In order to understand the modeling of flotation process, the flotation process itself must be understood. The following text contains a short overview of the basic stages of this technological process, including the phases of grinding and classification, preceding it. It should be noted that the description of the technological process refers to the period of the plant operation in which the data were collected, ie. the period November 2009 – February 2010. Today plant is reconstructed and involves the operating of the new flotation cells, hydrocyclones, pumps and other auxiliary equipment and installations. However, the basic parameters of the process such as the number of flotation stages, grinding fineness, type and consumption of reagents, etc., practically remained the same.

2.1. GRINDING AND CLASSIFICATION

Grinding of crushed ore and its further classification occurs in three identical milling sections, so the following text will describe the operation of one of the sections.

Belt feeder transports crushed ore (with upper grain size limit of 20 mm) from the fine ore bunker onto the corresponding conveyor belt and, subsequently, rod mill. With the aim of ore capacity control, beltweigher is installed on this belt conveyor system.

Besides the ore, rod mill feed includes limewater (which is dosed by means of manual and automatic valves) for pH regulation and water for slurry preparation. Solid contents in the rod mill is about 75%. The rod mill discharge flows by gravity to the cyclone pump tank, together with ball mill discharge and process water. Cyclone feed pump transports the slurry to the hydrocyclone battery to be classified. Battery consists of 7 hydrocyclones, each 700 mm in diameter. Hydrocyclones are arranged around the central distributor of the pulp. The hydrocyclone underflow (diluted by water) as a circulating load is fed to the ball mill for secondary grinding. The hydrocyclone overflow, as a final product of grinding is transported to flotation gravitationally, by canals. Solids content in the hydrocyclone overflow is approximately 26%, in the hydrocyclone underflow 78% and 71% in ball mill. Mill loading by grinding media is about 40% for both of mills.

2.2. ROUGH FLOTATION OF COPPER MINERALS

Hydrocyclone overflow, containing about 58% of the class -0.074 mm, gravitationally through canals goes to rough flotation stage. The overall hydrocyclone overflow of the first section goes into the agitator and from there to flotation banks. For rough flotation of copper minerals, two flotation banks are in use, and each of them contains 16 flotation cells. Hydrocyclone overflows of the second and third section are merged and gravitationally transported into three flotation banks, each of them containing 21 flotation cells.

Tailing from rough flotation represents the final tailing which, by gravity, via concrete canal is transported to the tailing dump. Rough flotation, according to the designed

parameters, is operating with the pulp density of 1190-1230 kg/m³, pH = 9.5-10.5, with a PEX dosage in an amount of 30-40 g/t, frother 5-7 g/t, while the flotation time is about 21 min. The lime is used as a pH regulator, in the form of 6% solution. It is added in rod mills using an automatic valve, which regulates the dosage based on impulses from the pH-meter, located in the canal for the hydrocyclone overflow of each section. Addition of lime water into rod mills is performed from two connected conditioners, while the third conditioner serves for lime water addition into cleaning. Surplus of lime water returns to the conditioners through the recirculative part of pipeline.

2.3. CLEANING AND SCAVENGER FLOTATION OF COPPER MINERALS

Rough collective concentrate contains 3-5% copper. Rough copper concentrate and flotation concentrate obtained during scavenger are mixed and sent to the cyclone pump tank, where it merges with the regrinding mill discharge. Cyclone pump transports the slurry to the battery of 6 hydrocyclones for classification. Both cyclone pumps have their own separate pressure lines and a separate battery of hydrocyclones. The hydrocyclone underflow (diluted by water) returns to the mill for regrinding, as a circulative load. Overflow of the hydrocyclones with the fineness of 85-90% -0074 mm is transported by gravity to separator and the first cleaning stage. The first cleaning of the copper concentrate is performed in two flotation banks with 9 flotation cells each, at pH=11.0-11.5 and flotation time of 10 min. Tailings of the first cleaner is sent by pumps to scavenger flotation stage, while the concentrate of the first cleaner is transported by pump to the next cleaning stage.

Scavenger flotation is performed in flotation banks with 8 cells. Scavenger concentrate is sent to regrinding, and its tailing to the tailing dump. Second cleaning of copper concentrate is performed in two flotation banks with 8 cells, during the time of about 20 min.

Concentrate of the second cleaner is transported by pumps to the third cleaning stage, while its tailing returns to the first cleaning stage. The third cleaning is carried out in the two flotation banks with 18 cells during the flotation time of about 19 min. Concentrate of the third cleaner goes, by gravity, to the thickener, while the tailing returns to the second cleaner. Technological scheme of the grinding and flotation processes is shown in Figure 1 [8].

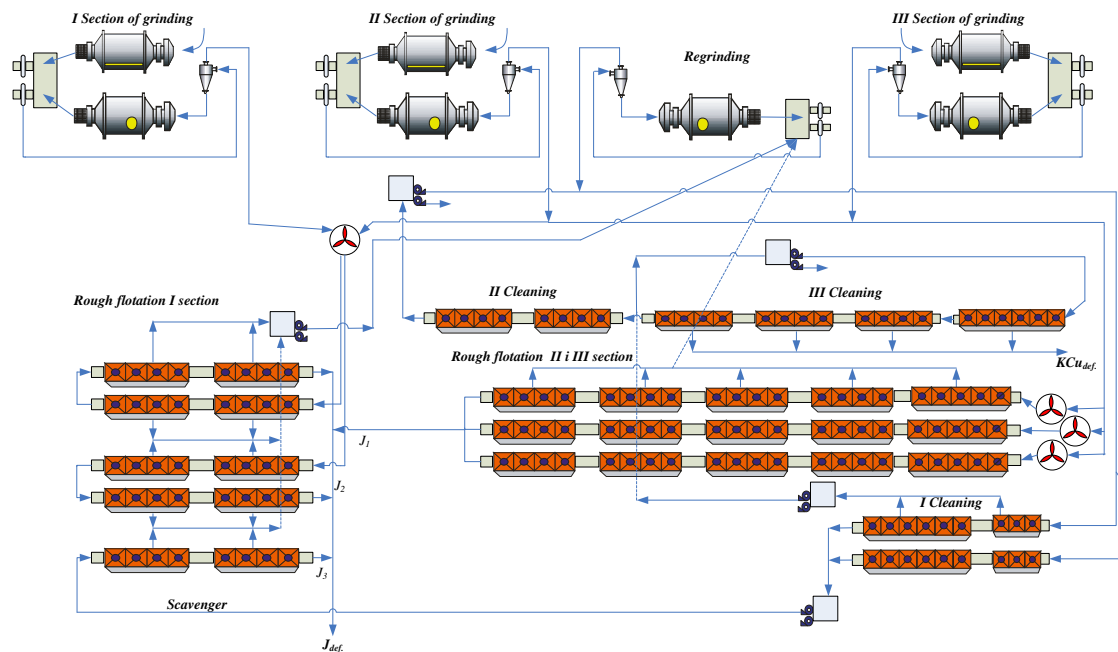


Figure 1. Technological scheme of milling and flotation process in Veliki Krivelj plant [8]

3. RESULTS AND DISCUSSION

Consideration of flotation concentration process, which was used for analysis and modeling presented in this paper covers the period of the plant operation from November 2009 to February 2010. Data were collected on a daily basis in shifts. Considering the fact that relatively narrower time period is analyzed, including only four months, obtained results presented in this paper can be regarded only as testing the possibilities of modeling the observed processes. The final model of the process, which could provide high degree of prediction of the outputs, based on various combinations of input values, would involve much larger time range of acquisition of the process variables.

The results, supporting tables and graphs have resulted as outputs of software packages SPSS, MATLAB and LISREL, which are applied in order to define the conceptual model of considered process.

Before statistical analysis, the standardization⁵⁸ of all data obtained by measuring the observed process was carried in relation to the date of the beginning of the observation. So, the first date is taken as the zero point. Subsequently, thus obtained standardized parameters, were introduced in the SPSS software package for further analysis. Table 1 shows the representation of the variables of considered system.

⁵⁸ In order to standardize variation data changes

Table 1. Defining variables

Description	Variables
Cu content in the feed (%)	X ₁
Consumption of lime (kg/t)	X ₂
Consumption of frother (g/t)	X ₃
Collector consumption in the rough flotation stage (KEX _o + NaIPX, g/t)	X ₄
Collector consumption in the scavenger stage (KEX _p , g/t)	X ₅
The average value of the pulp density in rough flotation stage (kg/m ³)	X ₆
Copper content (% Cu)	Y ₁
Recovery in the final concentrate (%)	Y ₂

The measured values of the input parameters of the technological process (X₁-X₆) and indicators of the quality of copper concentrate and efficiency of the technological process (Y₁-Y₂) are presented in the form of descriptive statistics given in Table. [9]

Table 2. Descriptive statistics of input and output data

	N	Range	Minimum	Maximum	Mean	Std. Deviation	Variance
X ₁	294	.230	.150	.380	.262	.039	.001
X ₂	294	4.255	2.319	6.574	4.128	.871	.759
X ₃	294	13.317	1.000	14.317	6.438	2.694	7.258
X ₄	294	36.700	5.225	41.925	24.892	8.815	77.696
X ₅	294	6.550	1.350	7.900	5.016	1.372	1.882
X ₆	294	1047.500	201.667	1249.167	1109.630	215.043	46243.603
Y ₁	294	16.450	8.400	24.850	17.100	2.986	8.918
Y ₂	294	32.616	66.111	98.727	85.737	5.112	26.131
Valid N (listwise)	294						

It should be noted that X₁ has a low variance (0.001), however, this parameter represents the copper content of the crushed ore which is the main raw material of the production process. So this parameter can not be omitted in further analysis. Small changes in the copper content in the raw material will lead to significant changes in the output parameters and the quality and efficiency of copper concentration process. [9]

Before defining the dependence of output parameters (Y₁-Y₂) as a function of input parameters (X₁-X₆) it is necessary to perform correlation analysis of all variables. Pearson's correlations (PC), with appropriate coefficients of statistical significance, are obtained as result of this analysis, which are shown in Table 3.

Table 3. Correlation matrix for the input (X₁-X₆) and the output (Y₁-Y₂) variables

		X ₁	X ₂	X ₃	X ₄	X ₅	X ₆	Y ₁	Y ₂
X ₁	Pearson Correlation	1	.075	.277**	.228**	-.015	.122*	.353**	.135*
	Sig. (2-tailed)		.203	.000	.000	.799	.036	.000	.021
	N	294	294	294	294	294	294	294	294
X ₂	Pearson Correlation	.075	1	-.346**	-.333**	.273**	-.130*	.334**	.090
	Sig. (2-tailed)	.203		.000	.000	.000	.026	.000	.123
	N	294	294	294	294	294	294	294	294
X ₃	Pearson Correlation	.277**	-.346**	1	.683**	-.233**	.375**	.154**	-.106
	Sig. (2-tailed)	.000	.000		.000	.000	.000	.008	.068
	N	294	294	294	294	294	294	294	294
X ₄	Pearson Correlation	.228**	-.333**	.683**	1	.033	.437**	.069	-.020
	Sig. (2-tailed)	.000	.000	.000		.578	.000	.236	.739
	N	294	294	294	294	294	294	294	294
X ₅	Pearson Correlation	-.015	.273**	-.233**	.033	1	.346**	.017	.169**
	Sig. (2-tailed)	.799	.000	.000	.578		.000	.775	.004
	N	294	294	294	294	294	294	294	294
X ₆	Pearson Correlation	.122*	-.130*	.375**	.437**	.346**	1	.043	.069
	Sig. (2-tailed)	.036	.026	.000	.000	.000		.459	.239
	N	294	294	294	294	294	294	294	294
Y ₁	Pearson Correlation	.353**	.334**	.154**	.069	.017	.043	1	.086
	Sig. (2-tailed)	.000	.000	.008	.236	.775	.459		.141
	N	294	294	294	294	294	294	294	294
Y ₂	Pearson Correlation	.135*	.090	-.106	-.020	.169**	.069	.086	1
	Sig. (2-tailed)	.021	.123	.068	.739	.004	.239	.141	
	N	294	294	294	294	294	294	294	294

** . Correlation is significant at the 0.01 level (2-tailed).

* . Correlation is significant at the 0.05 level (2-tailed).

To define the dependence of the output parameter as the function of the input parameters, using the multiple linear regression analysis (MLRA) with acceptable level of fitting (strong correlation), it is necessary that the value of PC is near 0.5 with statistical significance. [10]

An analysis of the data presented in the Table 3 reveals that this constraint is attained in following cases: Y₁-X₁: PC=0.353 (p=0.000), Y₁-X₂: PC=0.334 (p=0.000). This was also the case for the following interdependence between the predictors of the process: X₃-X₄: PC=0.683 (p=0.000), X₆-X₄: PC=0.437 (p=0.000), X₆-X₃: PC=0.375 (p=0.000). Considering that only the dependent variable Y₁ has a significant correlation with the independent variable X₁ and X₂, only this dependent variable was modeled using the methods of linear statistics. Attempt of modeling the dependent variable Y₂ was not made due to a low PC coefficient.

What follows is an attempt of modeling based on the principle linear statistics. The method used was MLRA-enter method that introduces all variables in a linear model at the

same time. As a dependent variable, and the variable whose variance we want to explain the quality of the final copper concentrate was taken (Y_1).[11] Obtained MLRA result are shown in Table 4.

Tabela 4. Results of MLRA analysis

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.508 ^a	.258	.243	2.59882

a. Predictors: (Constant), X6, X1, X2, X5, X4, X3

The result shows that MLRA linear model has a correlation coefficient $R = 0.508$, which is a medium correlation. What is more important is that the value of the coefficient of determination is low $R^2 = 0.258$, which indicates that only 25.8% of the variation of the dependent variable Y_1 is explained by the independent variables. This means that this model could predict the value of the quality of the final copper concentrate, with 25.8% accuracy, knowing the values of selected input variables of the technological process. However it is a very low value of fitting, and this means that the resulting model does not have predictive validity. For this reason further modeling methodology was attempted by using artificial neural networks (ANN).[9]

Artificial neural networks represent a class of tools that can facilitate the exploration of large systems in ways not previously possible. These methods have observed explosive growth in the last decade and are still being developed at a breathtaking pace. In many ways, neural networks can be viewed as nonlinear approaches to multivariate statistical methods, not bound by assumptions of normality or linearity. Although neural networks have originated outside the field of statistics and have even been viewed as an alternative to statistical methods in some circles, some signs indicate that this viewpoint is making way for an appreciation of the ways in which neural networks complement classic statistics.

In general neural networks comprise an input layer, one or more hidden layers and an output layer. Each layer contains of one or more neurons. Neurons are connected to each other by means of weighting factors. Neuron in a given layer, receives the information from all the neurons that are found in the previous layer. It adds information corresponding to the priorities of network connections and then transmits this sum to all neurons of the next layer using a mathematical function. [9]

ANN used to develop the model is shown in Figure 2. As it can be seen, this network consists of three layers of nodes. The layers described as the input, hidden and output may in general contain i, j, k for the processing nodes respectively. Each node in the input (hidden) layer is connected to all nodes in the hidden (output) layer using weighted connections.

In addition to the i and j number of input and hidden nodes, the ANN architecture also houses a bias node (with fixed output +1) in its input and hidden layers, and they provide additional adjustable parameters (weights) for the model fitting. The number of the nodes i in the ANN network input layer is equal to the number of inputs in the process whereas the number of output nodes k equals the number of the process outputs. However, the number of

hidden nodes j is an adjustable parameter magnitude, which is determined by issues such as the desired approximation and generalization capabilities of the network model.

The back propagation algorithm modifies network weights to minimize the mean squared error between the desired and the actual outputs of the network. Back propagation uses supervised learning in which the input, as well as desired outputs, are controlled and selected.

The use of ANN usually comprises three phases. First is the training phase, which is facilitated on 70% to 80% of the randomly selected data from the starting data set. During this phase, the correction of the weighted parameters of the connections is achieved through the necessary number of iterations, until the mean squared error between the calculated and measured outputs of the network is minimal. During the second phase, the remaining 20% to 30% of the data is used for testing of the “trained” network. In this phase, the network is using the weighted parameters determined during the first phase. This 20% to 30% of the data, excluded during the learning of the network, is now incorporated in it as a new input values X_i which is then transformed to the new outputs Y_i . The third phase is the validation of the network on completely new data set. Usually, this data set consists of the data from new experimental measurements of the same process. The validation phase presents the final level of successful or unsuccessful prediction using the network developed in the previous two stages, on a future database.

ANN methodology was applied to the modeling of flotation concentration of copper in industrial conditions; using available data with descriptive statistics which is shown in Table 2. Starting set of 294 input and output lines of data were divided into two groups. The first group consisted of 210 (71.4%) randomly selected lines of data were used for training the network, while the second group consisted of 84 (28.6%) of the remaining lines of data from the initial databases that were used to test the network.

For the development of relational ANN configurations, previously defining input parameters X_1 - X_6 and Y_1 output parameter (the quality of concentrate) were used as the elements of the network architecture (Figure 2).

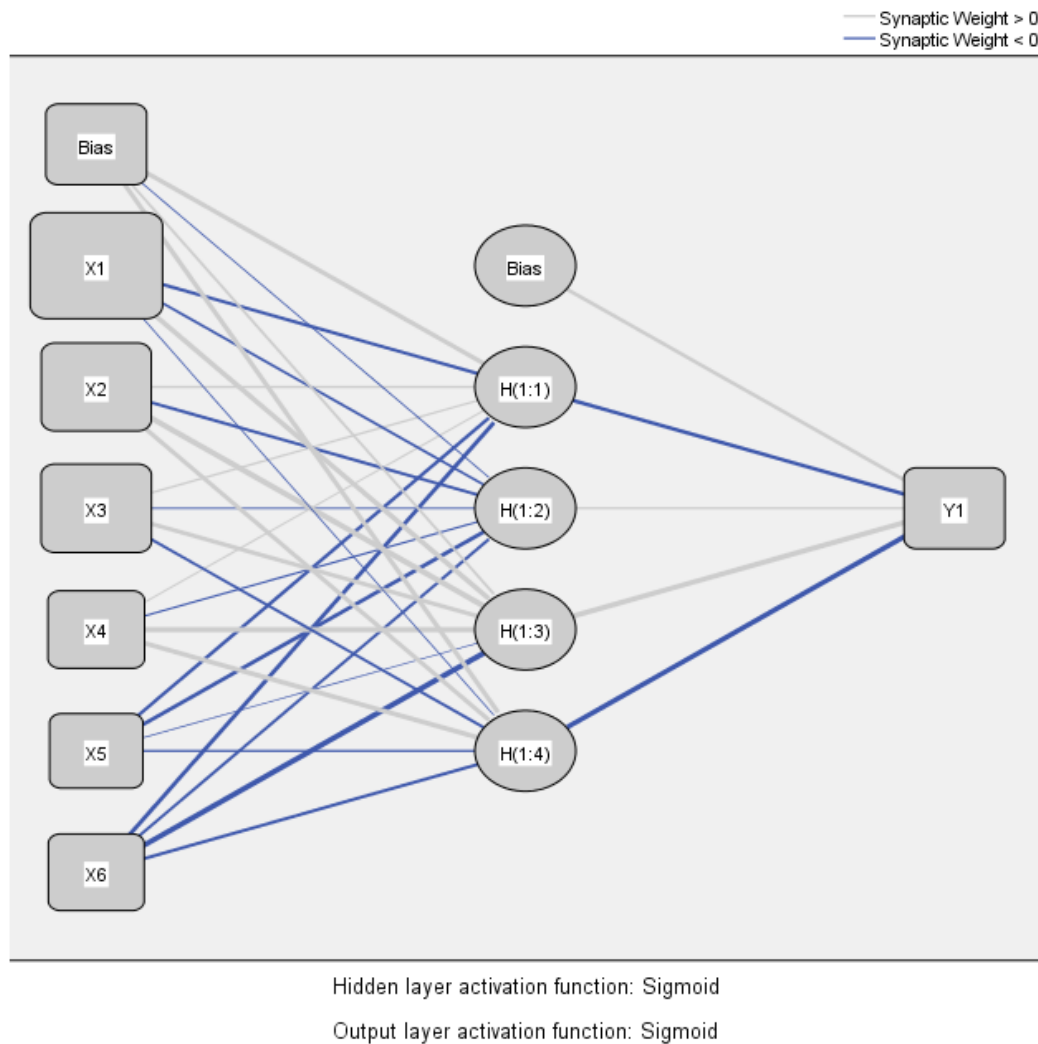


Figure 2. The ANN architecture for determination of the copper concentration in the final concentrate on the basis of the input process parameters.

Coefficient of determination, obtained by a network represented in Figure 2, in the training phase was $R^2=0.428$. During the testing phase of the ANN the coefficient of determination (R^2) is slightly decreased relative to the stage of training and now amounts to **0.338**. Figure 3 provides a comparative overview of measured and calculated values using ANN approaches on analyzed processes, during the testing stage.

The results indicate that the ANN modeling of the industrial data collected in this study can not be used to accurately predict the quality of copper concentrate, based on available data set.

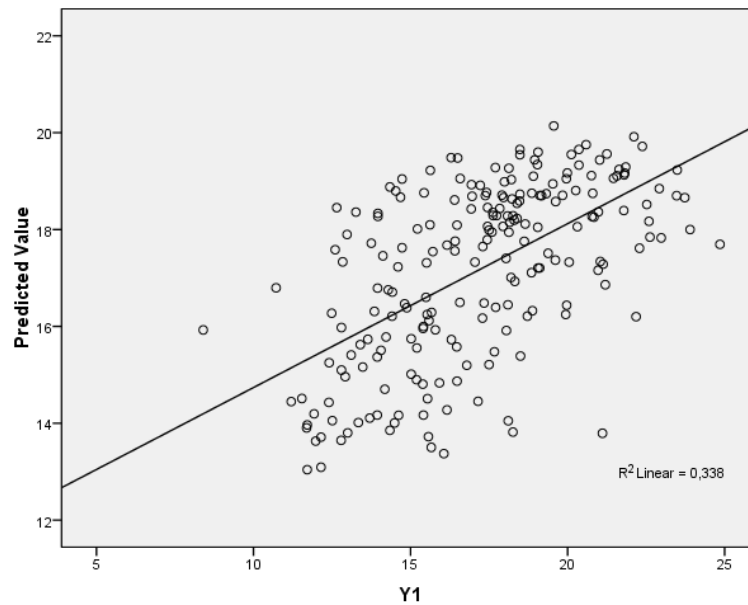


Figure 4. Comparison of measured and calculated values using ANN to predict the quality of copper concentrate (Y_1)

Low coefficient of determination among observed variables does not automatically mean that the interdependence of their behavior does not exist. It just indicates that modeling using linear statistics can not be performed and further modeling should be based on the dynamic behavior of the variables. Since modeling through a non-linear approach using ANN did not offer satisfactory results, an attempt of application of methodology through a case when the input variables do not have a wide range during the entire period of observation, or otherwise known as Adaptive-network-based fuzzy inference system (ANFIS), was used. [12]

As a basis for the construction of a set of fuzzy if-then rules, the ANFIS system based on selected membership functions can be used. The ANFIS structure is obtained by embedding the fuzzy inference system into the framework of adaptive networks. An adaptive network is a network structure consisting of a number of nodes connected through directional links. The outputs of these adaptive nodes depend on modifiable parameters pertaining to these nodes. The pattern in which these parameters should be iteratively varied, aimed at minimizing the final error, is specified by the learning rule. [12] Moreover, according to Takagi and Sugeno, the fuzzy inference system (FIS) is a framework based on fuzzy set theory and fuzzy if-then rules. [13] The three main components of a FIS structure

are: a rule base, a database and a reasoning mechanism. The appropriate number of if-then rules for levels or ranges of the input variables is located in the rule base. An example of a rule used in the investigations presented in this paper might be "quality of copper concentrate will be higher if the Cu content in the ore is higher", where items such as low and high represent linguistic variables.

The database defines the membership functions applied in the fuzzy rules and the reasoning mechanism performs the inference procedure.

In this way, for example, if there are two input variables (X_1 and X_2), and assuming that their ranges can be divided into two levels, there would be the rule base with two rules for modeling the value of the output variable Y :

Rule 1. If X_1 is in the range A_1 and X_2 is in the range B_1 , then:

$$f_1 = p_1x_1 + q_1x_2 + r_1;$$

Rule 2. If X_1 is in the range A_2 and X_2 is in the range B_2 , then:

$$f_2 = p_2x_1 + q_2x_2 + r_2;$$

In the case when $f(x_1, x_2)$ is a first-order polynomial, the model is called a first-order Sugeno fuzzy model.

Applying this methodology to the considered system of the process of production of the copper concentrate by flotation, with the parameters defined in Table 1, the following results of prediction are obtained. Prediction of the model output values (Y_1 and Y_2) during the phase of training, are given in Figure 5, while the ANFIS model forecasting for the testing phase are given in Figure 6.

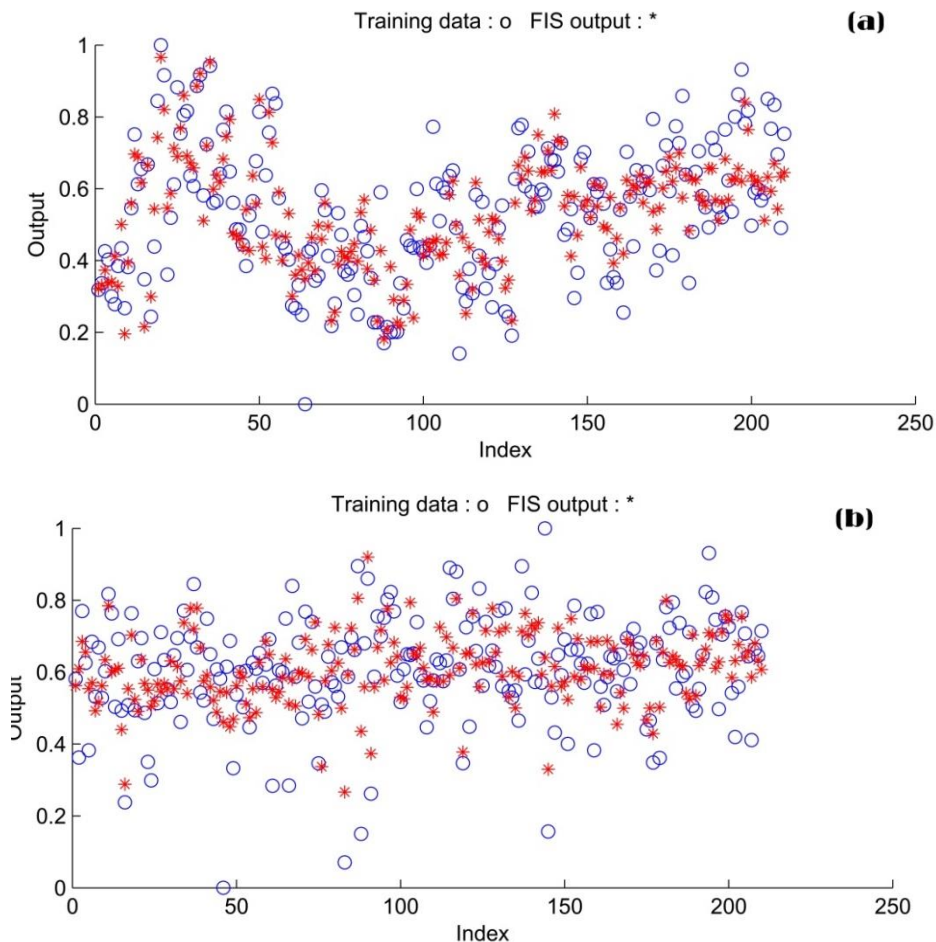


Figure 5. Results of applying of the ANFIS models, in the training stage of the network (a) Y_1 and (b) Y_2

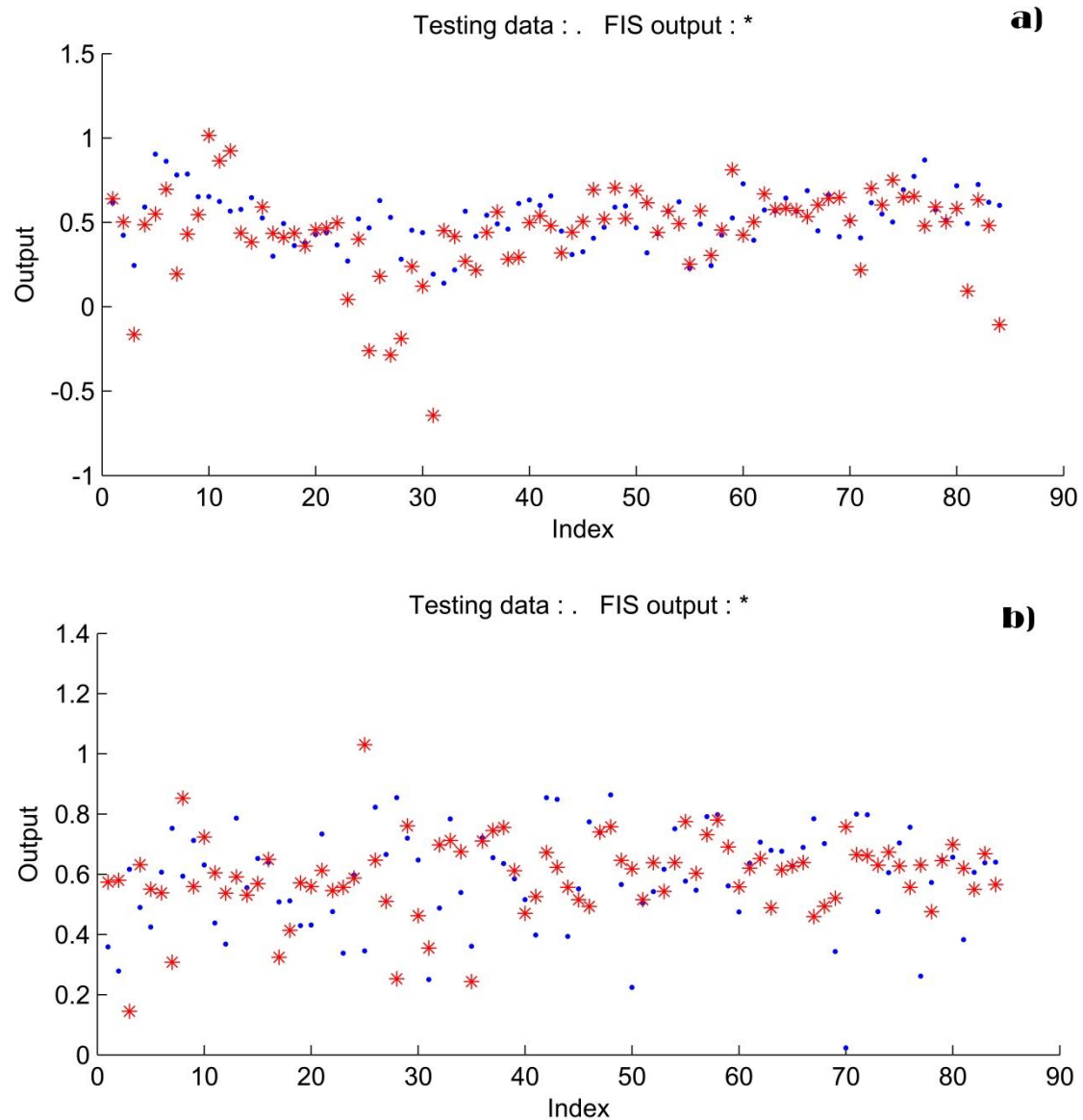


Figure 6. Results of applying of the ANFIS models, in the testing stage of the network (a) Y_1 and (b) Y_2

The data sets used for the ANFIS modeling methodology are of the same ranges in the training and testing phase, as in the case ANN procedure. At first glance, the results in Figures 5 and 6, could be considered as relatively well-fitting of the model. However, when taking into account the error of the model prediction, shown in Figure 7 (b), where in some areas the value exceeds 50%, it can be concluded that neither ANFIS methodology does not provide sufficiently reliable results of modeling.

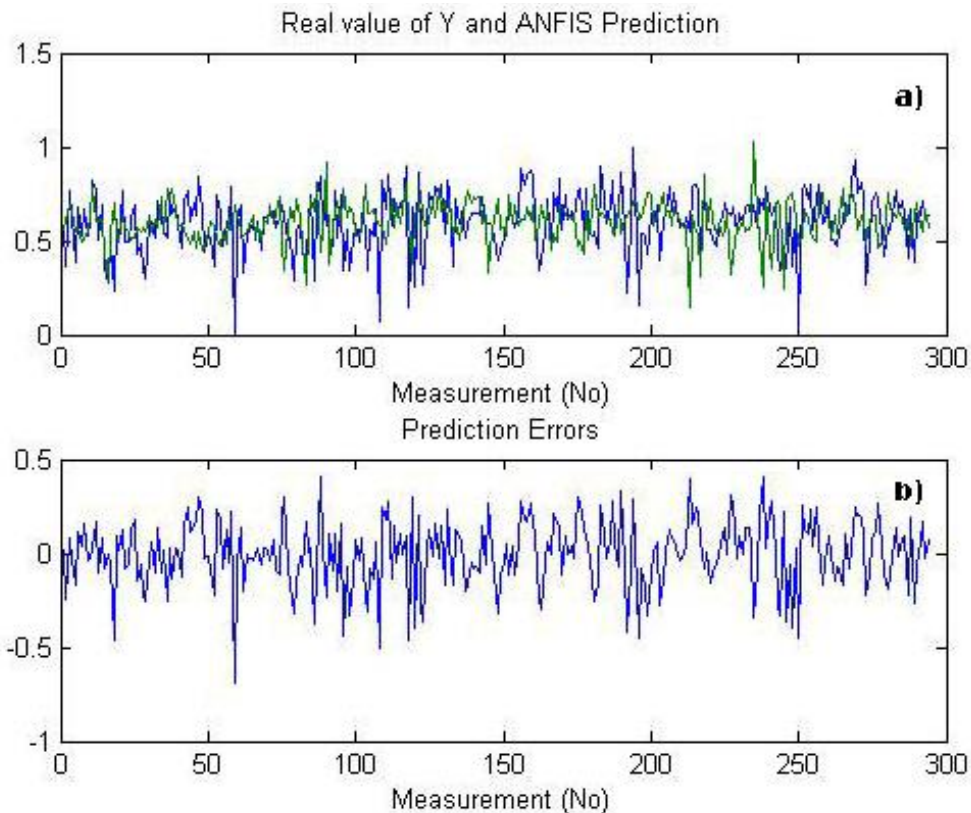


Figure 7. Results of modeling using the ANFIS model, in case of the output variable Y_2 (a), with obtained error of modeling (b)

For the reasons stated above, further work was attempted to form a structural equation model (SEM) to be used to predict of the output values as a function of changes in the input variables of the process. *Structural Equation Modeling* (models based on structural equation - SEM) is a multivariate statistical analysis technique used to analyze the structural relationship between measured and latent variables. Its largest advantage is that it assesses multiple dependencies through one analyze.

In this analysis, there are two types of variables: *endogenous* - variables specific for the system or variables that emerge from the model, which are the equivalent of the dependent variables and *exogenous* - variables that are outside the model, that is, their value is accepted as a given; the equivalent of the independent variables. Also, in SEM there are two types of models:

1. Models for measuring: represent the manner that determines how the measured variables are displaying the theory
2. Structural models: represent the manner that shows how the associated components are connected in the model

SEM tests and evaluates connections using a combination of statistical data and qualitative causal assumptions. It can be used simultaneously to confirmation and

development theory or in confirmative or research purposes. One of the great strengths of this model is the ability to build latent variables, variables that can not be measured directly, but are estimated in the model based on other, measured variables. These variables are actually factor groupings of individual measured variables. To facilitate this level of development of a model structure it is necessary to perform grouping of the starting variables using, for example the factor analysis. Thus grouped measured variables provide larger accuracy of the final structural equation model. By applying the SEM modeling to the case discussed in this paper, structural model presented in Figure 8, was defined.

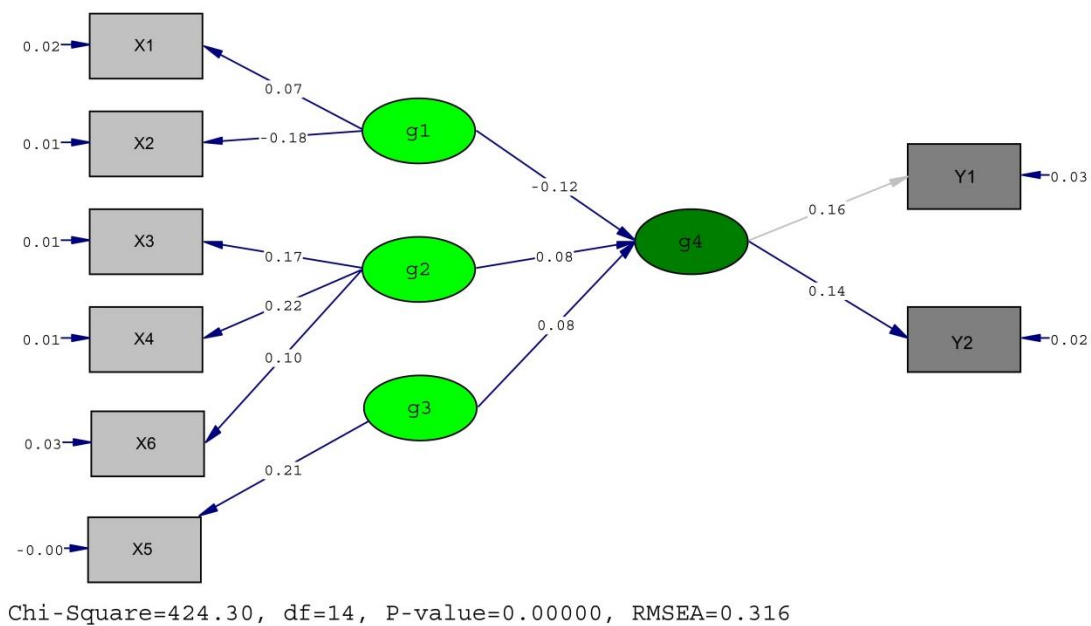


Figure 8. SEM structure prediction model of the output values Y_1 and Y_2

For the model presented in figure 8, factor analysis of input variables was previously done, and input variables have been grouped in g1, g2 and g3. The model presented in Figure 8, have parameters of accuracy at limited acceptability level, so it can be used for preliminary analysis and forecasting of outputs parameters of the process based on a combination of inputs. However, in order to claim that the model have predictive validity, the analysis with a significantly larger number of data lines (input values), obtained in the longer time range of measurement in industrial conditions, would have to be repeat.

4. CONCLUSION

In this paper, the attempt to develop an optimal model of the technological process of copper concentrate flotation is carried out. The results obtained by measuring the current production process, were used as the initial data. As influential input parameters of the process the following parameters were used: the content of copper in the input raw material; consumption of lime; consumption of frother; consumption of collectors on the basic

flotation; consumption of collectors on extended flotation and pulp density in basic flotation, while as output of the process content and the utilization of copper in the final concentrate were selected. In the process of modeling, methods of linear (ANN) and nonlinear (ANN and ANFIS) statistical analysis were used, as well as modeling based on the principle of structural equations (SEM). Of these methods, only the SEM analysis has given results that can be considered as limiting acceptable values for forecasting of the output values of the process, as a function of changes in the set of input values. However, in order to use this model for predictive purposes, it would be necessary to repeat the analysis on a much larger set of data obtained by measuring at this technological line.

Note: Methodological part used in this paper, was developed under the project funded by the Ministry of Education, Science and Technology Development - TR34023

REFERENCES

1. N. Slack, S. Chambers, R. Johnston, Operations Management, Prentice Hall, 2010, Harlow, Essex CM20 2JE, England
2. <http://rtb.rs/rtb-bor-doo/rudnik-bakra-bor/flotacija-veliki-krivelj/>
3. Bugarin M, Maksimović M, Ljubojev V. Reserves of copper and gold exploration in the mining field RTB Bor, Mining works, Bor 2012, (3), pp.1-16. (in Serbian)
4. Magdalinović S, Jovanović I, Marjanović VM, Marković Z, The influence of fineness of grinding the results of flotation ore deposits of copper Veliki Krivelj, Mining and Metallurgy Engineering Bor 2014, (3), pp.85-104. (in Serbian)
5. I. Nikolić, I. Mihajlović, Ž. Živković, The modeling of the characteristic parameter on the movement of steel prices, Proceedings, IX Symposium of Business and Science SPIN '13, New industrialization, reengineering and sustainability, November 5 - 6. 2013, Beograd, pp. 333-340 (in Serbian)
6. Bulatović S M, Handbook of Flotation Reagents Chemistry, Theory and Practice: Flotation of Sulfide Ores [M]. Elsevier Science & Technology, 2007.
7. Y. Vazifeh, E. Jorjani, A. Bagherian, Optimization of reagent dosages for copper flotation using statistical technique, Transactions of Nonferrous Metals Society of China (20) 2010, pp. 2371-2378
8. Technical documentation of RTB Bor. (in Serbian)
9. Ž. Živković, I. Mihajlović, I. Djurić, N. Štrbac, Statistical Modeling of the Industrial Sodium Aluminate Solutions Decomposition Process, The Minerals, Metals & Materials Society and ASM International, vol. 41B, 2010, pp.1116-1122
10. Ž. Živković, I. Mihajlović, and D. Nikolić, Artificial Neural Networks Applied on the Nonlinear Multivariate Problems, Serb. J. Manag., 2009, vol. 4 (2), pp. 137-49.
11. J. Pallant, SPSS survival manual, Step guide through data analysis using SPSS, Translation 4th edition, Mikro knjiga, Belgrade, 2011. (in Serbian)
12. M. Savić, I. Mihajlović, M. Arsić, Ž. Živković, Adaptive-network-based fuzzy inference system (ANFIS) modelbased prediction of the surface ozone concentration, Journal of the Serbian Chemical Society, 2014, vol. 79 (10), pp.1323-1334
13. T. Takagi, M. Sugeno, IEEE Trans. Syst. Man. Cybern, 1985, vol,15(1), pp. 116-132

LECTURERS INFLUENCE IN DEPLOYING AND SATISFACTION OF M-LEARNING - INNOVATIVE APPROACH IN HIGHER EDUCATION NOWADAYS

Isidora Milošević, Dragana Živković, Dragan Manasijević

University of Belgrade, Technical Faculty in Bor, Serbia

Abstract: M-learning provides a modern way to support the learning process. However, traditional way of teaching will probably never be fully replaced by other "more modern" method, but will probably be supplemented by the concepts of e-learning and some future technologies, because the essence of each lecture is the transfer of knowledge which should be facilitated. 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. Aim of this study is to analyse how M-learning and learning on the move can improve the quality of the overall learning process of students to the influence of teachers who can a positive effect to their satisfaction. The study was conducted using a survey among students at the Technical Faculty in Bor, University of Belgrade, whose data were analyzed by using the appropriate statistical methods.

Keywords: M-learning, new technology, influence of teachers, higher education.

THE IMPORTANCE OF BRAND IDENTITY AND ITS POSITIONING

Maja Kochoska, Ana Binovska Kocheva

Business academy Smilevski BAS, Skopje, Macedonia

Abstract: Brands are everywhere. Most companies recognize brands but they are not able to see its importance. A brand is a company's vision for building an unique design which will create a company's image and identity. In the same time it becomes a real cult for the consumers and establishes their loyalty towards the brand.

A brand is not only the name of the product, it is a promise that company gives to its customers. However, environment has changed and requires two important tools to be accomplished by the companies: brand identity which present uniqueness and value and brand positioning which refer to making a difference from competitors. So, companies have to accept these changes in order to become more competitive on this market and compete with each other in an aggressive way.

On the other hand, companies should be aware that most of the customers' choices are made on the basis of comparisons. Because of they have to transform their products into brands which will start to spread values and attract the customer's attention. Positioning is the way a company wants customers to perceive, think and feel about its brand versus competitive entries or it is the place in consumers' minds that a brand wants to own. Only well-defined brand identity allows defining a brand positioning. That's way every brand has to be managed appropriate and companies have to implement a strategic approach toward brand creation. In the same time this approach will provide making associations related to brand and engage position in customer's mind.

In this paper will be explain the role of brand identity and will be identified the main concept of brand positioning.

Keywords: brand identity, positioning, modern markets.

1. INTRODUCTION

Many scientific studies today show that man is a complex entity that does not allow companies to take a general position or opinion regarding his/her conduct in the purchase. Many external and internal factors contribute people to behave differently in different situations. In the process of market research, companies must start from the issue that addresses the needs and desires of consumers, the setup of their objectives, the impact of price, the continuity in the buying process and the role of the brand in the process of deciding on the purchase.

Each consumer, based on information received from the environment for a particular product, service or company as a whole, creates his/her own views, which to most researchers can be either positive or negative. This shows that there is no state of indifference. While

positive attitude leads to a state of taking action by the buyer, i.e. purchase of a specified brand, negative attitude leads to a state of avoidance of the brand and search for other alternatives.

Satisfaction is one of the main prerequisites for creating a positive attitude that, over time, can transform into loyalty. But care should be taken that it has different intensity, which shows that consumers respond differently to the offer. A satisfied customer buys a certain brand until such time when an alternative appears which will satisfy his/her needs in a better way. But if he/she is "completely satisfied" or "delighted", then it is assumed that, despite being faithful and loyal to the brand and the company, at the same time spreads positive information and affects the image. Therefore, companies need to work towards creating completely satisfied customers who, over time, will become completely loyal. How can a brand foster a positive attitude at first, and then loyalty among customers, or in other words, how can a brand become successful?

Overall, the measure of success of a brand takes into account three elements, namely: measuring consumer awareness of the brand, measuring the consumer associations that he/she has for the brand and measuring the performance of the brand by examining its market share, the position it has etc.

A large number of theoretical and practical research has shown that the success of a brand depends on the relationship that the company will manage to establish and maintain between the brand itself and the consumers, or more specifically, what value the brand has to the consumer. Some authors believe that the consumer can nurture relations to a brand to the level of obsession. In this situation the brand is seen as a kind of religion, and the consumer identifies himself/herself with the brand identity. In order for the brand to get this identity, it is necessary to encourage several elements, namely: to foster a sense of belonging, to position itself relative to competitors, to be authentic, consistent, to affect multiple senses and to be a bit mysterious.

2. HISTORICAL DEVELOPMENT OF CONSUMERS

With the emergence of marketing since 1950, the scientific study of the development of the consumer has begun, which is a consequence of many factors that caused this evolution. By 1950, the consumer was in a phase of "marginal consumer" whose conduct was unilateral i.e. the consumer was observed as an individual that needs something and something should be sold to him/her. Following was the phase of "statistical consumer" when the development of production and sales conditioned the consumer to be treated as part of the whole, not as an individual. In the 60s of the last century the era of the "secret customer" appeared on stage in which consumers began to change their attitude and culture in the behavior process because they possessed a lot of information and knowledge about the products and services offered on the market. During the 90s the era of the "satellite consumer" appeared on stage as a result of the development, impact and dependence on global brands. It is thought that this phase in which the need for brand dominates in each area still exists today, although another stage of the so-called "multiplied consumer" appears which shows that when choosing a specific brand different consumers act uniformly. Last is the stage in which the

consumer is seen as a person who needs his/her own identity and his/her behavior is consistent with his/her desire of the manner in which he/she wants to be perceived by the rest of the environment. (Valentine V. Gordon W.)

Hence, it can be concluded that consumers represent a basic measure of the value of the brand.

3. PROCESS OF CREATING AND MAINTAINING BRAND IDENTITY

Each product can become a brand, if its communication with consumers is clear, systematic, consistent and creative. This requires a comprehensive brand strategy, which will incorporate all activities in a systematic way, starting from creating a vision for the brand and organizational culture that will support this vision, setting goals, monitoring the environment and creating real value.

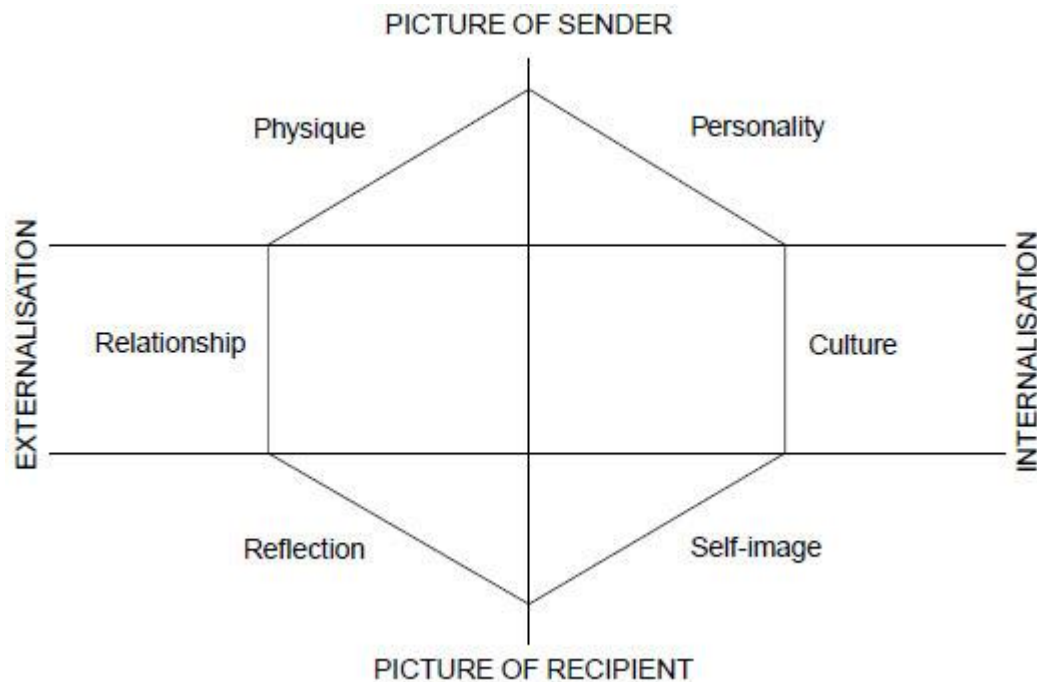
The vision represents the desired future for the brand. But despite the strong vision, there must be appropriate organizational climate that will fully support the brand. Furthermore, the vision needs to be translated into goals that are clear, realistic, achievable and consistent with the environment. In this way the need for planning and implementation of proper marketing strategy is emphasized which should include the elements that make up the identity of the brand. Then it is necessary to emphasize the essence of the concept of the brand or the particular value and benefits that it provides to consumers. Lastly, it is necessary to implement all said above. Therefore, companies must be careful of the promise they make i.e. whether it is consistent with their abilities to deliver it. (Chernatony L. 2002) At the same time it is necessary to continuously implement control that will perform measurement of the brand value based on preset criteria.

There are four basic questions that consumers ask when buying a certain brand:

1. Who are you? (Which is your identity)
2. What are you? (What is the meaning of the brand to me)
3. What is my feeling for you? (Respond to the brand)
4. What associations do I have for you and what link do I want to establish?
(Establishing a link with the brand)

In marketing there is the so called Fredkin's paradox which says that the more similar products are, the more difficult it is to make a choice among them, i.e. it does not matter which one is selected. Therefore, companies should aim to make their brands different from the rest. Brand identity enables the consumer to create a position not only to the product, but also to the organization as a whole. Once the brand establishes its identity, always and everywhere, it should be unique, special and different from others. In the simplest terms, the brand should have a character that will be characteristic only for it and in this way help consumers find their own identity.

Brand identity can be represented by a hexagonal prism.



Source: J.K.Kapferer (2008): The New Strategic Brand Management – creating and Sustaining Brand Equity Long Term, Kogan Page Limited, London, p. 183

Picture 1. Prism of brand identity

The first element of the prism is related to having **physical characteristics or attributes** of the brand that reflect the brand value which can be seen, touched or felt. This element is necessary but not sufficient for market positioning. In the process of contacting the consumer, the brand gradually begins to form its character, **personality** and begins building its identity, which will tend to create a cult among consumers. For this purpose there should be a **brand culture** that requires constant inspiration in the process of delivering value. In this way the **differentiation** of the brand itself is maintained which demands to be constantly emphasized during the process of communication and establishing connections with consumers. Mark Gobe, one of the leading experts in the field of branding and author of "Emotional Branding", states that the only difference between the different categories of products is the emotion that the brand encourages in the consumer. Therefore, in the process of creating brand identity emphasis should be put on people and their expectations. In essence, the consumer believes that the purchase of a brand shows who he is and what he is. This is applied to by the penultimate element of the brand prism, customer reflection, which demonstrates the ability of the brand to cause positive feelings and opinion among consumers as a result of the use of the brand. Finally, all of this contributes to influence the creation of our own picture, identity or image that allows us as individuals to be positioned in the environment.

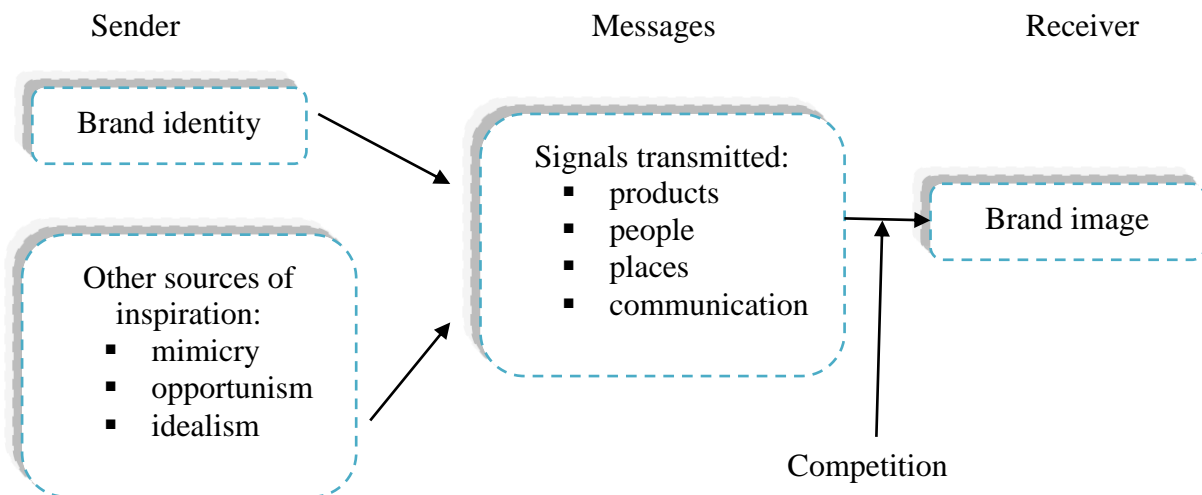
The essence of the brand is its "coupling tissue" or "code" that connects it to the consumer. This code cannot be easily changed and affects the value of the brand and its market position. All the elements mentioned above, referring to the brand identity, have a task to materialize the value that the brand owns, i.e. make it available to all senses among consumers.

Some authors believe that the brand must have certain and specific power of attraction called mantra and it is different from the brand "code" because the brand mantra should be directed towards the company's employees. (Keller K.L. 1999) First, the concept of diversity has to be conveyed to all of them, they have to feel the allure and magic of the brand, realize it and then spread it in the environment.

4. THE ROLE OF THE BRAND IDENTITY IN THE PROCESS OF BRAND POSITIONING

If the brand manages to create a subjective image in the awareness of the consumer and causes associations connected with it, then we say that it is positioned. In the basics of the brand positioning lie two key elements: the brand image - the image that the brand should communicate and the brand identity - the sum of all the elements that make the brand become recognizable.

The brand identity (name, logo, certain characters, color, smell, packaging, employees) is generated by the company through a series of activities that perform its encoding. On the other hand, the image is created in the consumer awareness, which represents the decoding of the brand identity.



Source: J.K.Kapferer (2008): The New Strategic Brand Management – creating and Sustaining Brand Equity Long Term, Kogan Page Limited, London, p. 183

Picture 2. Identity and image

On the way from the sender (company) to the receiver (consumer) the brand identity is influenced by several external factors such as: imitation by the competition that leads to reduction of its meaning; the need for extraordinary image by certain companies, striving to appeal to all, affects jeopardizing continuity of identity; creating an idealized image of the brand that does not correspond to reality. In essence, the image is built through the delivery of certain elements mentioned above which are constantly under the influence of competition that aims to change the image or any vaguely defined element. Regardless of which elements are selected, several criteria need to be fulfilled:

- To be easily remembered and recognized
- To have meaning and credibility
- To be likable from aesthetic point of view
- To transfer to other products or services in the assortment
- To adapt easily to changes in the environment
- To have a possibility of legal protection.

The positioning of the brand is a concept that takes central place in the company's management philosophy. The basic formula for successful positioning is as follows:

For (defining the target market)
Brand X is ... (defining competitive advantage)
Which gives the greatest ... (promise or benefit that the consumer receives)
Because ... (the reason leading the consumer to believe)

Nevertheless, in the process of positioning companies should beware of the following mistakes that are commonly made:

- Creating awareness of the brand before its value is created through strategic planning;
- Promoting the attributes that are perceived as important by the company and not by the consumers;
- Investing energy and resource in attributes that can be easily copied by the competition without taking their protection into account;
- In order to defend themselves from the competition companies often direct the undertaken activities towards the competition and forget those which need to be in direction of building their own identity and positioning;
- Companies often rely on repositioning (if they fail to position with the given set of attributes) not assuming that in certain situations it is not at all possible to reposition the brand.

5. CONCLUSION

We live in a time of dramatic changes where everyday products are lost and die the moment they appear. Advertising campaigns lose their meaning, and the products are becoming easily replaceable. In this new information society in which the consumer has the entire information at hand, the expectations are greater. They demand excellence, originality, consistency and diversity. They require identity.

Changes in the environment caused shifts in the concept of the brand in recent years. New technologies have enabled mass production of brands that are adapted to the needs of consumers. The new concept of market positioning requires sophisticated holistic approach in which the brand relies both on tradition and religion. At the same time it requires that each brand has its own identity, which will be transmitted to the public through original message, symbol, shape, color, ritual, which at the same time will affect all senses of the consumers.

Lastly, all this affects the process of communication that requires companies to adapt to the new requirements of demanding customers. Technological innovations have enabled the development of a concept of interaction in which the buyer takes ownership of the brand. Hence, the brand is not an occurrence; it is a concept that needs to be invested in constantly. This concept should be properly planned and implemented through continuous investment in the added value of the brand in order to maintain its identity and position it has.

REFERENCES:

1. J.K.Kapferer (2008): *The New Strategic Brand Management – creating and Sustaining Brand Equity Long Term*, Kogan Page Limited, London
2. Bedbury S. (2002): *A New Brand World*, Viking, New York
3. Chernatony L. (2002): *From brand vision to brand Evaluation*, Butterworth-Heinemann, Oxford
4. Nandan Sh. (2005): an exploration of the brand identity – brand image linkage: a communications perspective, *Journal of Brand management*, Vol.12, No 4
5. Blackett T. (1985): The role of a brand valuation in marketing strategy, *Marketing and research today*, Nov, p.245
6. Carpenter G. and Nakamoto K. (1990): *Competitive strategies for late entry into market with dominant brand*, *Management Science*
7. Diefenbach J. (1987): The corporate identity as the brand, in *branding: A key marketing tool*, ed J. Murphy, McGraw-Hill, London
8. Edwards H. and Day D. (2005): *Creating Passion Brands*, Kogan Page, London
9. Kapferer J.N. (2003): Corporate and brand identity, in *Corporate and Organizational identities*, ed B Moingeon, Routledge, London

10. Kapferer J.N. and Laurent G. (1996) How consumers build their perception of mega-brands, working paper, HEC Graduate School of Management
11. Kapferer J.N. and Laurent G. (1998): Consumers' brand sensitivity: a new concept for brand management in defining, measuring and managing brand equity, Marketing science Institute: A conference summary, report, Cambridge
12. Chernew A. (2009): Strategic Marketing Management, Brighstar media Chicago
13. Riezebos R. (2003): Brand management, Prentice Hall, New York
14. Upshaw I. (1995): Building brand identity, Willey, New York
15. Veljkovic S. (2010): Brend menadzment u savremenim tržišnim uslovima, Centar za izdavačku delatnost, Ekonomskog Fakulteta u Beogradu
16. Arnould E., Price L., Zinkhan G. (2004): Consumers, McGraw-Hill, New York
17. Gobe M. (2006): Emocionalno brendiranje, Mass Media International, Beograd

GOALS OF ESTABLISHING TECHNOLOGICAL PARKS

Miroslav Milutinović¹, Andon Kostadinović²

¹Fakultet poslovne ekonomije, Sremska Kamenica; ²Fakultet za pravo, bezbednost i menadžment Niš, Serbia

Abstract: The establishing of scientific and technological parks is always accompanied by the establishing a base of professional staff as the core of the park and the base of potential managerial staff to manage the park and the professional staff. A scientific and technological park is an umbrella term used to describe different attempts directed at enhancing the development of entrepreneurship by means of establishing small and middle-sized enterprises based on knowledge. Entrepreneurship at the top of the technology pyramid is supported by: capital, administration, property and an access to new information technologies.

The general aim of the development of industrial enterprises in a technology park is the introduction of economically profitable production followed by the efficient usage of non-renewable resources and the application of the highest ecological standards. Achieving the basic development plan of the Technology Park implies: the creation of a favourable business atmosphere in the local community, attractive to both foreign and national investors - providing support to start small and medium sized enterprises, by applying various models of joint ventures and direct foreign investments.

Keywords: management, enterprises, production, investments.

1. UVOD

U većini slučajeva naučno tehnološki parkovi nastaju transformacijom bivših istraživačkih i razvojnih instituta. Nekada su proizvod inicijative pojedinaca ili kreativne grupe ljudi kao što su istraživačka odeljenja ili projektni timovi koji su se izdvojili iz većih organizacija (državnih kompanija, većih privatnih kompanija ili istraživačkih instituta). Oni nastavljaju svoje aktivnosti kao neprofitabilne kompanije tj. kompanije koje nemaju cilj ostvarivanja profita. Ponekad, one nastavljaju svoj razvoj koristeći kancelarije, opremu, proizvodni prostor, laboratorije, instrumente i opremu svojih matičnih institucija i preduzeća. Takav vid organizovanja predstavlja i prirodnu selekciju najuspešnijih menadžera koji će kasnije i najkvalitetnije upravljati parkom.

Kao trenutno najisplativiji model poslovanja koji je zasnovan na znanju i razmeni informacija, naučno tehnološki parkovi se sve više otvaraju svuda u svetu. Relativno male investicije mogu višestruko da se povrate u stvaranje zdrave i povoljne investicione klime koja se vrlo brzo širi na ceo region pa čak i na celu zemlju u kojoj se park nalazi. Mnoge zemlje koje su dugi niz godina imale tradicionalne privredne proizvode polako osnivaju naučno tehnološke parkove na svojim teritorijama kako bi se što više oslanjale na ekonomiju zasnovanu na znanju i istraživanju.

U našoj zemlji već nekoliko godina unazad se govori o formiranju naučno tehnoloških parkova u različitim delovima zemlje koji bi, po ugledu na strana iskustva, pokrenuli privredu i privukli strane investicije koje prate ovakav oblik poslovanja. Time, ne samo da bi se podigla ekonomija regiona u kome bi se osnovali parkovi, već bi se unapredilo i školstvo daleko bržim prilagođavanjem najnovim tehničko-tehnološkim dostignućima u svetu. Razvoj školstva, naročito strukovnog i akademskog i uključivanjem u privredne tokove, dovelo bi do privrednog rasta i boljeg života ne samo stručnog kadra direktno vezanog za park već i ostalih grana privrede koje se paralelno razvijaju zajedno sa napredovanjem parka. Uključivanje privrede u naučno istraživačke tokove donosi samo po sebi izbor kvalitetnog menadžmenta koji može da poveže privredu i nauku i tako ostvari značajan ekonomski napredak privrede i regiona u kome se osniva naučno tehnološki park.

2. CILJEVI OSNIVANJA TEHNOLOŠKIH PARKOVA

Osnovni cilj osnivanja naučno tehnoloških parkova je objedinjavanje privrednih i intelektualnih resursa u regionu u kome se osniva park u jednu celinu, kako bi se poboljšali i unapredili trenutni uslovi poslovanja kompanija i znanje skoncentrisalo na jednom mestu .

Postoji veliki broj ciljeva za osnivanje naučno tehnoloških parkova koji zavise od regiona i država u kojima se parkovi osnivaju. Ciljevi koji su svima zajednički i koji po prirodi stvari spadaju u suštinske razloge osnivanja postojećih naučno tehnoloških parkova su:⁵⁹

- saradnja postojećih kompanija iz oblasti informaciono-komunikacionih tehnologija (IKT) na realizaciji većih projekata koje kompanije pojedinačno ne bi mogle da izvedu,
- razvoj potrebne infrastrukture za lakše poslovanje kompanija,
- privlačenje velikih stranih kompanija iz oblasti IKT-a u region u kome se osniva naučno tehnološki park,
- razvoj tehničkih fakulteta Univerziteta u regionu u skladu sa razvojem IKT-a,
- zapošljavanje većeg broja mladih stručnjaka, kao i njihov ostanak u regionu,
- razvoj telekomunikacione infrastrukture,
- razvoj domaćeg tržišta softvera,
- razvoj ljudskih resursa

1Milutinović,M. "Menadžment ljudskih resursa", 2010,Niš.

3. SVETSKA ISKUSTVA U OSNIVANJU NAUČNO TEHNOLOŠKIH PARKOVA

Prvi naučno tehnološki park u svetu je osnovan 1950. godine i najavio je osnivanje sada već poznate Silikonske doline, dok je u Evropi osnovan tek 1960. godine pod imenom Sophia Antipolis naučni park.

Senator Pierre Laffitte, osnivač prvog naučno tehnološkog parka u Evropi, imao je teoriju po kojoj se kreativnost rađa u razmeni znanja između industrije, nauke, filozofije i umetnosti. Tako je primenom ovog koncepta u Francuskoj nastao Sophia Antipolis naučni park.

Danas u ovom parku ima preko 1260 kompanija.⁶⁰

Senator Pierre Laffitte je pionir među menadžerima koji imaju sluha za nauku i koji imaju viziju sinergije nauke i privrede. Danas je više nego potrebno u našoj zemlji pronaći ljude koji će preslikati primere iz sveta na našu privredu i primeniti opšte prihvaćene principe kod nas.

U tabeli 1 sumirani su rezultati o broju naučnih parkova u zapadno i istočno evropskim zemljama prema⁶¹. Na osnovu tabele zaključuje se da najbogatije zemlje i zemlje sa najrazvijenijim školstvom imaju najveći broj naučno tehnoloških parkova. Tako od ukupnog broja parkova, Finska, Francuska, Nemačka, Švedska i Velika Britanija imaju 68% naučno tehnoloških parkova na svojoj teritoriji, tj. 159 od 234 parkova koliko ih ukupno ima u Evropi

Dok parkovi u svetu mogu da variraju u različitim oblicima i veličinama, od parkova koji su u središtu urbanih celina do parkova koji su izgrađeni u predgrađima ili ruralnim područjima, tipični američki naučno tehnološki parkovi se nalaze u predgrađima naseljenim sa manje od 500.000 stanovnika. Parkovima obično upravljaju univerziteti ili neprofitabilne organizacione jedinice koje pripadaju univerzitetima. U Severnoj Americi postoji ukupno 37 parkova od čega je 27 u Sjedinjenim Američkim Državama, a 6 u Kanadi.

Preko 300.000 ljudi u Severnoj Americi radi u naučno tehnološkim parkovima i prema AURP-Battelle Technology Practice izveštaju [5] svako radno mesto u naučno tehnološkim parkovima generiše 2,57 radnih mesta u ostalim oblastima privrede, što dodatno čini preko 750.000 radnih mesta vezanih za naučno tehnološke parkove.

U proteklih par godina naučno tehnološki parkovi su se širili po celom Bliskom Istoku, od Egipta, Maroka i Tunisa na severu do Kuvajta, Omana i Katara na istoku. Na primer, države Persijskog zaliva bogate naftom traže načina da unesu raznovrsnost u svoje ekonomije pripremajući se za vremena nakon prestanka upotrebe nafte. Za zemlje koje nisu bogate naftom kao što su Egipat i Jordan, naučno tehnološki parkovi predstavljaju način za

1 General presentation of Sophia Antipolis, <http://www.sophia-antipolis.org/GB/sophia-antipolis/sophia-antipolis/presentation-generale/presentation-generale.htm>

⁶¹ Science Parks in Europe, http://www.unesco.org/science/psd/thm_innov/unispar/sc_parks/europe.html

izlazak iz siromaštva sa potencijalno velikom dobiti od naučno tehnoloških parkova bez potrebe za nekim prevelikim investiranjem u njih.

4. POTREBNI USLOVI ZA OSNIVANJE NAUČNO TEHNOLOŠKIH PARKOVA

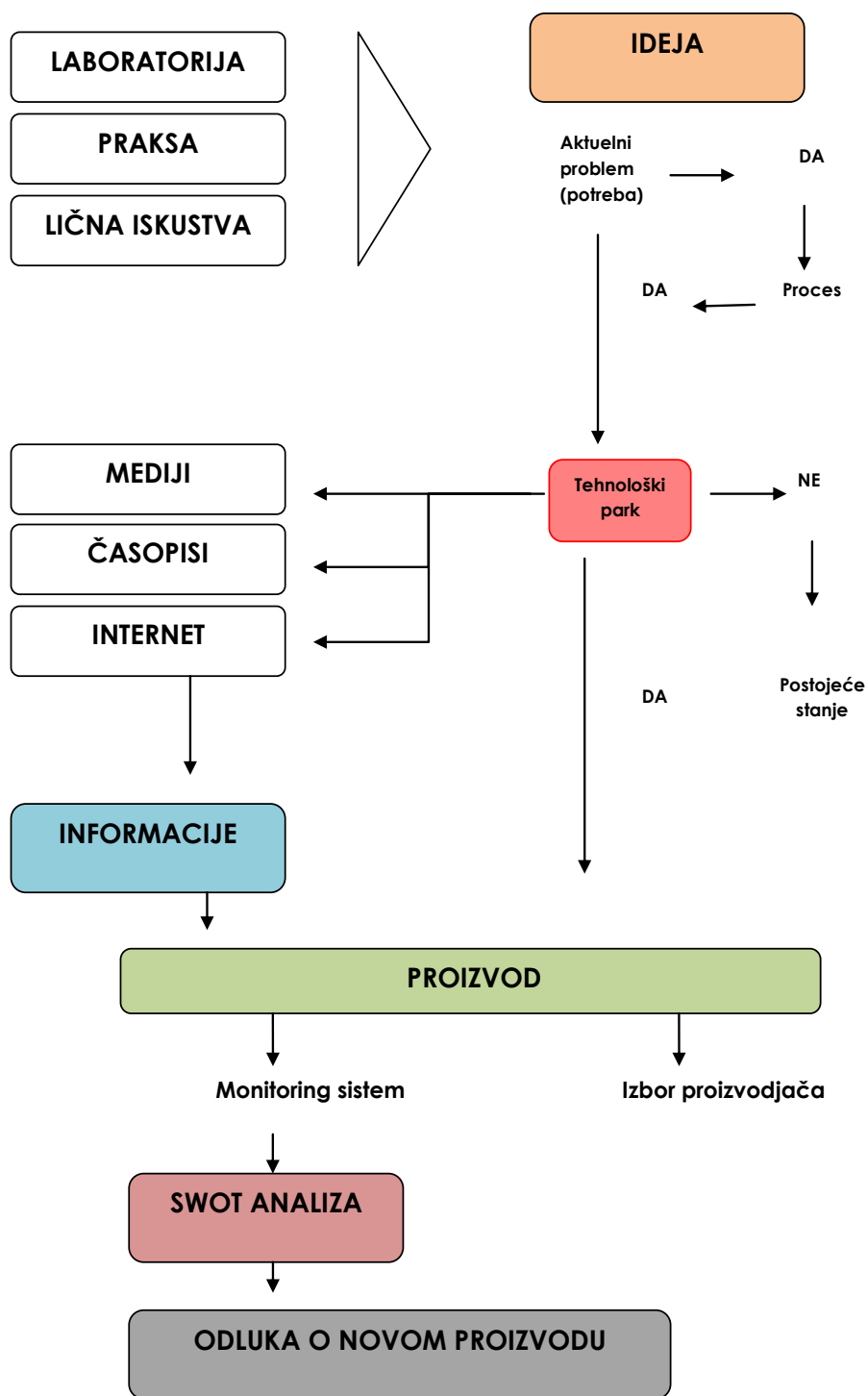
Regis Cabral, fizičar i istoričar nauke i tehnologije, specijalista za međunarodni i regionalni transfer znanja postao je poznat po Cabral-Dahab Science Park Management paradigmi ⁶² koja se koristi za procenu naučno tehnoloških parkova, biznis inkubatora i sličnih organizacija. Učestvovao je u evaluaciji više naučno tehnoloških parkova u svetu. Trenutno je Cabral jedan od ocenjivača i sudija za dodelu nagrade grada Stokholma, The Global Challenge Prize. Ova nagrada se u svetu informacionih tehnologija i informacionog društva upoređuje sa Nobelovom nagradom za druge oblasti.

Kao deset tačaka koji su ključni u menadžmentu naučno tehnoloških parkova širom sveta, da bi se park razvio u pravi naučno tehnološki park, Cabral u navodi:

1. Pristup kvalifikovanim istraživačkim i razvojnim kadrovima u oblasti znanja kojom se park bavi.
2. Sposobnost da se prodaju glavni proizvodi i usluge parka.
3. Kapacitet parka da pruži ekspertizu u marketingu i menadžerskim sposobnostima kompanijama u parku, posebno malim i srednjim preduzećima kojima nedostaju takvi resursi.
4. Dobra društveno-pravna podloga koja dozvoljava zaštitu poslovnih tajni kroz patente, bezbednost okruženja ili na neki drugi način.
5. Mogućnost izbora firmi koje mogu da uđu ili ne u park. Očekuje se da biznis plan firme bude u saglasnosti sa identitetom naučno tehnološkog parka.
6. Posedovanje jasnog identiteta koje izraženo simbolički može da predstavlja ime parka, njegov logo ili izbor menadžmenta.
7. Posedovanje menadžmenta sa priznatim iskustvom u finansijama i organizaciji rada, koji će predstaviti dugoročne ekonomske razvojne planove.
8. Posedovanje jakih, dinamičnih i stabilnih ekonomskih faktora, kao što su agencije za finansiranje, političke i državne institucije ili lokalni univerziteti.
9. Uključiti u menadžment aktivne osobe sa vizijom, sa sposobnošću odlučivanja i jasnim profilom ličnosti, koje su opažene u relevantnim društvenim krugovima, a koje će predstavljati spregu između nauke i industrije, dugoročnih planova i dobrog kratkoročnog menadžmenta.

⁶² R., **Refining the Cabral-Dahab Science Park Management Paradigm**, Int. J. Technology

PROCES REALIZACIJE OD IDEJE DO PROIZVODA



5. GLAVNI CILJEVI OSNIVANJA NAUČNO-TEHNOLOŠKIH PARKOVA SE SVODE NA SLEDEĆE:

• **Delovati kao katalizator promena u Regionalnom okruženju**, i to na dva načina: Prvo, osiguravajući nove oblike zapošljavanja u regiji (u kojoj npr. dolazi do propadanja tradicionalnih delatnosti) i drugo, menjajući odnos stanovništva i lokalne privrede prema novim delatnostima. Već je sama prisutnost parka u regiji značajna, jer skreće pažnju na nove delatnosti i nove mogućnosti. Ovaj učinak nije samo ograničen na park, jer se otvaraju i mogućnosti za delovanje brojnih dobavljača koji mogu postati i jedna od ugovornih strana u poslu, proširujući na taj način beneficije, ali i uključujući se u tokove novih tehnologija.⁶³

• **Postaviti logistiku i izgraditi infrastrukturu sposobnih, modernih preduzeća**, zasnovanu na podsticanju njihovog ulaska u naučni park. Čak se i najveće kompanije visokih tehnologija oslanjaju na široku osnovu partnera (kupca i dobavljača) koji ih opremaju specifičnim komponentama i uslugama.

Veštine i znanja koje partneri imaju treba da budu kompatibilne. Mogućnost privlačenja značajnih investicija u parku svakako će zavistiti i od mogućnosti da se u blizini pronađu odgovarajući dobavljači. Kompanije (preduzeća) u naučnom parku mogu zajednički raditi na tome da stvore kritičnu masu specijalizovanih dobavljača, kako bi osigurali nesmetani tok razvitka.

• **Delovati kao mehanizam privrednog regionalnog razvoja** koji unapređuje sofisticiranost i dodatnu vrednost postojeće industrije, osiguravajući lokaciju na kojoj kontinuirana i uska tehnička podrška može biti pružena svakoj lokalnoj kompaniji koja je kupila licencu za proizvodnju i prodaju novog proizvoda. Na taj se način može ovladati novim veštinama koje omogućavaju novi izvoz i/ili supstituciju uvoza, a sve se to zbiva bez rizika koji donosi ciklus razvitka novih proizvoda.

• **Pomoći kreiranju prisnijih odnosa i boljeg razumevanja** između obrazovnih institucija, istraživačkih centara i industrije. Fizička blizina istraživanja, razvojnih, dizajnerskih, obrazovnih i ostalih procesa obrazovnih institucija i kompanija, koja se postiže mehanizmima naćunog parka, može uveliko doprineti uspešnoj komunikaciji, lićnim kontaktima, svesti o mogućnostima i resursima koji su na raspolaganju.

Dolaze do izražaja slabosti, prednosti, težnje i ostale odrednice svih strana ukljućenih u rad naućnog parka. Na taj način se uveliko doprinosi mogućnostima zajednićkog rada.

• **Osigurati izvor prihoda za institucije visokog obrazovanja**, pomaćući na taj način dalji razvitak matićne institucije. Ovaj prihod može biti rezultat prodaje usluga ili prenos vlasništva. U slućaju prodaje usluga (npr. konsultacije, ugovorena istraživanja...) naućnog parka reć je o posebnom obliku kooperacije sa industrijom. Prihodi od iznajmljivanja ili

⁶³ Prof.dr Vidoje Stefanović, Prof.dr Slobodan Pokrajac, "Nauka-tehnologija-razvoj, Ekonomski fakultet, 2001.g.

prodaje prostora u parku mogu biti značajan izvor prihoda visoko obrazovnih institucija, ali u tom slučaju ta organizacija mora biti jedini ili značajan partner - vlasnik. Za to su potrebna novčana sredstva. Ulaganje sredstava donosi određeni rizik i troškove (npr. administracija, održavanje, marketing...).

Investitor mora, isto tako, biti spreman sačekati nekoliko godina pre negoli njegovo ulaganje donese neto-profit. Važno je naglasiti da se to razdoblje često i produžuje, čak i u slučaju najuspešnijih parkova, u raznim oblicima podsticanja reinvestiranja u dalju ekspanziju.

6. VIZIJA RAZVOJA TEHNOLOŠKIH PARKOVA

Naučno tehnološki parkovi su izvori preduzetništva, talenata i privrednog razvoja država. Oni su ključ za podsticanje ekonomskog napredka neke zemlje kao i za poboljšanje globalne ekonomije zasnovane na znanju.

Kada se na istoj lokaciji ukrste državna uprava, univerziteti i privatne kompanije, u naučno tehnološkom parku nastaje sredina koja unapređuje saradnju i inovacije i podstiče razvoj, transfer i komercijalizaciju tehnologije. Posledica toga je povećanje broja radnih mesta i povećanje standarda ljudi koji žive u blizini naučno tehnološkog parka, a nakon nekog vremena i celog regiona kao i države.

Novi, budući model naučno tehnološkog parka, predstavlja viziju, koja je na pragu da se ostvari. Model predstavlja strateško planiranje i širenje univerzitetskih kampusa u kojima istraživači zaposleni u industriji i istraživači sa univerziteta mogu da rade rame uz rame. Ovaj model je orjentisan ka univerzitetu i ne predstavlja samo zajedničku saradnju u oblasti nekretnina i poslovnog prostora već predstavlja uključivanje univerziteta u šire aktivnosti nudeći tako kompanijama raznovrsne usluge, kao što su pristup istraživačima, specijalizovanim ustanovama i laboratorijama, studentima i kroz sve to promovisanje univerziteta kao nove životne radne sredine.

7. ZAKLJUČAK:

"Naučno-tehnološki park" predstavlja manje-više širok pojam, koji se koristi da opiše raznovrsne pokušaje da se podstakne razvoj "preduzetništva putem osnivanja na znanju zasnovanih MSP" unutar jednog Regionalnog okruženja. Ovaj naziv ima mnogo sinonima od kojih su najčešći "naučni park", "tehnološki park", "naučno-tehnološki park", "istraživački park" i "tehnopolis". I ako ima više definicija NTP, činjenica je da on predstavlja aglomeraciju MSP, koja ima sledeće osobine:

- povezana je sa obrazovnim ili istraživačkim institucijama,
- obezbeđenu infrastrukturu i usluge za aktivnosti okupljenih MSP, prvenstveno nekretnine i poslovni prostor,
- olakšava proces transfera tehnologije,
- namenjena je podsticanju privrednog razvoja regiona u kom se nalazi.

Neophodna osnova za uspostavljanje naučno tehnoloških parkova je naučni i tehnički potencijal u vidu naučnih i razvojno istraživačkih centara i institucija. Njihovi ljudski resursi, materijalna i tehnička opremljenost, informatička infrastruktura, ekspertiza u metodologiji razvoja naučno istraživačkih radova kao i ekspertiza u menadžmentu, predstavljaju veoma moćnu inicijalnu imovinu za formiranje i razvoj naučno tehnoloških parkova. Takav način osnivanja parkova predstavlja najzdraviji oblik osnivanja tehnoloških parkova.

Za sve to je potrebno imati mlad i obrazovan menadžerski kadar koji će uspeti da spoji nauku i preduzetništvo. Sinergijom ove dve grane i stavljanjem pod isti krov dobiće se rezultati koji su odavno poznati u svetu i koji mogu efikasno da promene situaciju na našem podneblju. Nove ideje koje dolaze od mladih i obrazovanih ljudi, ukrštene sa proverenim svetskim iskustvima, realizovane kroz menadžment parka, pokazaće i kod nas, kao i svuda u svetu, zagarantovan uspeh u privredi i nauci.

REFERENCE:

- 1. General presentation of Sophia Antipolis**, <http://www.sophia-antipolis.org/GB/sophia-antipolis/sophia-antipolis/presentation-generale/presentation-generale.htm>
- 2. Science Parks in Europe**, http://www.unesco.org/science/psd/thm_innov/unispar/sc_parks/europe.html
- 3.R., Refining the Cabral-Dahab Science Park Management Paradigm**, Int. J. Technology
- 4.Prof.dr Vidoje Stefanović,Prof.dr Slobodan Pokrajac**,''Nauka-tehnologija-razvoj,Ekonomski fakultet,2001.g.
- 5.StefanovićV, Milutinović.M**,''Menadžment upravljanja ljudskim resursima u uslovima globalizacije,Niš 2008.
- 6.Milutinović,M**.''Menadžment ljudskih resursa'', 2010,Niš.

INSURANCE CONTRACT CONCLUSION WITH PARTICULAR EMPHASIS ON SOLUTIONS IN THE DRAFT OF THE SERBIAN CIVIL CODE

Danijela Glušac

Visoka poslovna škola strukovnih studija Novi Sad, Serbia

Abstract: Insurance is an economic activity that offers security to all interested parties whose property interests or physical integrity may be threatened by the action of various dangers. This protection is achieved by concluding the insurance contract. Insurance contract is more and more important in our everyday legal transactions. Conclusion of the insurance contract is based on the obligation law and obligates both parties of fulfilling obligations. When considering conclusion of insurance contracts used the following sources of law: the Law of Contract and Torts and the Draft of the Serbian Civil Code. Beside domestic sources of law in treatment of this issue also the viewpoint of legal theory was taken into account. Author analyzes the most significant characteristics of this segment of topics and points out to the regulation and arrangement of the same content.

Keywords: Insurance, conclusion, the Draft of the Serbian Civil Code.

1. UVOD

Potreba za osećanjem sigurnosti stara je koliko i ljudski rod. Važan izvor sigurnosti je osiguranje, koje svoje korene vodi još iz 17. veka. Od jednostavnih oblika međusobne pomoći unutar užeg ili šireg kruga zajednice, pa do savremene ekonomske zaštite koju danas pruža osiguranje, motiv i svrha zaštite ostali su jednaki. Zaštita čoveka i njegove imovine od štetnih posledica delovanja prorodnih sila, stvari ili ljudskih radnji oduvek je bila od velike važnosti ne samo za pojedinca nego i za društvo u celini. Putem osiguranja, kao kompleksne i složene aktivnosti, vrši se ekonomska zaštita imovine i lica od rizika, odnosno štete, te otklanjaju ili smanjuju štetne posledice. S tačke pojedinca, osiguranje možemo definisati kao ugovor gde jedna ugovorna strana (osiguranik) plaća unapred dogovoreni novčani iznos (premiju) drugoj ugovornoj strani (osiguravaču) koji se zauzvrat obavezuje da će isplatiti unapred ugovoreni novčani iznos (osiguranu svotu) ako se osiguranoj osobi dogodi osigurani slučaj tokom trajanja ugovora o osiguranju.

Gledajući iz šire društvene perspektive, osiguranje bi se moglo definisati kao društveni mehanizam koji omogućava pojedincima prenos finansijskih rizika povezanih s gubitkom života ili zdravlja na grupu pojedinaca. Taj proces uključuje nakupljanje znatnih novčanih sredstava kroz razne novčane fondove koji onda mogu biti pokretači novih ekonomskih aktivnosti u društvu. Ekonomska opravdanost sistema osiguranja proizilazi iz činjenice da ono pridonosi opštem blagostanju kroz povećanje izgleda da se planovi pojedinaca neće izjaloviti zbog slučajnih događaja [1].

Ugovor o osiguranju je jedan od najznačajnijih ugovora našeg pravnog sistema i regulisan je detaljno odredbama Zakona o obligacionim odnosima. Brojnost pojava oblika osiguranja i njihova različita pravna priroda na teškoću da se jednom sveobuhvatnom stilizacijom definiše pojam ugovora o osiguranju. U našem pravnom sistemu definiciju ugovora o osiguranju u odredbi člana 897 Zakona o obligacionim odnosima (u daljem tekstu: ZOO), koja se odnosi kako na osiguranje imovine, tako i na osiguranje lica. Prema toj definiciji, ugovorom o osiguranju obavezuje se ugovarač osiguranja da plati određeni iznos organizaciji za osiguranje (osiguravač), a organizacija se obavezuje da, ako se desi događaj koji predstavlja osigurani slučaj, isplati osiguraniku ili nekom trećem licu naknadu, odnosno ugovorenu svotu ili učini nešto drugo [2].

Uvažavajući višegodišnje inicijative pravnika i predlog Udruženja pravnika Srbije, Vlada Republike Srbije donela je Odluku o obrazovanju posebne Komisije radi kodifikacije građanskog prava i izrade Građanskog zakonika [3]. Inicijative i predlozi zasnovani su na činjenici da su stvorene neophodne pretpostavke za izradu i donošenje savremenog Građanskog zakonika u Republici Srbiji, koji bi znatno povećao pravnu sigurnost i istovremeno podsticao kreativnu evoluciju u oblasti građanskog prava, u skladu sa naučnim saznanjima i potrebama prakse. Pojedina rešenja treba usaglasiti sa čitavim sistemom smernica koje dolaze iz Evropske unije, a koje se odnose na sasvim konkretna pitanja iz ove oblasti prava. To je danas stanje, ne samo sa zemljama članicama Evropske unije, već i sa onim zemljama koje se nalaze na putu ka članstvu u Evropsku uniju, gde se nalazi i Republika Srbija i njen pravni sistem. Komisija je do sada objavila IV knjige o Prednacrtu građanskog zakonika [4].

Polazi se da Građanski Zakonik Republike Srbije (u daljem tekstu: GZ) mora biti na liniji ugovornog prava osiguranje EU, a pre svega mora implementira sva pravila zaštitnog karaktera, od kojih su mnoga preuzeta iz potrošačkog *acquis communautaire*.

2. ZAKLJUČENJE UGOVORA PREMA ZAKONU O OBLIGACIONIM ODNOSIMA

Pitanja koja se postavljaju u vezi sa zaključenjem ugovora predstavljaju vrlo široku, složenu i značajnu oblast ugovornog prava. Prema ZOO, ugovor o osiguranju je formalan ugovor, s tim što je moguće da se u određenim (npr. kod masovnih osiguranja) procedura zaključenja ugovora pojednostavi tj. da se ugovor zaključi samim plaćanjem premije (realna forma ugovora) [12], bez potpisivanja polise osiguranja [5]. Zakon na posredan način dopušta da se odstupi i od odredaba o formi zaključenog ugovora (odredba čl. 901 st. 1 o formi ugovora o osiguranja je poluprinudnog karaktera), ako je to u interesu osiguranika (član 900 stav 2) [2]. Osim toga, ovo pravilo ZOO ne primenjuje se na plovidbena osiguranja, na reosiguranje i na osiguranje potraživanja-u kojima ugovor može biti zaključen i prostom saglasnošću volja. Ako je ugovor o osiguranju, koji je trebalo da bude sačinjen u pisanoj formi izvršen od strane ugovornika, onda se smatra punovažnim iako nije bio sačinjen u zahtevanoj formi "osim ako iz cilja zbog koga je forma propisana proizlazi nešto drugo" (član 73) [2]. Kada ugovarači potpišu polis osiguranja ili listu pokrića, sklopljen je ugovor o osiguranju. Određujući trenutak potpisivanja polise ili lista pokrića kao trenutak sklapanja

ugovora proizlazi da je pisana forma potrebna za pravovaljanost ugovora (ad solmenitatem) [14]. Pitanje forme sklapanja ugovora kod osiguranja neobično je važno. Komplikovanost odnosa koji mogu proisteći iz zaključenog posla, a naročito činjenica da se ugovor od strane osiguravača ne samo ne izvršava nakon zaključenog posla nego i da uopšte nije sigurno da li će na njega pasti bilo koja obaveza-govori za pisanu formu [6]. Putem te forme najlakše se i najsigurnije očuvaju dokazi o činjenicama koje imaju bitno značenje za izvršenje ugovora, a koje je, redovno, veoma teško, a često i nemoguće, naknadno utvrditi. Poslednjih godina u razvijenim zemljama je sve češća praksa zaključenja ugovora o osiguranju i putem telefona. Naime škotsko osiguravajuće društvo "Direct Live" je među prvima u Velikoj Britaniji odstupila od strogo formalnog karaktera ugovora o osiguranju, primenjujući zaključenje osiguranja motornih vozila telefonom. Rezultat takve prakse je da je 1990. godine jedna od osam polisa za osiguranje automobila bila zaključena na ovaj način, dok su već 1996. godine od deset polisa-tri polise bile zaključene putem telefona. Troškovi sprovođenja osiguranja su znatno smanjeni, tako da je, pre svega zbog korišćenja i ovakvog načina zaključenja osiguranja, premija za ovu vrstu osiguranja smanjena za oko 15 posto [10]. Interesantno je rešenje koji sadrži novi Zakon o obveznim odnosima u Republici Hrvatskoj iz 2005. godine koji predviđa zaključenje ugovora konsenzusom tako da je ugovor o osiguranju zaključen kada je prihvaćena ponuda o osiguranju. Međutim u pogledu ugovora o osiguranju lica propisano je da je isti zaključen kada stranke potpišu polisu osiguranja. Zakon daje i mogućnost da se uslovima osiguranja predvide slučajevi u kojima se ugovor o osiguranju sklapa samim plaćanjem premije [10].

Pored opštih pravila za zaključenje ugovora obligacionog prava, ZOO sadrži i nekoliko posebnih pravila za zaključenje ugovora o osiguranju. Ona se odnose na pitanja ponude za zaključenje učinjene osiguravaču (oblik ponude, vreme za koje ponuda vezuje, prihvatanje ponude ćutanjem, kao i momenat zaključenja u ovom poslednjem slučaju). Ove su norme imperativne. U ostalim pitanjima zaključenja ugovora mogu doći do primene opšta pravila Zakona, predviđena u čl. 26-45. (izjava volje, pregovori, vreme i mesto zaključenja ugovora, razna pitanja ponude i prihvatanja ponude, momenat zaključenja ugovora itd.) – Zakonske odredbe, razume se, ne mogu da obuhvate sva pravila zaključenja ugovora koja su potrebna za praktične potrebe. Otuda su od značaja i opšti uslovi poslovanja osiguranja koji redovno predviđaju pravila ove vrste [7]. Potreba za posebnim pravilima kod zaključenja ugovora o osiguranju postoji usled specifične prirode ovog posla, koja kao pravila *lex specialis* imaju prioritet u primenjivanju [9].

2.1. PONUDA ZA ZAKLJUČENJE UGOVORA

Za zaključenje svakog ugovora, pa i ugovora o osiguranju potrebno je da od određenog lica potekne inicijativa-ponuda za zaključenje ugovora. Ponudilac je lice koje daje inicijativu određenom licu (ponuđenome) da sa njim želi da zaključi ugovor. Potrebno je kod svakog ugovora odrediti koja se od budućih strana ugovornica nalazi u položaju ponudioca, jer ovo svojstvo povlači važne pravne posledice za zaključenje ugovora. U pravu osiguranja, po pravilu, u ulozi ponudioca se nalazi budući osiguranik, iako do zaključenja ugovora može doći ne samo tako što osiguranik odlazi osiguravaču (u njegovu poslovnicu, njegovom zastupniku i sl.) i predlaže zaključenje ugovora, nego i tako što, obrnuto, zastupnik

osiguravača posećuje buduće osiguranike, upozna je ih sa uslovima osiguranja i poziva ih da zaključe ugovor [7]. U praksi ulogu ponudioca preuzima osiguravajuća organizacija. Ipak, slanje cenovnika, tarifa premija osiguranja, prikazivanje ili predaja opštih uslova poslovanja tretira se samo kao poziv da se učini ponuda [8].

2.2. SADRŽINA I SVOJSTVO PONUDE

Isto kao i kod ugovora i ponuda za zaključenje ugovora o osiguranju mora da bude potpuna, jasna i konkretna. Ona mora, pre svega, sadržavati bitne sastojke budućeg ugovora da bi mogla da dovede do zaključenja ugovora. Naš ZOO zahteva da bitni elementi ugovora o osiguranju budu iskazani u polisi ili listu pokrića, a to su: ugovorne strane, osigurana stvar, odnosno osigurano lice, rizik obuhvaćen osiguranjem, trajanje osiguranja i period pokrića, svota osiguranja ili da je osiguranje neograničeno, premija ili doprinos, datum izdavanja polise i potpisi ugovornih strana (član 902 stav 1) [2]. Pored toga, u polisi osiguranja života moraju da budu naznačeni: ime i prezime lica na čiji se život odnosi osiguranje, datum njegovog rođenja i događaj ili rok od koga zavisi nastanak prava da se zahteva isplata osigurane sume (član 942 stav 1) [2]. Nije nužno da je predmet sasvim precizno određen, ali je u svakom slučaju potrebno da ugovor sadrži dovoljno podataka pomoću kojih se može odrediti predmet ugovorne obaveze [11].

Ponuda mora biti učinjena od strane ovlašćenog lica i u nameri da se zaključi ugovor (mora da je ozbiljna). Ako je ponuda učinjena od strane neovlašćenog lica, onda i u slučaju njenog prihvatanja, ugovor ne nastaje, jer nema saglasnosti volja [11].

2.3. FORMA PONUDE

Prema pravilima ZOO, ponuda za zaključenje ugovora se može učiniti u pisanoj ili usmenoj formi. Pisana forma ponude se zahteva samo ako je takva forma predviđena za ugovor. Kada je reč o formi ponude za zaključenje ugovora o osiguranju, ZOO u čl. 901 st. 2, pridaje poseban značaj pisanoj ponudi upućenoj osiguravaču od strane osiguranika. Naime, kada je osiguravaču učinjena pisana ponuda za zaključenje ugovora o osiguranju, ona vezuje ponudioca, ako on nije odredio kraći rok, za vreme od osam dana od dana kad je ponuda prispela osiguravaču, a ako je potreban lekarski pregled, onda za vreme od trideset dana [2]. Ove odredbe ne preciziraju kad se ponuda smatra pisanom ponudom. Treba je smatrati pisanom ponudom kad učinjena pisano, telegrafski ili teleprinterom u smislu ZOO. Naše pravo poznaje samo ponudu koja je učinjena osiguravači. ZOO u mnogim stvarima sadrži rešenja koja su povoljnija za ugovarača osiguranja nego što je to u drugim pravima npr. u nemačkom pravu ako osiguravač ne odgovori na ponudu u ugovorenom ili zakonskom roku, smatra se da je nije prihvatio [15].

Ponuda učinjena prisutnom licu smatra se odbijenom ako nije prihvaćena bez odlaganja, izuzev ako iz okolnosti proizlazi da ponuđenom pripada izvestan rok za razmišljanje (član 40 stav 1) [2]. Ponuda učinjena odsutnom licu, u kojoj nije određen rok za prihvatanje, vezuje ponudioca za vreme koje je redovno potrebno da ponuda stigne ponuđenome, da je ovaj razmotri, o njoj odluči i da odgovor o prihvatanju stigne ponudiocu (član 37 stav 4) [2]. Ponudilac je vezan ponudom, osim ako je svoju obavezu da održi ponudu isključio, ili ako to isključenje proizlazi iz okolnosti posla. Međutim, kad se ugovor zaključuje

između odsutnih lica, ponudilac može opozvati svoju ponudu za zaključenje ugovora. Ponuda se može opozvati samo ako je ponuđeni primio opoziv ponude pre prijema ponude ili istovremeno sa njom (član 36 stav 2) [2]. Ako je opoziv ponude neblagovremen, tj. ako stigne ponuđenom posle prijema ponue, on neće proizvoditi nikakvo pravno dejstvo. To praktično znači da opoziv ponude se vrši bržim sredstvom od onog kojim je ponuda učinjena. Na primer, ponuda je učinjena pismom, a opoziv se vrši telegramom. Izraz "opoziv" ponude koji se koristi u našem ZOO je neadekvatan. Opoziv ponude je moguć samo kad je ona stigla ponuđenom i kad je počela da proizvodi svoja pravna dejstva (kad je postala efektivna). Učinjenim opozivom ponude gasi se svako njeno pravno dejstvo. U pravnoj literaturi postoji shvatanje da u našem pravu treba govoriti o povlačenju ponude, a ne o opozivu zato što je ona neopoziva [13]. Specijalna pravila za ugovor o osiguranju (kada je u pitanju pisana ponuda učinjena osiguravaču) predviđa su u ZOO u gore citiranom čl. 901 st. 2.

2.4. PRIHVATANJE PONUDE

Prihvatanjem ponude, po pravilu, dolazi do zaključenja ugovora. Da bi izjava o prihvatanju ponude mogla da proizvede pravno dejstvo zaključenja ugovora ona mora da je: 1. učinjena od strane ovlašćenog lica; 2. da je u svemu saglasna sa ponudom; 3. da je blagovremena; 4. da je njome izražena namera da se ugovor zaključi [7]. Što se tiče forme za prihvatanje ponude za zaključenje ugovora o osiguranju, treba voditi računa da u određenim slučajevima kada zakon zahteva posebnu formu za zaključenje ugovora, onda i za ponudu i za prihvatanje važi isti zahtev (član 38) [2]. Prema tome, u slučaju kada se za zaključenje ugovora o osiguranju zahteva pisana forma i prihvatanje ponude mora da bude u pisanom obliku (član 901) [2]. S druge strane, mogu ugovornici da odrede i neku drugu formu, na primer, mogu uslovima osiguranja biti predviđeni slučajevi u kojima ugovorni odnos nastaje samim plaćanjem premije (član 903) [2].

Prema rešenju koje usvaja Zakon o obligacionim odnosima, neodgovaranje na ponudu za zaključenje ugovora obavezuje samo onda kada je osiguravač ponuđeni: Ako osiguravač u tom roku ne odbije ponudu koja ne odstupa od uslova pod kojima on vrši predloženo osiguranje, smatraće se da je prihvatio ponudu i da je ugovor zaključen (član 901 stav 3) [2]. Zakon je ovde odstupio i od forme ugovora koja predviđena u stavu 1. Za valjanost ugovora ne traži se potpisivanje polise osiguranja. Ponudilac je bez svoje krivice ostao bez mogućnosti da koristi prava koja bi mogao koristiti da ima polis. U ta prava spadaju pravo dokazivanja sadržaja ugovora, pravo prenosa prava iz ugovora na način na koji se prenose prava iz vrednosnog papira (član 906 stav 2) i druga prava. Smatra se da bi ponudilac mogao zahtevati od osiguravača da naknadno izda i potpiše polis osiguranja. Ona bi imala deklarativno, a ne konstitutivno značenje [14].

2.5. TRENUTAK ZAKLJUČENJA UGOVORA

Kada se ugovor o osiguranju zaključuje na formalan način, predviđen u čl. 901 st. 1 ZOO, ugovor se smatra zaključenim u momentu potpisivanja polise ili lista pokrića od strane ugovornika. Ukoliko se ugovor o osiguranju zaključuje ćutanjem osiguravača, to jest, kada se njegovom neodgovaranju na ponudu osiguranika pridaje značaj prihvatanja ugovor se smatra zaključenim u momentu kad je ponuda prispela osiguravaču (član 901 stav 3) [2]. Ako je pre

isteka tog roka nastao događaj koji želi da se osigura, osiguravač je u obavezi jer se ugovor smatra zaključenim kada mu je ponuda prispela [15].

Ako je u uslovima osiguranja predviđeno, ugovor može da nastane i samim plaćanjem premije (član 903) [2].

Van ovih slučajeva, ugovor se smatra zaključenim prema opštem pravilu-u momentu kada ponudilac (osiguravač ili osiguranik) primi izjavu ponuđenog da prihvata njegovu ponudu (član 31 stav1, član 39 stav 1) [2].

3. ZAKLJUČENJE UGOVORA PREMA PREDNACRTU GRAĐANSKOG ZAKONIKA REPUBLIKE SRBIJE

Pitanje načina zaključenja ugovora o osiguranju dolazi u red tzv. otvorenih pitanja regulisanja ugovora o osiguranju GZ. Najvažnije je, pri tome, pitanje da li ugovor o osiguranju treba da bude formalni ili konsensualni pravni posao. Uporedno pravo pokazuje da postoje različita rešenja u nekim pravima zahteva se pisana forma za nastanak ugovora (ad solemnitatem), u drugima je pisana forma samo uslov za dokazivanje zaključenog ugovora (dokazna forma: ad probationem), u trećima je za zaključenje ugovora o osiguranju dovoljna prosta saglasnost volja, a u nekim pravima se činu razlika u odnosu na pojedine vrste osiguranja (na primer: ugovor je formalan u osiguranju lica, a konsensualan u osiguranju imovine). U GZ je predviđeno odstupanje od formalnog karaktera ugovora, osim u slučaju osiguranju lica i ugovora koji zaključuju lica koja se u smislu pozitivnopravnih propisa smatraju potrošačima usluga osiguranja. Smatra se da predlog nije dobar i da može postati izvor velikih problema u praksi. Ovo zato što određenje potrošača usluga osiguranja na osnovu opštih propisa o zaštiti potrošača nije primereno oblasti osiguranja. Neophodno je da se pojam potrošača usluga osiguranja odredi šire i da obuhvata svakog ugovarača osiguranja, osiguranika, korisnika prava i treće oštećeno lice koje se osigurava od rizika koji se ne može podvesti pod pojam velikih rizika [5]. Profesor Jovan Slavnić u jednom svom radu smatra da treba zadržati polisnu formu ugovora o osiguranju i u čl. 901 st. 2 i čl. 903 ZOO predviđene izuzetke od pravila o polisi kao ispravi o zaključenom ugovoru o osiguranju, a eventualno, konsensualizam prihvatiti u slučajevima kada se osiguranje zaključuje na vreme kraće od godine dana [16]. Takođe se postavlja pitanje da li postoji dovoljna zaštita osiguranika kao slabije ugovorne strane ako ugovor o osiguranju bude konsensualan. Najvažniji mehanizmi te zaštite su: potpuno informisanje osiguranika od strane osiguravača pre zaključenja i toku trajanja ugovora; pojačana obaveza upoznavanja osiguranika sa opštim uslovima osiguranja i propisivanje obaveze osiguravača da te uslove preda osiguraniku i to konstatuje na polisi; pretpostavka o prećutnom prihvatanju ugovora o osiguranju kada osiguravač u određenom roku ne odbije uredno sačinjenu ponudu osiguranika (ne i obrnuto); mogućnost odustanka kod ugovora zaključenih na daljinu itd. [17]. Iz toga proizlazi da prema novom rešenju GZ za imovinska osiguranja, ispostavljanje polise osiguranja više nije zakonski uslov nastanka i valjanosti ugovora (forma ad solemnitatem), pa ugovor o osiguranju ne spada u formalne pravne poslove. Polisom osiguranja ili nekom drugom ispravom o osiguranju u pisanom se obliku samo potvrđuje da je ugovor sklopljen i da se njegov sadržaj utvrđuje iz polise osiguranja (forma ad probationem). Obaveznost

ispostavljanja i predaje polise osiguranja ugovaraču propisana je i u uporednopravnim sistemima (par. 3 st. 1) [18].

4. ZAKLJUČAK

U našem, kao i u uporednom pravu, osiguranje je danas u načelu dobrovoljno. To znači da je pravnim i fizičkim licima ostavljeno da sami procene da li će osigurati svoju imovinu i sebe osigurati i time za slučaj da pretrpe štetu (kod osiguranja imovine) ili telesne povrede (kod osiguranja lica), naknadu ostvariti kod osiguravajućeg društva ili će te posledice snositi sami. Prema tome, osiguranje po pravilu nastaje na osnovu ugovora koji zaključuju osiguranik i osiguravač. Odgovornost pisaca prednacrta GZ je da pronađu najadekvatnije rešenje kojima će sudskoj i poslovnoj praksi pružiti više prostora, snabdevajući je samo gipkim normama koje se mogu prilagođavati realnom životu, a što je od posebne važnosti jer se odnosi u privredno-poslovnoj praksi brzo menjaju.

Neophodno je da se prate savremeni tokovi u delatnosti osiguranja u razvijenim zemljama kako bi se, kada se steknu uslovi i u našoj praksi, neki od njih primenili.

REFERENCE

1. N. Mašić, *Osiguranje života*, Profil International d.o.o., Zagreb, 2008, p. 45.
2. *Zakon o obligacionim odnosima* (Službeni list SFRJ, br. 29/78, 39/85, 45/89 - odluka USJ i 57/89, Službeni list SRJ, br. 31/93 i Službeni list SCG, br. 1/2003 - Ustavna povelja).
3. *Odluka o obrazovanju posebne Komisije radi kodifikacije građanskog prava i izrade Građanskog zakonika* (Službeni glasnik RS, br. 104/06, 110/06 i 85/09).
4. R. Slijepević, *Izrada Građanskog zakonika Republike Srbije: koncepcija, sadržina i najvažnije novine Prednacrta*, *Revija za evropsko pravo*, 1 (2013), p. 99-152.
5. N. Petrović Tomić, *Prednacrta Građanskog zakonika Srbije, druga knjiga, obligacioni odnosi-primedbe na Glavu XLVI: Ugovor o osiguranju*, *Pravo i privreda*, 10-12 (2014), p. 194-211.
6. B. Jakaša, *Pravo osiguranja*, Informator, Zagreb, 1972, p. 58.
7. P. Šulejić, *Pravo osiguranja*, Pravni fakultet u Beogradu, Beograd, 2005, pp. 181-190.
8. V. Marjanski, *Pravna priroda ugovora o osiguranju*, Pravni fakultet u Novom Sadu, Novi Sad, 2006, p. 137.
9. I. Jankovec, Z. Miladinović, *Pravo osiguranja*, Pravni fakultet u Nišu, Niš, 2006, p. 275.
10. D. Mrkšić, Z. Petrović, K. Ivančević, *Pravo osiguranja*, Privredna akademija, Novi Sad, 2006, p. 120-121.

11. S. Perović, *Obligaciono pravo*, Službeni list SFRJ, Beograd, 1986, p. 269.
12. V. Marjanski, *Insurance Law in Serbia*, Kluwer Law International, Alphen aan den Rijn, 2012, p. 93.
13. D. Milenović, *Zaključenje ugovora u privredi i kodifikacija građanskog prava*, Građanska kodifikacija, 2004, p.119-139.
14. I. Bukljaš, B. Vizner, *Komentar Zakona o obveznim (obligacionim) odnosima*, Riječka tiskara, Zagreb, 1979, p. 2584, 2586.
15. J. Pak, *Pravo osiguranja*, Univerzitet Singidunum, Beograd, 2011, p. 204.
16. J. Slavnić, *Kako regulisati zaključivanje ugovora o kopnom osiguranju u novom Građanskom zakoniku Srbije*, *Pravni život*, 12 (2007), p. 621-638.
17. P. Šulejić, *Ugovor o osiguranju u prednactu Građanskog zakonika Srbije od 2010. godine*, *Evropske (EU) reforme u pravu osiguranja Srbije*, 23-24. april 2010, Palić, Republika Srbije, p. 162-187.
18. *Gesetz über den Versicherungsvertrag (Versicherungsvertragsgesetz – VVG) vom 23. November 2007 (BGBl. I S. 2631)*, (nemački Zakon o ugovoru o osiguranju).

CREATING MARKETING STRATEGY FOR SALE NEW PRODUCT

Danijela Durkalić

University of Belgrade, Technical Faculty in Bor, Serbia

Abstract: This paper presents a case study of sales promotion of new products in the introduction stage in the product life cycle, from market analysis and proposals to increase the market share of the company and increase product sales. For collecting data, author used the method of testing survey.

Study results showed a specific marketing strategy that the company should apply. Market research product, we came to results that show the way to sold new products to market in a highly competitive market, proposals to increase sales and market share. Created marketing strategies is in line with the overall goals of the company and indicates the initial steps of penetration of new products to the market in order to create the desired customer response. The objective of defining strategy is to prepare the company for the future market position. In the long term, it can be concluded that the company will not use only one strategy for gaining market share. Competitive advantage is achieved by combining strategy, including a marketing strategy in order to achieve customer satisfaction, which guarantees the survival of the target market segment.

Keywords: marketing strategy, new product, sales, market analysis.

THE APPLICATION OF FUZZY-TAGUCHI OPTIMIZATION MODEL FOR MULTI-RESPONSE BAYER PROCESS OF BAUXIT LEACHING

Živan Živković¹, Dragica Lazić², Djordje Nikolić¹, Predrag Djordjevic¹, Ivan Mihajlović¹, Isidora Milošević¹

¹Technical Faculty Bor, University of Belgrade, Serbia; ²University of East Sarajevo, Faculty of Technology, Zvornik, Bosnia and Herzegovina

Abstract: This paper presents the results of multi-performance optimization model of the Bayer bauxite leaching process in aluminum production. Data was collected under the industrial conditions from alumina plant “Biroč” in Zvornik, Bosnia and Herzegovina. The leaching parameters (temperature of leaching, leaching time and CaO supplement) were analyzed as influencing factors in multi-response optimization of process outputs (Al₂O₃ losses, Al₂O₃ overall losses, Na₂O losses in autoclave sludge, as well as the utilization of Al₂O₃ from the leaching of the sludge). The Taguchi orthogonal array (L16³), the signal-to-noise ratio (S/N), and ANOVA are used in this study to optimize the considered process inputs in regard to four measured process outputs. Furthermore, all S/N values in optimization model were fuzzified to obtain single universal output measure, which was then tested by ANOVA to determine the optimal set of input factors that could lead to the better efficiency of discussed process.

Keywords: Bauxite leaching, Optimization, Taguchi method, ANOVA, Fuzzy logic

KNOWLEDGE MANAGEMENT MODEL IN THE PROJECT-ORIENTED COMPANIES

Nenad Milijić, Ivan Jovanović, Ivan Mihajlović, Dejan Bogdanović

University of Belgrade, Technical Faculty in Bor, Management Department, Serbia

Abstract: This paper explores the impact of the main elements of the knowledge management concept in project-oriented companies on achieving the project goals and the realization of benefits on the company level. The proposed conceptual model and a set of four hypotheses have been tested on a sample of 161 respondents, involved in different types of projects in the region of Central Serbia. Statistical analysis was performed using the software package SPSS 18.0 and LISREL 8.80. Hypothesis testing has been performed by usage of SEM (*Structural Equation Modeling*) methodology. The derived results confirm the hypothesis and indicate the positive correlation between them.

Keywords: Knowledge management, questionnaire, statistical analysis, project company.

1. UVOD

U savremenom poslovnom okruženju, koje karakterišu dinamičnost i turbulencije, znanje predstavlja jedan od najznačajnijih resursa. Iz tog razloga, znanjem je potrebno upravljati sa jednakom, ako ne i sa većom pažnjom u odnosu na druge resurse. Upravljanje znanjem se može definisati kao identifikacija, optimizacija i aktivno upravljanje intelektualnim sredstvima za stvaranje vrednosti, povećanje produktivnosti i sticanje i održavanje konkurentske prednosti [1]. Sa aspekta znanja, projekat predstavlja skup aktivnosti zasnovanih na razvoju zajedničkih interpretacija i shvatanja usmerenih u pravcu ostvarivanja postavljenih ciljeva [2]. Na taj način, tokom realizacije projekta se generišu kako lična, tako i kolektivna znanja. Ovako stečena znanja doprinose efikasnijem rešavanju problema tokom obavljanja projektnih aktivnosti i osiguravaju uspešniju realizaciji aktuelnog projekta. Međutim, dugoročno posmatrano, time se formira baza znanja koja za kompaniju predstavlja resurs od izuzetne važnosti u smislu efikasnosti realizacije budućih projekata. Naravno, to će se desiti samo u slučaju da kompanija na zadovoljavajući način upravlja znanjem, tj. uz adekvatna sredstva generiše nova znanja, vrši njihovu akumulaciju i u procesu distribucije među članovima projektnih timova ih ponovo upotrebljava, razvija i unapređuje [3]. Ovakav način upravljanja znanjem se obično vezuje za kompanije koje su projektno orijentisane. U tako organizovanim kompanijama, svakodnevne poslovne rutine, ili makar određeni poslovi, dobijaju status projektnih celina. Ovakav način poslovnog delovanja donosi već poznate, brojne benefite, ali sa druge strane iziskuje i određene promene u odnosu na klasične organizacije. To se naročito odnosi na upravljanje znanjem u projektno orijentisanim organizacijama i potrebno ga je konstantno unapređivati [4]. Pored utvrđenih formalnih i tehničkih sredstava, kao što su procedure i alati upravljanja znanjem, informacioni sistemi i

skladišta podataka, takođe i projektni timovi imaju značajnu ulogu u kreiranju znanja unutar projektno orijentisanih organizacija. Naime, članovi projektnih timova predstavljaju pokretače organizacionog učenja putem adekvatnih veza sa kolegama van projekta i distribucijom stečenih znanja na projektu ka organizaciji kao celini [5,6]. Na to, da li će i na koji način, projektno orijentisana organizacija kreirati i u praksi sprovoditi sistem upravljanja znanjem, svakako će uticati njene određene karakteristike kao što su veličina, delatnost, tehnička opremljenost i pre svega ljudski resursi i njihova spremnost i sposobnost za usvajanje i implementaciju ovog procesa. Organizacija koja je sposobna da uči i upravlja znanjem stečenim sa realizovanih projekata, identifikuje i rešava probleme na projektu putem novih, ili čak alternativnih načina, shodno situaciji. Sa druge strane, mnoge organizacije koriste ustaljene prakse i procedure za rešavanje problema na projektu što neminovno smanjuje potrebu za istraživanjem i sticanjem novih znanja. Ovu razliku stvaraju kreativni i motivisani zaposleni, kako u okviru projektnih timova, tako i u organizaciji kao celini [7]. Međutim, ne sme se zanemariti ni prethodno pomenuta tehnička opremljenost kompanije. Kako bi članovi projektnih timova uz svoju spremnost mogli i da realizuju svoju kreativnost, neophodni su i adekvatni alati za upravljanje znanjem (informacione tehnologije za prikupljanje, skladištenje i distribuciju stečenih znanja na projektu) [8]. Otuda, sprovedeno istraživanje, putem integracije tehničkih i ljudskih sredstava u jedinstvenu celinu, kao rezultat prezentuje model upravljanja znanjem u projektno orijentisanim kompanijama koji može biti praktično primenljiv.

2. ISTRAŽIVAČKE HIPOTEZE I KONCEPTUALNI MODEL

2.1 ALATI UPRAVLJANJA ZNANJEM I PROJEKTNI CILJEVI

Primena alata i tehnika upravljanja znanjem olakšava protok i kontrolu informacija na projektu, a takođe potpomaže i proces distribucije znanja među članovima projektnih timova [8]. Internet, softveri za pretraživanja, elektronska pošta, ekspertske sistemi upravljanja dokumentacijom, tehnike data mining-a, baze podataka i sistemi za upravljanje bazama podataka i brojni drugi proizvodi savremene informacione tehnologije, predstavljaju elemente alata upravljanja znanjem, kako na projektima, tako i u okviru kompanije. Njihova primena čini efikasnijim procese integracije, distribucije i upravljanja znanjem [9,10,11]. Konačno, primena alata i tehnika upravljanja znanjem pomaže menadžerima i projektnim timovima, kako pri rešavanju operativnih zadataka, tako i u procesu učenja, a samim tim povećava šanse za uspeh projekta [12,13]. Zbog toga predlažemo:

Hipoteza H1: *Primena alata upravljanja znanjem u projektno orijentisanim kompanijama pozitivno utiče na ostvarivanje projektnih ciljeva.*

2.2 SKLADIŠTA ZNANJA I PROJEKTNI CILJEVI

Projekti predstavljaju privremene organizacije, dizajnirane tako da donose određene koristi matičnoj organizaciji i interesnim grupama kroz kompleksne procese rešavanja zadataka i problema. Kao takvi, projekti bi trebalo da predstavljaju efikasan način

kombinovanja znanja i učenja, što doprinosi povećanju vrednosti investicija [6]. Međutim, sama priroda projekata je takva da su u fokusu vreme, proizvod i usluga, a ne aktivnosti prikupljanja, skladištenja i ponovne distribucije znanja [14]. Zbog toga se javlja veliki rizik da se znanja akumulirana tokom realizacije projekta nepovratno izgube nakon njegovog okončanja i da projektno orijentisana organizacija limitira, kako rast svog znanja, tako i svoj ukupni razvoj [15]. Kako do toga nebi doslo i kako bi stečena znanja bila ponovo korišćena i unapređivana, neophodno ih je adekvatno dokumentovati i skladištiti u bazama podataka, odakle im se može ponovo pristupiti i odakle mogu biti distribuirana zaposlenim u okviru projekata, a u pravcu efikasnijeg ostvarivanja projektnih ciljeva [3]. Takođe, stečena (usklađena) znanja osim direktne primene na budućim projektima, pospešuju i generisanje novih znanja i praktičnih rešenja, što dodatno doprinosi uspešnosti projekata [16]. Zbog toga predlažemo:

Hipoteza H2: *Skladištenje i korišćenje znanja u projektno orijentisanim kompanijama pozitivno utiču na ostvarivanje projektnih ciljeva.*

2.3 DISTRIBUCIJA I PRIMENA ZNANJA I PROJEKTNI CILJEVI

Distribucija znanja u okviru kompanije predstavlja najveću podršku organizacionom učenju. Kompanije koje kontinuirano uvećavaju svoja znanja su bolje pripremljene za suočavanje sa dinamičnim i neizvesnim okruženjem [17]. Projektno orijentisane kompanije su suočene sa dodatnim izazovima. Naime, potrebno je obezbediti efikasne procese distribucije i primene znanja, kako unutar, tako i između projekata, kao bi se izbegao efekat dupliranja znanja, ili ponavljanja grešaka [3,6]. Distribucija znanja se takođe obavlja i između projekata i matične organizacije. Na taj način, znanja i inovativna rešenja se akumuliraju u okviru organizacije i njihova primena poboljšava performanse svakog budućeg projekata i doprinosi efikasnijem postizanju projektnih ciljeva [18,19]. Zbog toga predlažemo:

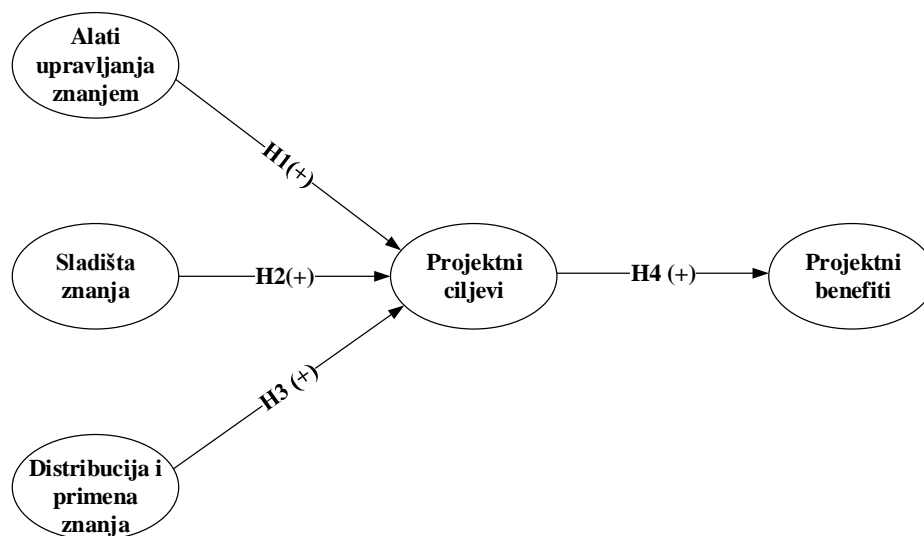
Hipoteza H3: *Distribucija i primena znanja u projektno orijentisanim kompanijama pozitivno utiče na ostvarivanje projektnih ciljeva.*

2.4 PROJEKTNI CILJEVI I PROJEKTNI BENEFITI

Zadovoljavajuće performanse projekta bazirane na znanju, predstavljaju jedan od elemenata dostizanja projektnih ciljeva. Kumulativno znanje sa projekata koji su uspešno ostvarili svoje ciljeve predstavlja bazu znanja projektno orijentisane organizacije. Kreiranjem i korišćenjem ovakve baze znanja sa ranijih projekata se inicira organizaciono učenje koje poboljšava performanse organizacije, a što predstavlja projektne benefite za samu organizaciju [20]. Zbog toga predlažemo:

Hipoteza H4: *Projektne ciljevi pozitivno utiču na projektne benefite.*

Na osnovu predložene 4 istraživačke hipoteze formiran je konceptualni model pozitivnih uticaja, koji je prikazan na Slici 1.



Slika 1. Konceptualni (istraživački) model

3. METODOLOGIJA ISTRAŽIVANJA

U sprovedenom istraživanju je primenjena metodologija upitnika za prikupljanje podataka. Upitnik je razvijen na osnovu dostupne relevantne literature i pokušaja drugih istraživača da kreiraju podesan instrument za analizu i evaluaciju koncepta upravljanja znanjem u projektno orijentisanim kompanijama [4,12,21]. Anketni listić se sastoji iz dva dela. Prvi deo sadrži 7 kontrolnih pitanja demografskog karakera, koja su prikazana u Tabeli 1. Drugi deo anketnog listića je formiran od 29 pitanja iz oblasni upravljanja znanjem u projektno orijentisanim kompanijama (Tabela 2).

3.1 UZORAK I PRIKUPLJANJE PODATAKA

Prikupljanje podataka je izvršeno anonimnim anketiranjem zaposlenih u regionu centralne Srbije, u 6 kompanija koje svoje poslove obavljaju preko projekata. Delatnosti ovih kompanija su sledeće: građevinarstvo (2 kompanije), proizvodnja elektro materijala (2 kompanije), proizvodnja nameštaja (1 kompanija) i proizvodnja i ugradnja PVC i aluminijumske stolarije (1 kompanija). Ispitanici su upitnik popunjavali zaokruživanjem ponuđenih odgovora. Za gradaciju dobijenih odgovora korišćena je Likertova petostepena skala, gde 1 predstavlja najmanji značaj (apsolutno se ne slažem), a 5 predstavlja najveći značaj (apsolutno se slažem). Anketirano je ukupno 206 zaposlenih, od čega je prikupljeno ispravno popunjenih upitnika 161, što predstavlja 78.15 %. Odnos veličine uzorka (206 ispitanika) i broja pitanja (29 pitanja iz upitnika) iznosi 7.1, što je znatno više od preporučenog nivoa 5, prema Hair-u i saradnicima [22].

3.2 DEMOGRAFSKI PARAMETRI ISPITIVANOG UZORKA

U Tabeli 1. su prikazane osnovne demografske karakteristike ispitivanog uzorka (kako projektno orijentisanih kompanija, tako i zaposlenih).

Tabela 1. Demografske karakteristike uzorka

Kontrolne promenljive	Kategorija	Frekvencija	Udeo (%)
Pol ispitanika	Muški	122	75.8
	Ženski	39	24.2
Godine starosti ispitanika	≤ 29	24	14.9
	30-44	95	59.0
	45-54	34	21.1
	≥ 55	8	5.0
Školska sprema	Osnovna škola	11	6.8
	Srednja struč. sprema	116	72.0
	Viša struč. sprema	19	11.8
	Visoka struč. sprema	15	9.3
Radni staž u kompaniji	≤ 5	96	59.6
	6-15	44	27.3
	16-25	16	9.9
	≥ 26	5	3.1
Pozicija na projektu	Menadžer	19	11.8
	Radnik	142	88.2
Broj zaposlenih u organizaciji	≤ 50	13	8.1
	51-100	86	53.4
	101-300	21	13.0
	≥ 301	41	25.5
Vrsta delatnosti organizacije	Niskogradnja	44	27.3
	Visokogradnja	42	26.1
	Prizvodnja nameštaja	21	13.0
	Proizv. PVC stolarije	13	8.1
	Proizv. el. opreme	41	25.5

4. REZULTATI ISTRAŽIVANJA I DISKUSIJA

Statistička analiza prikupljenih podataka je obavljena korišćenjem softverskih paketa SPSS 18.0 i LISREL 8.80.

4.1 DESKRIPTIVNA STATISTIKA

U Tabeli 2. je prikazano svih 29 pitanja koja su bila obuhvaćena upitnikom, a odnose se na oblast upravljanja znanjem i njegove primene u projektno orijentisanim kompanijama. U poslednje tri kolone prikazani su neki rezultati deskriptivne statistike (srednja vrednost, standardna devijacija, varijansa).

4.2 FAKTORSKA ANALIZA

Kaiser–Meyer–Olkin (KMO) i Bartlett test

U cilju primene faktorske analize izvršeno je ispitivanje adekvatnosti uzorkovanja (MSAs - *Measures of sampling adequacy*) korišćenjem Kaiser–Meyer–Olkin (KMO) testa i Bartlett-ovog testa sferičnosti. Na osnovu literaturnih preporuka, minimalno prihvatljiva

vrednost za KMO indikator je 0.6, dok nivo značajnosti Bartlett-ovog testa iznosi $p \leq 0.05$ [23,24,25].

Dobijeni rezultat KMO koeficijenta iznosi 0.911, što ukazuje da su prikupljeni podaci pogodni za primenu faktorske analize. Takođe, Bartlett-ov test sferičnosti pokazuje značajnost ($\chi^2 = 4229.343$, $p < 0.000$), što ukazuje da postoje korelacije među stavkama u okviru mernog instrumenta, odnosno da korelaciona matrica nije jedinična [22,26].

Korelaciona matrica promenljivih

U nastavku istraživanja su ispitane korelacije između svih 29 stavki upitnika (promenljivih) koncepta upravljanja znanjem u projektno orijentisanim kompanijama. Kod velikih uzoraka koeficijenti korelacije na nivou 0.01 se smatraju prihvatljivim, dok je kod manjih nivo prihvatljivosti korelacionih koeficijenata 0.05 [27,28]. Na razmatranom uzorku većina korelacionih koeficijenta u materici ispunjava nivo prihvatljivosti 0.05. To ukazuje na značajnu korelaciju između svih 29 stavki upitnika, i zato je primena faktorske analize opravdana.

Tabela 2. Upitnik i rezultati deskriptivne statistike

Stavke upitnika	Sred. vred.	Stan. dev.	Varijansa
1. Internet se koristi kao podrška menadžmenta znanjem.	2.75	0.970	0.941
2. E-mail se koristi kao podrška menadžmenta znanjem.	1.99	0.994	0.987
3. Elektronski sist. upravljanja dokumentacijom se koristi kao podrška menadžmenta znanjem.	2.33	1.011	1.022
4. Softeri za pretraživanje se koriste kao podrška menadžmenta znanjem.	2.25	0.975	0.950
5. Tehnike data mining-a se koriste kao podrška menadžmenta znanjem.	1.82	0.914	0.836
6. Video konferencije se koriste kao podrška menadžmenta znanjem.	1.31	0.615	0.378
7. Sistemi za upravljanje bazama podataka se koriste kao podrška menadžmenta znanjem.	2.18	1.048	1.099
8. Sistemi za upravljanje znanjem se koriste kao podrška menadžmenta znanjem.	2.14	0.961	0.923
9. Korisne ideje i nova znanja su adekvatno dokumentovana na projektu.	2.84	0.805	0.649
10. Korisne ideje i nova znanja se skladište i periodično se ažuriraju na projektu.	2.61	0.742	0.551
11. Skladištenje znanja je jedan od značajnih ciljeva na projektu.	2.49	0.902	0.814
12. Različitim izvorima i tipovima znanja se efikasno upravlja na projektu.	2.94	0.816	0.666
13. Među članovima projektnog tima se vrši razmena znanja.	3.69	0.768	0.590
14. Članovi različitih sektora komp. saraduju u cilju dobijanja novih znanja. metoda i invencija.	3.35	0.769	0.591
15. Članovi projektnog tima koriste bazu znanje pri rešavanju problema.	3.91	0.753	0.567
16. Članovi projekt. tima koriste bazu znanja u cilju efektivnijeg i efikasnijeg obavljanja posla.	3.89	0.763	0.583
17. Pri realizaciji projekta znanje ima praktičnu primenu.	4.16	0.729	0.532
18. Raspored svake faze projekta je identičan planiranom.	4.36	0.657	0.432
19. Svi projektni zadaci se izvršavaju prema planu.	4.31	0.718	0.515
20. Projekat se može realizovati pre roka.	2.35	1.226	1.503
21. Projekat se realizuje prema zahtevima naručioca i u skladu sa ugovorenim uslovima.	4.50	0.603	0.364
22. Ciljevi vezani za kvalitet projekta se ostvaruju.	4.44	0.579	0.336
23. Projekat se realizuje u skladu sa budžetom.	4.02	0.818	0.668
24. Proj. se realizuje u skladu sa zahtevima zaštite životne sred.. zdravlja i bezbednosti na radu.	4.05	0.740	0.548
25. Akcidenti tokom realizacije projekta su retkost.	3.97	0.862	0.743
26. Povrede na radu tokom realizacije projekta su retkost.	2.82	1.036	1.074
27. Projekat generiše puno novih znanja. metoda i inovacija.	3.49	0.909	0.826
28. Ukupni benefiti projekta premašuju očekivanja kompanije.	3.47	0.829	0.688
29. Projekat daje odlične rezultate i pozitivne ishode.	4.16	0.738	0.544

Eksploratorna faktorska analiza

Eksploratorna faktorska analiza (*EFA-Exploratory factor analysis*) je sprovedena sa ciljem ekstrahovanja glavnih faktora koncepta upravljanja znanjem u projektno orijentisanim kompanijama. Odnosi između merenih promenljivih su takvi, da se na osnovu zabeleženih korelacija mogu vršiti njihova pregrupisanja u manji set promenljivih, što predstavlja konciznu i razumljivu strukturu proučavane oblasti [22].

Sprovedenom EFA analizom nad setom od 29 promenljivih utvrđene su veze i odnosi između predloženih grupacija, a dobijeni rezultati (faktorska opterećenja, komunaliteti i eigen vrednosti ekstrahovanih faktora) su prikazani u Tabeli 3.

Faktorsko opterećenje (*Factor loading*) predstavlja korelacioni koeficijent između originalne promenljive i ekstrahovanog faktora. Komunalitet promenljive (h^2) se definiše kao proporcija njene ukupne varijanse proračunate na osnovu zajedničkih faktora [29]. Eigen vrednost (*Eigenvalue*) predstavlja zbir kvadrata faktorskih opterećenja i označava meru uticaja standardnih promenljivih na glavne faktore. Na osnovu eigen vrednosti se određuje broj faktora (*Eigenvalue* >1) [30].

Tabela 3. Grupisanje promenljivih u faktore (grupe)

Oznaka stavke	Faktorsko opterećenje (Factor loading)					Komunalitet	Faktor (eigenvalue)
	Faktor 1	Faktor 2	Faktor 3	Faktor 4	Faktor 5		
22	0.842					0.766	PC Projektni ciljevi (13.878)
18	0.805					0.738	
19	0.802					0.769	
21	0.751					0.669	
25	0.702					0.657	
24	0.642					0.747	
20	0.505					0.573	
23	0.486					0.420	
26	0.386					0.425	
11		0.856				0.817	
9		0.849				0.819	
10		0.836				0.826	
12		0.654				0.784	
15			0.940			0.910	DPZ Distribucija i primena znanja (1.465)
16			0.939			0.918	
17			0.752			0.719	
13			0.368			0.677	
14			0.342			0.469	
28				0.806		0.718	PB Projektni benefiti (1.352)
27				0.509		0.718	
29				0.438		0.683	
5					0.822	0.756	AZ Alati upravljanja znanjem (1.216)
4					0.802	0.780	
8					0.765	0.823	
7					0.722	0.789	
6					0.677	0.503	
3					0.550	0.727	
1					0.526	0.675	
2					0.418	0.468	

4.3 KONTROLNI MODEL

Konfirmatorna faktorska analiza

Kako bi se obezbedila pouzadanost i validnost razmatranog konceptualnog modela definisan je kontrolni model nad kojim je urađena konfirmatorna faktorska analiza (CFA-*Confirmatory Factor Analysis*). Dobijene vrednosti su prikazane u Tabeli 4.

Za pouzdanost kontrolnog modela koristi se pokazatelj unutrašnje saglasnosti (*Internal consistency*). Unutrašnja saglasnost je merena na osnovu tri pokazatelja: Kronbah alfa koeficijenta (*Cronbach's Alpha*), koji pokazuje prosečnu korelaciju između svih vrednosti na skali, i kreće se između 0 i 1 [31]; Spearman-Brown-ovog koeficijenta koji predstavlja koeficijent pouzdanosti koji se može dobiti iz svih mogućih kombinacija podele pitanja u dva seta (*split-half*); Ω koeficijenta, koji se izračunava na osnovu rezultata faktorske analize [32,33].

Zavisno od prirode i namene skale, zahtevaju se različiti nivoi pouzdanosti. Na osnovu preporuke, koja je data u literaturi [32], ističe se da bi vrednosti za sva tri koeficijenta trebalo da budu veći od 0.7. Na osnovu dobijenih rezultata može se uočiti da su vrednosti kod sva tri koeficijenta za sve grupe pitanja PC, SZ, DPZ, PB i AZ iznad preporučene vrednosti 0.7, što upućuje na zaključak da postoji unutrašnja saglasnost pitanja u okviru svih grupa kontrolnog modela.

Konvergentna validnost kontrolnog modela potvrđuje se na osnovu dobijenih vrednosti CFA analize. U poslednje dve kolone Tabele 4, može se uočiti da se faktorsko opterećenje kod većine promenljivih nalazi iznad preporučene vrednosti 0.6.

Tabela 4. Rezultati CFA statistike za kontrolni model

Grupa pitanja	Promenljiva	Konfirmatorna Faktorska Analiza (CFA)				
		Pouzdanost			Konvergentna validnost	
		Cronbach alpha	Spearman-Brown	Ω	Faktorsko opterećenje	t-vrednost
PC	22	0.897	0.869	0.924	0.47	12.10**
	18				0.54	12.65**
	19				0.62	13.53**
	21				0.45	10.89**
	25				0.67	11.53*
	24				0.62	13.02**
	20				0.85	9.84*
	23				0.46	7.62*
SZ	26	0.922	0.932	0.943	0.55	7.04*
	11				0.79	13.67*
	9				0.70	13.64*
	10				0.65	13.94**
DPZ	12	0.890	0.876	0.874	0.70	13.22*
	15				0.74	17.08**
	16				0.76	17.54**
	17				0.53	10.72**
	13				0.43	7.59*
PB	14	0.796	0.804	0.866	0.38	6.70*
	28				0.47	7.32*
	27				0.75	12.13*
AZ	29	0.920	0.879	0.930	0.62	12.46**
	5				0.73	11.98*
	4				0.85	13.72*
	8				0.86	14.34*
	7				0.94	14.39*
	6				0.30	6.49**
	3				0.80	11.96*
	1				0.74	11.23*
2	0.60	8.24*				

Napomena: Nivo statističke značajnosti * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

Takođe, sve t -vrednosti dostigle su odgovarajući nivo značajnosti (zvezdice). Na osnovu toga se može zaključiti da je konvergentna validnost potvrđena kod svih promenljivih (pitanja) u razmatranim grupama.

Korelaciona matrica

Tabela 5. Korelaciona matrica latentnih promenljivih

Grupe pitanja	AZ	SZ	DPZ	PC	PB
AZ	1				
SZ	0.75**	1			
DPZ	0.44*	0.38*	1		
PC	0.70**	0.65**	0.58*	1	
PB	0.64*	0.66*	0.52*	0.78**	1

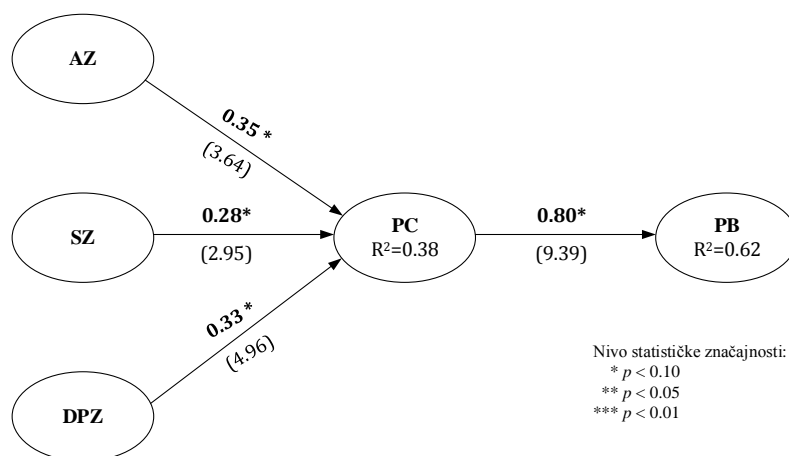
Napomena: Nivo statističke značajnosti * $p < 0.10$; ** $p < 0.05$; *** $p < 0.01$

4.4 STRUKTURNI MODEL

Nakon potvrde validacije kontrolnog modela pristupilo se testiranju strukturnog modela. Primenom softverskog paketa LISREL 8.80 izvršena je analiza putanje (*Path Model Analysis*) u skladu sa konceptualnim modelom. Dobijene mere fitovanja strukturnog modela su prikazane u Tabeli 6. (gde su date i mere fitovanja kontrolnog modela) uz komparaciju sa preporučenim vrednostima. Dobijene vrednosti mera fitovanja kontrolnog i strukturnog modela ukazuju na prihvatljivost postavljenog konceptualnog modela. Imajući prethodne zaključake u vidu, izvršeno je testiranje postavljenih hipoteza.

Na Slici 2. su prikazani rezultati analize strukturnog modela. Iznad strelica su prikazane vrednosti koeficijenta regresije (β -koeficijenta putanje), koji objašnjavaju jačinu veza između zavisnih i nezavisnih promenljivih i odnose se na uticaj AZ (Alati znanja), SZ (Skladišta znanja) i DPZ (Distribucija i primena znanja) na zavisnu promenljivu PC (Projektni ciljevi), kao i na njen uticaj na zavisnu PB (Projektni benefiti). Nivo statističke značajnosti je predstavljen zvezdicama iznad koeficijenta regresije. Ispod strelica (u zagradama) su date vrednosti t -testa. Koeficijenti determinacije (R^2) su prikazani na grafičkim simbolima zavisnih promenljivih. Oni označavaju učešće objašnjene varijabilnosti u ukupnom, odnosno koliko su varijacije zavisne promenljive objašnjene prediktorskom promenljivom.

Na osnovu vrednosti koeficijenta regresije između AZ i PC ($\beta=0.35$); SZ i PC ($\beta=0.28$); DPZ i PC ($\beta=0.33$); PC i PB ($\beta=0.80$), metodom analize putanje potvrđene su sve četiri hipoteze H1, H2, H3 i H4.



Slika 2. Strukturni model

Indeksi fitovanja

Na osnovu urađene CFA analize utvrđene su mere fitovanja (*Goodness-of-fit measures*) kontrolnog modela. Vrednosti pojedinih parametara prikazani su u Tabeli 6.

Na osnovu dobijenih rezultata analizirane su vrednosti FIT indikatora, prema kojima kontrolni model zadovoljavajuće, ili nezadovoljavajuće fituje polazne podatke. Indikator RMSEA je baziran na aproksimativnoj grešci koja se javlja usled očekivanog stepena slobode u populaciji. Što je vrednost indikatora niža, podudarnost je veća (model bolje fituje polazne podatke). Prihvatljiva podudarnost je ispod 0.08, dok neki autori smatraju prihvatljivim

vrednosti manje od 0.10 [34]. U proučavanom modelu, RMSEA indikator ima vrednost 0.10 što ukazuje na prihvatljivu podudarnost.

Tabela 6. Vrednosti FIT indeksa za kontrolni model i strukturni model putanja

Indikatori fitovanja	Vrednosti za kontrolni (merni) model	Vrednosti za strukturni (PATH) model	Preporučene vrednosti
Chi-Square (χ^2)	1097.99	1100.21	-
Degree of freedom (d.f.)	367	370	-
Relative Chi-Square ($\chi^2/d.f.$)	2.99	2.97	< 3.0
Root Mean Square Error of Approximation (RMSEA)	0.10	0.10	< 0.08 – 0.10
Goodness-of-Fit Index (GFI)	0.92	0.92	> 0.8
Adjusted Goodness-of-Fit Index (AGFI)	0.62	0.62	> 0.9
Comparative Fit Index (CFI)	0.95	0.95	> 0.9
Incremental Fit Index (IFI)	0.95	0.95	> 0.9
Normed Fit Index (NFI)	0.92	0.92	> 0.9
Non-Normed Fit Index (NNFI)	0.94	0.94	> 0.9
Relative Fit Index (RFI)	0.91	0.91	> 0.9

GFI (indeks podudarnih vrednosti) određuje koliko je model primenljiviji u poređenju sa situacijom kada uopšte nema modela. Ovaj indikator se kreću u intervalu [0,1], gde 0 označava lošu, a 1 savršenu podudarnost. Prihvatljive vrednosti su iznad 0.8 [34]. Kod razmatranog modela GFI indikator pokazuje dobru podudarnost kontrolnog modela (GFI=0.92) i zajedno sa RMSEA=0.10, može se zaključiti da postoji apsolutna podudarnost modela.

Kontrolni model pokazuje solidno povećanje podudarnosti, na osnovu vrednosti indikatora AGFI=0.62; CFI=0.95; IFI=0.95; NFI=0.92; NNFI=0.94 i RFI=0.91 (vrednosti veće od 0.90, smatraju se prihvatljivim).

Ekonomičnost kontrolnog modela se razmatra na osnovu prosečne *chi-square* vrednosti ($\chi^2/d.f.$). Kako bi se osiguralo fitovanje podataka i kako bi podaci bili reprezentativni, potrebno je da ova vrednost bude veća od 1, a manja od 3, ili čak 5 [22,34]. Na proučavanom modelu ova vrednost iznosi $\chi^2/d.f.=2.97$.

5. ZAKLJUČAK

Statistička analiza podataka prikupljenih anketiranjem zaposlenih u projektno orijentisanih kompanija predočava značajne zaključke. Primena koncepta upravljanja znanjem u projektnim organizacijama može se na pouzdan način opisati pomoću 29 pitanja (promenljivih), raspoređenih u 5 grupa (latentnih promenljivih). Proučavani kontrolni i strukturni model pokazuje zadovoljavajuću podudarnost, odnosno dobro fituje polazne podatke. Testiranjem hipoteza, postavljenih na osnovu konceptualnog modela, odnosno njihovim dokazivanjem, izveden je konačni zaključak. Primena alata upravljanja znanjem, adekvatno skladištene znanja i njegova distribucija i primena, kako unutar projektnih timova, tako i u kompaniji kao celini, pozitivno utiče na ostvarivanje projektnih ciljeva, a sve to utiče na pokretanje procesa učenja, što za kompaniju predstavlja dodatni benefit.

REFERENCE

1. Webb, S.P. (1998). *Knowledge Management: Linchpin of Change*, Association for Information Management, Routledge, London, UK.
2. Jackson, P., Klobas, J. (2008). Building knowledge in projects: A practical application of social constructivism to information systems development. *International Journal of Project Management*, 26, 329–337.
3. Almeida, M.V., Soares, A.L. (2014). Knowledge sharing in project-based organizations: Overcoming the informational limbo. *International Journal of Information Management*, 34, 770–779.
4. Kasvi, J.J.J., Vartiainen, M., Hailikari, M. (2003). Managing knowledge and knowledge competences in projects and project organizations. *International Journal of Project Management*, 21, 571–582.
5. Bartsch, V., Ebers, M., Maurer, I. (2013). Learning in project-based organizations: The role of project teams' social capital for overcoming barriers to learning. *International Journal of Project Management*, 31, 239–251.
6. Pemsel, S., Wiewiora, A. (2013). Project management office a knowledge broker in project-based organisations. *International Journal of Project Management*, 31(1), 31–42.
7. Koskinen, K.U. (2012). Problem absorption as an organizational learning mechanism in project-based companies: Process thinking perspective. *International Journal of Project Management*, 30, 308–316.
8. Whyte, J., Lobo, S. (2010). Coordination and control in project-based work: digital objects and infrastructures for delivery. *Construction Management and Economics*, 28(6), 557–567.
9. Adamides, E.D., Karacapilidis, N. (2006). Information technology support for the knowledge and social processes of innovation management. *Technovation*, 26(1), 50–59.
10. Halfawy, M.R. (2010). Municipal information models and federated software architecture for implementing integrated infrastructure management environments. *Automation in Construction*, 19(4), 433–446.
11. Chen, Z., Liu, Z. (2011). A study of Knowledge Management in Construction Project Management. *Energy Procedia*, 11, 1039–1044.
12. Yang, L.-R., Chen, J.-H., Wang, H.-W. (2012). Assessing impacts of information technology on project success through knowledge management practice, *Automation in Construction*, 22, 182–191.
13. Chou, J.S., Yang, J.G. (2014). Evolutionary optimization of model specification searches between project management knowledge and construction engineering performance. *Expert Systems with Applications*, 40, 4414–4426.

14. Swan, J., Scarbrough, H., Newell, S. (2010). Why don't (or do) organizations learn from projects? *Management Learning*, 41(3), 325–344.
15. Scarbrough, H., Swan, J., Laurent, S., Bresnen, M., Edelman, L., Newell, S. (2004). Project-based learning and the role of learning boundaries. *Organization Studies*, 25(9), 1579–1600.
16. Sokhanvar, S., Matthews, J., Yarlagadda, P. (2014). Importance of Knowledge Management Processes in a Project-based organization: a Case Study of Research Enterprise. *Procedia Engineering*, 97, 1825–1830.
17. Liebowitz, J., Megbolugbe, I. (2003). A set of frameworks to aid the project manager in conceptualizing and implementing knowledge management initiatives. *International Journal of Project Management*, 21(3), 189–198.
18. Hansen, M.T. (2002). Knowledge networks: explaining effective knowledge sharing in multiunit companies. *Organization Science*, 13, 18.
19. Park, J.G., Lee, J. (2014). Knowledge sharing in information systems development projects: Explicating the role of dependence and trust. *International Journal of Project Management*, 32, 153–165.
20. Yang, L.-R., Huang, C.-F., Hsu, T.-J. (2014). Knowledge leadership to improve project and organizational performance. *International Journal of Project Management*, 32, 40–53.
21. Reich, B.H., Gemino, A., Sauer, C. (2012). Knowledge management and project-based knowledge in IT projects: A model and preliminary empirical results, *International Journal of Project Management*, 30(6), 663–674.
22. Hair, J.F., Black, W.C., Babin, B.J., Anderson, R.E., Tatham, R.L. (2006). *Multivariate Data Analysis*, 6th Edition, Pearson Prentice Hall, Upper Saddle River, NJ.
23. 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.
24. Kaiser, H.F. (1974). An index of factorial simplicity. *Psychometrika*, 39, 31–36.
25. 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.
26. 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.
27. Stewart, D.W. (1981). The Application and Misapplication of Factor Analysis in Marketing Research. *Journal of Marketing Research*, 18(1), 51–62.
28. Gorsuch, R.L. (1983). *Factor Analysis*. Hillsdale, NJ: Lawrence Erlbaum.
29. Hogarty, K.Y., Hines, C.V., Kromrey, J.D., Ferron, J.M., Mumford, K.R. (2005). The quality of factor solutions in exploratory factor analysis: the influence of sample size,

- communality and overdetermination. *Educational Psychological Measurement*, 65(2), 202–226.
30. Treiblmaier, H., Filzmoser, P. (2010). Exploratory factor analysis revisited: How robust methods support the detection of hidden multivariate data structures in IS research. *Information & Management*, 47(4), 197–207.
 31. Kupermintz, H. (2003). Teacher effects and teacher effectiveness: A validity investigation of the Tennessee Value Added Assessment System. *Educational Evaluation and Policy Analysis*, 25(3), 287-298.
 32. Nunnally, JM. (1994). *Psychometric Theory*, third ed. McGraw-Hill, New York.
 33. Carmines, E., Zeller, R. (1979). *Reliability and Validity Assessment*. London: sage Publications.
 34. Molina, L.M. (2007). Relationship between quality management practices and knowledge transfer. *Journal of Operations Management*, 25, 682-701.

ACTION PLAN FOR MITIGATION AND MONITORING OF ENVIRONMENTAL IMPACT OF PROJECTS ATYPICAL MINING WITH RISK ANALYSIS

Slobodan Radosavljević¹, Nikola Ille²

¹RB Kolubara, Lazarevac; ²The Wolrd Bank, Belgrade, Serbia⁶⁴

Abstract: Action plan to mitigate and monitor the environmental impact of the defined measures of monitoring and controlling the realization of eco-typical projects in the mining industry as Pumping water and sludge pit mine "Tamnava West Field" RB "Kolubara", Lazarevac, is a unique experience activities and events in the mining industry, which is almost not observed in practice eco immediate and distant environment. The plan contains a set of measures to be taken and operationalize the location of the works of the Project. At the same time it is fully compliant with the legislation of the Republic of Serbia, the European Union Directives and procedures of the World Bank (WB). Events in the month of May 2014 when the colliery RB "Kolubara" was affected by a large flood wave, where there was no surface pits filling with water and sinking of the technical systems that have worked on the surface exploitation of coal with all the logistics infrastructure have caused the need for the creation thereof. The plan is a description of the conditions that must be met with an eco point of view, to present the project to be realized in the context of the relationship and mitigate negative impacts on the environment with defined oversight activities and responsibilities. The plan is fully binding on the implementation and conduct of all activities as well as all the operators who are engaged in the pumping of water and silted a lateral mass of the open pit. The paper gives an example of the configuration of the plan, which is the necessity of development and existence in the implementation of similar projects is indisputable, and some of the experiences in this context. Since it is generated by the production practices of mining as well as specific approaches can be used for the purposes of carrying out similar and other atypical projects in different areas and at any locations. The plan was further conducted and additional analysis of ecological risk even to the documents similar in content and purpose is not common, but in the opinion of the authors that may contribute only in the context of improving the overall controlling system for efficient implementation and realization of the defined measures.

Keywords: action plan, mitigation of impacts, flooding, environmental risks, mining

⁶⁴ Presented a plan of measures for mitigation and monitoring of environmental impacts was done in late August 2014. Thank you for your suggestions and help to Mr. Nicholas Ille, senior professional associate and expert in environmental World Bank, Washington DC, USA.

1. INTRODUCTION

During the realization of atypical project as pumping water and silted a lateral mass/sludge RB "Kolubara" open pit "Tamnava zapadno the" undisputed there is potential risk impact in the execution of activities on the environment. The scope and character of the negative destructive impact is really great and specific. It is important to emphasize the negative synergies that may arise in the context of both the joint influence of two or more destructive fashion, which can further complicate the situation in the realization of the project and above all taking into account the implementation of measures to mitigate the impact on the environment. EPS and RB "Kolubara" for the realization of the project of pumping applied for a line of credit from the World Bank (WB). Condition for approval of the credits line and configuration plan of action to mitigate and monitor the environmental impact of the defined measures of supervision, which is a common practice in the requirements of the WB. This document defines the necessary measures to mitigate impacts on all environmental media at the site enforcement actions and necessary works. To keep this document was implemented in practice, there is a need to be on, or the contents fully comply with the current legislation of Republic of Serbia, EU directives and procedures of the World Bank which was done. Realising these same activities became mandatory for use on location projects execution pumping for all operators. Its application and implementation of defined measures and a complete eco-controlling exercise controls that are determined in accordance with the specifics of the impact on the environment and other outlook, considering that it is a realization quite complex and multidisciplinary design solution. It should be noted that this is really a very untypical specific project, which at this point does not exist in the production practice of mining enough experience, both in the Republic of Serbia and in the immediate and distant environment, given its multidisciplinary nature, potential risks, possible synergies and complicating potential risk in virtually all active sequences in the execution of works, [1] to [4].

2. CONCEPT PLAN OF ACTION FOR MITIGATION AND MONITORING THE ENVIRONMENTAL IMPACT WITH SURVEILLANCE MEASURES TO PUMP WATER FROM OPEN PIT

The present concept of emergency environmental monitoring plan includes a complete environmental monitoring of all activities in the area of performance and complete logistics in time from the beginning to the end of the planned work, for the immediate and wider area of micro-location space RB "Kolubara" as living and working environment zone and close environment and the entire mining complex, macro zone-location environment. At the same time the plan defines guidelines for the treatment of a variety of situations with proposed actions and measures as well as the zone of explicit accountability of perpetrators of the project, professionals, individuals, and the entire team for supervision of works in the area of responsibility of the generated destructive impact on the environment. The plan is also eco-instruments of treatment on the parties in the implementation of the project pumping, while all the details and the details of precisely defined contract operationalization of business

activities. The plan, inter alia, define the procedures, measures and concrete actions in different milestones that can be expected, especially with regard to the results of measurements of water quality and waste rock silted mass pumped and their overall impact on water quality in the river Kolubara, which occurs after mixing in the zone length of about 2.5 kilometers. The plan involves the detection and potential risk to ecological destruction for all environmental media that are possible and which are hidden and difficult to detect, predict, refine and process, the extent of treatment and especially their synergistic complicating in a negative connotation, which can cause subsequently new disturbances or fluctuations existing with partial or permanent impact and the harmful effects on the environment in the area of macro-and micro-location of works pumping. Plan of measures to define the ecological monitoring by a professional team (one of the professional team who is an expert qualified to wash all activities with a particular perception of the area and the area to minimize the potential ecological risks that arise, or may arise, environmental incidents, waiting for accidents and possible ecological accidents and eco miraculous situations or other circumstances which in all can cause negative implications for micro-and macro-location environment. Plan provides for the definition of measures for different ecological situations in the form of an action plan, and act upon the occurrence of such circumstances and situations and preventive activities that do not get the same or minimize the risk to a level acceptable thresholds for all parties. Basic parameters that are addressed in the Plan impacts and measures for reduction of environmental impacts are:

- Place of performance of activities.
- Subject exercise activities.
- Action measures to mitigate the impact on the environment.
- Liability of a legal person or entity for the implementation of measures, [3] to [6].

3.A PRACTICAL EXAMPLE OF THE ACTION PLAN MITIGATION SURVEILLANCE AND MONITORING THE ENVIRONMENTAL IMPACT-ECO PRACTICUM

This paper presents a practical example of making a real action plan with measures to mitigate the impact on the environment as defined measures of monitoring eco-controlling, [3] to [5] and [7] to [12]. Table 1 provides an overview of practical examples plan of measures to mitigate the impact on the environment through the procedures of the World Bank, created for the realization of atypical project in the mining industry of the Republic of Serbia.

Table 1. Case Study plan of measures to mitigate the impact on the environment by the World Bank procedures created for the implementation of atypical project in the mining industry of the Republic of Serbia

Item	Location where applied	Subject	Mitigation Action	Responsible Person
Hazardous materials and spills				
1	At the pumping stations and wherever diesel and other oil products are used	Protection of soils and water against contamination	Storage of fuel and oil/lubricants will be at the maximum distance from water as is feasible, and there will be an embankment or other barrier between any tank or storage container and the water so that any leaks cannot reach water. The Contractor must remove any tanks or other storage vessels as soon as they are no longer needed. Contractor's obligation is to replace all fuel generators with electrical generators within 3 weeks.	Contractor
2	At the pumping stations and wherever diesel and oil products are used, including storage areas and places where vehicles and equipment are operated, maintained, or stored	Cleanup of contaminated soil	In case of spills or other releases, all contaminated soil and other materials must be excavated as soon as possible. Contaminated material will be removed from the site by a qualified operator and disposed according to the Law on Waste Management of the Republic of Serbia.	MB Kolubara and Contractor
3	At the pumping stations and wherever diesel and oil products are used, including storage areas and places where vehicles and equipment are operated, maintained, or stored.	Spill prevention and reaction	Drivers of fuel trucks and other workers who handle fuel or other oil products will be trained to prevent and clean up spills. Locations where fuel and oil products are stored or used will be equipped with absorbents and other materials and equipment suitable for absorption and cleanup of spilled materials.	Contractor (vehicles/equipment and fuel storage)
Water				
4	At point of discharge into Kolubara River and Kladnica River	Protection of water quality	Compare effluent standards under Serbian law, European Union law and Directives, and World Bank Group EHS Guidelines for Mining and use the most stringent concentration as the applicable discharge standard. Collect and analyze samples of water at locations, at frequencies, and for parameters as required by the	MB Kolubara

			Program- Emergency Monitoring of Water Quality from Tamnava pit (Environmental Protection Agency, July, 2014), which is constituent part of this EMP. Undertake actions as required by the Ministry in case concentrations of any contaminant exceeds the applicable standard, as required by the Emergency Monitoring Program.	
5	In pit and at point of discharge into Kolubara River and Kladnica River	Protection of water quality	<p>On at least daily basis, analyze discharges into receiving waters for undissolved oxygen, total suspended solids, and temperature using instrument(s) calibrated according to manufacturer's instructions. (Emergency Monitoring of Water Quality from Tamnava pit Program, July 2014). (If possible, install instruments for continuous monitoring.)</p> <p>Based on the results, take action as follows:</p> <p>TSS:</p> <ul style="list-style-type: none"> - If concentrations are higher than 50mg/L or above the applicable standard as prescribed for water quality in recipient water body, in line with the national water quality classification (2nd or 3rd class respectively), whichever is more stringent stop discharging until turbidity in pit lake decreases to a concentration below the level in the receiving water. - Temperature: If the temperature of water being discharged is more than 3°C higher or lower than the receiving water, stop discharge until temperature differential is less than 3°C. - Dissolved oxygen: If concentrations are less than the applicable standard, stop discharge until concentrations are equal or undertake measures (spraying or aeration) to increase the concentration of oxygen in the water up to the limit when the discharge into recipient is allowed. 	<p>MB Kolubara and Contractor (monitoring),</p> <p>MB Kolubara and Contractor (pumping)</p>
6	In pit and at point of discharge into Kolubara River and Kladnica River	Protection of water quality	During and after precipitation that increases turbidity in the pit, as determined by visual observation, measure TSS in water in the pit and in receiving water. If TSS is higher in pit water than in the receiving water, stop pumping until TSS in the river is equal to or higher than TSS in the pit. Calibrate instrument according to manufacturer's instruction.	<p>MB Kolubara (monitoring)</p> <p>Environmental Protection Agency</p>
7	12 measuring points from the mine to Sava River, defined by the Emergency Monitoring Program	Protection of water quality	Sampling and measuring quality according to parameters defined by Emergency Monitoring Program. Measurement should be done on seven-day-level. In the event of exceeding MAQ, act in accordance with definitions from emergency Monitoring Plan.	<p>Environmental Protection Agency (monitoring),</p> <p>MB Kolubara (implementation)</p>
8	All pumping stations	Prevention of contamination of river	<p>Maintain dispersants, booms, and other containment and cleanup materials designed for controlling spills in water. Train pump-station workers and equipment operators in their use.</p> <p>If oil or fuel is spilled into water, stop all pumps that are taking water from within about 50 meters of the spill. Do not start pumping again until the oil has been removed..</p>	MB Kolubara and/or Contractor

9	All locations where water is discharged into the Kolubara and Kladnica rivers	Protection of river banks and bed	Design the points where pumped water will be discharged to the rivers so the discharge will not erode or otherwise damage or erode the riverbanks or riverbeds. If modifications are needed to aerate water before or during discharge, these modifications must be designed so discharges do not cause damage or erosion to banks or riverbeds.	Contractor (selection of place and technical solution, and MB approval.
10	All disturbed areas where run-off flows away from the pit	Protection of water quality and land	Use good international practices (straw bales, settling basins flow retarding devices, etc.) to reduce sediment load in run-off that flows from disturbed areas to undisturbed areas or to the river areas.	MB Kolubara
11	Any location where there are trees or other vegetation	Protection of flora and fauna	Workers and equipment must stay within disturbed areas and not move into and disturb any areas with trees or other vegetation. Workers must not cut trees or other vegetation except as authorized by MBKolubara, may not build fires at any time, and may not hunt wild animals.	Contractor MB Kolubara (control)
12	At any location where new ground is to be disturbed, for the needs of excavation	Topsoil and subsoil salvage and storage	If any new ground is to be disturbed, including the pipeline route from the second pumping station, topsoil (humus) and subsoil must be salvaged and stored separately. Storage piles should be protected against erosion until they are used for land rehabilitation.	Contractor
13	Pipeline corridors between the service road and the Kolubara River, and within 15 meters of the Kladnica River.	Restore land and protect water quality	During pumping operations, use good international practice (straw bales, settling basins flow retarding devices, etc.) to control run-off to the rivers from the cleared pipeline corridor and other project-disturbed areas. Upon completion of pumping, remove pipeline and other infrastructure and continue to control run-off to the rivers until self-sustaining vegetative cover of native grass and plant species is established and effectively prevents sediment-laden run-off from flowing into the river(s).	Contractor
14	All disturbed areas except as otherwise addressed	Restore land and protect water quality	Upon completion of pumping, remove pipelines, transmission lines, pump stations, and other temporary infrastructure. For areas where vegetation is disturbed, establish self-sustaining vegetative cover of native grass and other plant species.	Contractor MB Kolubara
Noise and vibration				
15	At the workers' camp/accommodation	Noise protection	Noise at work camp/accommodations must not exceed levels for residential areas under Serbian law, or 45dB during nighttime hours (2200-0700) and 55dB during the day. This can be accomplished by locating accommodations away from pumps and generators, or by insulating accommodations against noise.	Contractor (for its service providers)

				MB Kolubara (for its service providers)
Air				
16	At location of generators	Equipment emissions	Maintain generators so there are no visible emissions at any time except during cold startup, and if such emissions are observed, shut down generators and adjust the engines until there are no visible emissions. Take vehicles and equipment out of service for maintenance if they generate visible emissions at any time other than initial cold startup.	Contractor (generators and vehicles/equipment); MB Kolubara (vehicles/equipment)
17	Unpaved roads and other work locations	Dust control	Minimize dust generation during dry periods when dust can be generated due to usage of roads. Undertake measures by limiting the speed of vehicles and equipment and by spraying the roads with water.	Contractor MB Kolubara
Riverbanks and riverbeds				
18	Kolubara River at discharge locations	Protection of Kolubara river channel and embankments	Limit pumping to the Kolubara River so that total flow in the river, including both discharge and natural river flow, does not exceed the maximum amount recommended by Beograd vode (50 m ³ /sec), as defined in accordance with letter number 3676 dated 23.07.2014, which is constituent part of this EMP. MB Kolubara will monitor upstream flow in the Kolubara River on at least daily basis and will take weather conditions (upstream and at the site) into account to ensure flow rates are maintained below the maximum rate at all times. This applies at the farthest downstream discharge location.	Contractor MB Kolubara
19	Kladnica River at discharge location	Protection of Kladnica River channel and embankments	Limit pumping to the Kladnica River so that total flow in the river, including both discharge and natural river flow, does not exceed the maximum amount of 3m ³ /s, as recommended by the Jaroslav Černi Institute, Belgrade (Letter No. 2496 dated 29.08.2014, which is constituent part of this EMP.). MB Kolubara will monitor upstream flow in the Kladnica River on at least a daily basis and will take weather conditions (upstream and at the site) into account to ensure flow rates are maintained below the maximum rate at all times.	MB Kolubara
Waste				
20	All work areas and worker accommodations	Waste management	All wastes will be collected, separated by type (sanitary, household and kitchen, hazardous, paper, scrap metal, reusable/recyclable, etc.) and removed from the site by licensed or authorized haulers. EPS/MB Kolubara will control implementation of these activities as well as providing documents for them.	Contractor and MB Kolubara (control)

21	In the pit and at possible future disposal locations	Silt management	<p>Silt material (as defined by the national Law on Water and related by-laws), pumped from the Tamnava West pit will be placed in a location of depleted mine Tamnava East and managed in accordance with Law on Waste Management of the Republic of Serbia. Detailed instructions shall be given by the Ministry of Agriculture and Environment and Environmental Protection Agency of the Republic of Serbia.</p> <p>First results of silt quality analysis – zero state were finalized on 24 – 25 August, 2014 by Environmental Protection Agency. Program of sampling and silt analysis is continued in accordance with defined dynamics and the law</p>	Environmental Protection Agency (sampling and analysis) and MBKolubara (implementation)
Stakeholder engagement				
22	In downstream villages	Open communications	A fact sheet will be prepared, advertised, and placed in the town halls of all villages along the Kladnica River between the discharge point and the Kolubara River, and along the Kolubara River between the mine and the Sava River. The fact sheet will describe the pumping program, including the length of time it will take, the impacts (if any) on the river(s), and risks (if any) to downstream villages and people. These are to be available from the time the Contractor first arrives on the site until all pumping is complete and all workers are gone from the site.	MB Kolubara
23	In downstream villages	Grievance mechanism	A telephone line will be maintained to receive comments and complaints from stakeholders, including potentially affected people. All complaints will be registered and dealt with in accordance with a defined procedure that requires quick resolution and communication back to the person as to how the complaint has been resolved. The telephone number is to be placed on the fact sheet of local communities.	MB Kolubara
24	In downstream villages and local residences	Drinking water quality	MB Kolubara will consult with the Ministry of Health to develop and implement a system to monitor water taken from the Kolubara River. The system must provide for sampling of water as soon as practicable (wherever possible within 24 hours, with laboratory analysis performed on an emergency basis if the problem cannot be resolved by sight, smell, or taste). If the monitoring identifies contamination due to water from the pit, pumping will be stopped until the problem can be overcome.	MB Kolubara
Workers				
25	At all work locations	Worker health and safety	<p>MB Kolubara must ensure that an occupational health and safety plan is in place from the time Contractor workers come on the site until the pumping project is complete and all workers are gone. The plan and operational practices must ensure:</p> <ul style="list-style-type: none"> - A trained and qualified safety professional („responsible person“) is on site at all times, with authority to monitor and enforce safety rules. - A responsible person from MB Kolubara communicates with the Contractor’s safety professional on a daily basis. - All workers are trained on the hazards of their jobs, including measures to avoid or reduce risks. 	MB Kolubara, Contractor, Ministry of Interior of the Republic of Serbia, Army of the Republic of Serbia, Mining Inspection

			<ul style="list-style-type: none"> - Personal protective equipment is provided by workers' employer or MB Kolubara, and use of PPE is monitored and enforced by the responsible person(s). - Flotation devices and lifesaving equipment is available and accessible at all work locations near the pit lake and the riverbanks. - Equipment operators working near the pit lake have special training to respond to emergencies. - Equipment operation near the pit lake is under constant observation by a trained responsible person Responsible person visits every work location at least daily. - Proper records are kept (person-days, lost time incidents, lost time, serious injuries/fatalities, etc.). - Serious injuries or fatalities are reported to World Bank immediately. - Requirements of the Ministry of Health and Ministry of Labor are met (helicopter or other evacuation available, rescue/transport vehicle available, etc.) 	
26	Workers' camp	Worker health and safety	Design, construction, and operate worker accommodations so they meet hte requirements of Serbian law and international good practice (such as the IFC/EBRD guidance note on worker accommodation).	Contractor For its workers MB Kolubara

4. ANALYSIS OF POTENTIAL RISK FOR ACTION PLAN FOR MITIGATION AND MONITORING THE ENVIRONMENTAL IN REALIZATION PORJEKTA DRAINING

Action plan for mitigating and monitoring the environment with measures of supervision is not usual to contain complete risk analysis. This is because when the project interested parties must be aware of it before signing the contract. If the present plan containing the details of the risk analysis interested parties for the realization of the work could cost significantly burden the project, requests for additional financial reconstruction. Under the rules/procedures of the WB plan and no details mentioned above but it is allowed in the same ikorporirati and risk analysis, with which should fully be aware of the financier of the project or the one who pays the execution of project activities and conducts eco supervision of the execution plan defined activities, [3] to [5] and [13] to [21]. In Table 2 gives the a partial view of the Plan of Action for the mitigation and monitoring of the environmental impact of the measures of supervision eco plan and analysis of ecological risks of implementing measures for the first five defined actions to pump water from a surface mine "Tamnava West field," RB "Kolubara", (September 2014), the Republic of Serbia, [3] to [6]

Table 2. A partial view of the Plan of Action for the mitigation and monitoring of the environmental impact of the measures of supervision eco plan and analysis of ecological risks of implementing measures for the first five defined actions to pump water from a surface mine "Tamnava West field," RB "Kolubara", (September 2014), the Republic of Serbia, [3] to [6]

Item	Location where applied	Subject	Mitigation Action	Responsible Person
Hazardous materials and spills				
1	At the pumping stations and wherever diesel and other oil products are used	Protection of soils and water against contamination	Storage of fuel and oil/lubricants will be at the maximum distance from water as is feasible, and there will be an embankment or other barrier between any tank or storage container and the water so that any leaks cannot reach water. The Contractor must remove any tanks or other storage vessels as soon as they are no longer needed. Contractor's obligation is to replace all fuel generators with electrical generators within 3 weeks.	Contractor
				Expected level of risk-needed risk threshold: High threshold to low threshold
2	At the pumping stations and wherever diesel and oil products are used, including storage areas and places where vehicles and equipment are operated, maintained, or stored	Cleanup of contaminated soil	In case of spills or other releases, all contaminated soil and other materials must be excavated as soon as possible. Contaminated material will be removed from the site by a qualified operator and disposed according to the Law on Waste Management of the Republic of Serbia.	MB Kolubara and Contractor
				Expected level of risk-needed risk threshold: Threshold of medium to low-threshold
3	At the pumping stations and wherever diesel and oil products are used, including storage areas and places where vehicles and equipment are operated, maintained, or stored.	Spill prevention and reaction	Drivers of fuel trucks and other workers who handle fuel or other oil products will be trained to prevent and clean up spills. Locations where fuel and oil products are stored or used will be equipped with absorbents and other materials and equipment suitable for absorption and cleanup of spilled materials.	Contractor (vehicles/equipment and fuel storage)
				Expected level of risk-needed risk threshold: Threshold of medium to low-threshold: Threshold of medium to low-threshold
Water				
4	At point of discharge	Protection of	Compare effluent standards under Serbian law, European	MB Kolubara

	into Kolubara River and Kladnica River	water quality	Union law and Directives, and World Bank Group EHS Guidelines for Mining and use the most stringent concentration as the applicable discharge standard. Collect and analyze samples of water at locations, at frequencies, and for parameters as required by the Program- Emergency Monitoring of Water Quality from Tamnava pit (Environmental Protection Agency, July, 2014), which is constituent part of this EMP. Undertake actions as required by the Ministry in case concentrations of any contaminant exceeds the applicable standard, as required by the Emergency Monitoring Program.	Expected level of risk-needed risk threshold: Threshold of medium to low-threshold	
5	In pit and at point of discharge into Kolubara River and Kladnica River	Protection of water quality	On at least daily basis, analyze discharges into receiving waters for undissolved oxygen, total suspended solids, and temperature using instrument(s) calibrated according to manufacturer's instructions. (Emergency Monitoring of Water Quality from Tamnava pit Program, July 2014). (If possible, install instruments for continuous monitoring.)	MB Kolubara and Contractor (monitoring),	
			Based on the results, take action as follows:	MB Kolubara and Contractor (pumping)	Expected level of risk-needed risk threshold: High threshold to low threshold
			<ul style="list-style-type: none"> - TSS: If concentrations are higher than 50mg/L or above the applicable standard as prescribed for water quality in recipient water body, in line with the national water quality classification (2nd or 3rd class respectively), whichever is more stringent stop discharging until turbidity in pit lake decreases to a concentration below the level in the receiving water. - Temperature: If the temperature of water being discharged is more than 3°C higher or lower than the receiving water, stop discharge until temperature differential is less than 3°C. - Dissolved oxygen: If concentrations are less than the applicable standard, stop discharge until concentrations are equal or undertake measures (spraying or aeration) to increase the concentration of oxygen in the water up to the limit when the discharge into recipient is allowed. 		
Expected level of risk-needed risk threshold			Threshold of medium to low-threshold		
Expected level of risk-needed risk threshold			High threshold to low threshold		



Figure 1. View of the flooded open pit mine "Tamnava West field," RB "Kolubara",
(September 2014), The Republic of Serbia, [3]

5. CONCLUSION

This paper presents a practical example of developing a plan of action to mitigate the impact on the environment at ealizaciji non- typical project in mining. The plan provides for measures to be taken to the potential risks to minimize the expected destruction or preventinim measures and procedures led to the threshold of risk that is acceptable. The fact is that the operationalization and the implementation of the plan should be to eliminate a number of uncertainties and minimizes most of the potential risks in the process of pumping water from a surface mine. At the same time the plan included measures for a gradual in all environmental media a priori risk analysis was performed for the most part be predictive of potential and detected destructive tags, all environmental aspects. In the near and distant destinations, there are no similar experience and realization of the project is an example of mining production practices that will serve similar purposes in similar situations if anywhere in the world happens destruction of similar size and scope, not only in mining but also in other areas. From the standpoint of specificity and multidisciplinary approach presented plan is of great importance since it is the realiovanju multidisciplinary project with eco specifics that require a special treatment. It also presents a practical example of mining the Republic of Serbia, which can serve as a positive experience anywhere and at any location in the world relations.

REFERENCE

1. Documentation Opinion Institute regarding initiation revitalization "Tamnava West Field and PK Great Crljeni" after the great flood of May 2014, (Institute for Water Jarosavl RBL, June 2014).
2. www.designsafe.com, (Author of software: Bruce W. Mein, Design Safe Ingenering, Michigan, USA).
3. Internal documentation, RB "Kolubara" doo, Lazarevac, (August 2014).
4. Internal documentation, the Department for the protection and improvement of the environment, RB "Kolubara" doo, Lazarevac, (September 2014).
5. www.worldbank.org, (September 2014).
6. *Guide to the approximation of European Union environmental legislation*. Brussels (Belgium): European Commission, 2012. – 140 pp.
7. <http://www.designsafe.com>, design safety engineering, inc. Risk Assessment Software, Ann Arbor, MI USA. (Internet References).
8. *ISO 31000:2009 Risk management -- Principles and guidelines*. Geneve (Switzerland): International Organization for Standardizations (ISO), 2009. - 24 pp.
9. Karadžić, R.; Vešović, V.; Radosavljević, S. and Derdemez, I.: Aircraft maintenance designing and operational availability. *Metalurgija International*, Vol. 18, No. 7 (2013), pp. 61-66. ISSN 1582-2214.
10. 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.
11. National Strategy of Serbia for the approximation of the environment. Belgrade: Ministry of Environment, Mining and Spatial Planning, 2011. - 95 p.
12. Radosavljević, S.; Dašić, P. and Radosavljević, M.: Appendix specifics of risk management in mining. *Metalurgija 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. *Metalurgija International*, Vol. 18, No. 6 (2013), pp. 79-86. ISSN 1582-2214.
14. 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.
15. Radosavljević, S. & Radosavljević, M.: Ecological metrics eco risk, eco controlling in the mining. *Tehnička dijagnostika*, Vol. 10, br. 2 (2011), str. 55-61. ISSN 1451-1975.
16. Radosavljević, S. & Radosavljević, M.: FMECA method in mining and energy, process approach. *Tehnička dijagnostika*, Vol. 9, br. 3 (2010), str. 17-28. ISSN 1451-1975.
17. Radosavljević, S. & Radosavljević, M.: *Coal quality work for green energy to energy efficiency*. *Tehnička dijagnostika*, Vol. 10, br. 4 (2011), str. 41-48. ISSN 1452-4864.
18. Radosavljević, S. and Radosavljević, M.: Risk assessment in mining industry – Apply management. *Serbian Journal of Management*, Vol. 4, No. 1 (2009), pp. 91-104. ISSN 1452-4864.

19. Radosavljević, S. & Radosavljević, M.: Modern models for risk analysis in Serbian mining industry. *Tehnička dijagnostika*, Vol. 8, br. 1 (2009), str. 17-24. ISSN 1451-1975.
20. Radosavljević S., Radosavljević M., Contemporary models for risk analysis in the Serbian mining, *Technical diagnostics*, ISSN 1451-1975., Broj 1., Beograd, pp. 17-24., (2009).
21. Radosavljević S., Radosavljević M., Risk technical systems: model and software Designsafe 6.0., *International Journal of Software Systems and Tools, (IJSST)*, Volume 1., Number 1., pp. 45-53., (2011).

REDESIGN STICK CONSTRUCTION WORKING WHEEL SRS 1200 *22/2, AND RISK ANALYSIS

Slobodan Radosavljević¹, Milan Radosavljević², Jovana Radosavljević²

¹RB "Kolubara", Lazarevac; ²GO Lazarevac, Serbia

Abstract: In accordance with the needs of surface mining, an analysis of the possibility of installing stronger drive to the bucket wheel excavator SRs 1200, which would increase the digging force. The existing engine rotor drive working point would be replaced frekfrentno controlled drives up to 450 kW. In this context it is necessary to check the new constructions of rotor numeričkiim and experimental methods in terms of analysis and consideration of the impact of new equipment that would be installed on the construction of the bucket wheel excavator which would remain unchanged. The analyzes show that there is a possibility of reconstruction concerned that new construction benefited from the overall structural integrity of conduct lightning and working wheel excavator, considering that the results with possibly new construction contributed significantly improving the overall performance of BWE, intended for surface coal mining.

Keywords: Bucket wheel excavator, bucket wheel boom, driven analysis, risk, mining.

1. UVOD

U rudniku RB "Kolubara" radi više rotornih bagera sa različitim performansama odkopavanja. Na predmetnim poslovima oni rade više godina. Kako je elektroenergetskim bilansom R. Srbije definisano da RB "Kolubara" 31 milion tona uglja godišnje, saglasno tome potrebno je izvršiti i planiranu otkrivku, odnosno otkop jalovinske mase, kako bi planirane planske projekcije u potpunosti bile izvršene. Osnovni problem u površinskoj eksploataciji otkrivke odnosno kopanja jalovinske mase su čvrsti materijali kojih ima u proslojcima a njihova tvrdoća varira ali bitno utiče na stabilnost rada sistema na otkopu. Problem je što na pojedinim bagerima ne postoji dovoljna specifična sila kopanja što uslovljava otežana rad bagera sa izraženim vibracijama u radu i velikim oscilacijama u padu kapaciteta otkopa a ne retka su i oštećenja čelične konstrukcije na bagerima, [1].



Slika. 1. Rotorni Bager ERs1200*22/2 na površinskoj eksploataciji

Osnovni preduslov za realizovanje planiranog kapaciteta otkopa je povećanje raspoloživosti rada bagera sa kompletnim sistemom kao i povećanje prosečnog kapaciteta kopanja. Povećanje kapaciteta kopanja uslovljava povećanje specifične sile kopanja a to se može postići ugradnjom jačeg pogona. Činjenica je da u ovom opsegu povećanja postoje određeni limiti, obzirom na ukupnu statiku kao i postojeće konstruktivne karakteristike bagera, te i potrebnu saglasnost proizvođača bagera za povećanje kapaciteta kopanja u tvrdim serijama jalovinskog otkopa, [1] i [2].

2. ANALIZA MOGUĆNOSTI REDIZAJNA KONSTRUKCIJE STRELE RADNOG TOČKA ROTORNOG BAGERA U RUDARSTVU

Dimenzionisanje čeličnih konstrukcija se izvodi na bazi poznavanja rasporeda spoljašnjih dejstava (sila i momenata) i analitičkog utvrđivanja rasporeda unutrašnjih sila i momenata, odnosno prostiranja naprezanja unutar konstrukcije. Ovi uticaji se određuju na osnovu teorija otpornosti (elastičnosti) materijala. Određivanje rasporeda opterećenja unutar konstrukcije vrši se metodama analize statike i dinamike konstrukcija. Utvrđivanje sposobnosti konstrukcija da prenese zadate uticaje vrši se na osnovu karakteristika ugrađenog materijala - dopuštenih napona. Dopušteni naponi su propisani za čelične konstrukcije i određuju se u funkciji izabranog materijala i karaktera spoljašnjeg opterećenja. Karakter opterećenja nosećih konstrukcija je statički i dinamički. Osobine ponašanja materijala pri statičkom opterećenju osnova su za određivanje svih vrsta dozvoljenih napona. Ponašanje čelika pri promenljivom opterećenju kao pitanje ima posebnu - osnovnu važnost jer je utvrđeno da se konstruktivni elementi mogu lomiti i pri nižim naponima od statičke jačine materijala. Naime ako se dovoljan broj puta izazove promena napona u materijalu, nastaje zamor materijala i sniženje njegove jačine kidanja. To opasno opterećenje konstruktivnog elementa je promenljivo opterećenje koje osciluje između gornje σ_g i donje granice napona σ_d . Karakteristično je da na lom direktno utiče promena napona $\sigma_g - \sigma_d$ i srednji prednapon $\sigma_{SR} = (\sigma_d + \sigma_g)/2$. Pri tome je utvrđeno da što je viši srednji napon to je potrebna za lom manja razlika gornjeg i donjeg graničnog napona. Maksimalni napon $\sigma_g = \sigma_{MAX}$ koji materijal može da izdrži bezbroj puta pri promenljivom opterećenju a da pri tome ne nastupi

lom konstruktivnog elementa, naziva se napon jačine zamora (dinamička jačina) σ_D . Prirode statičkog i dinamičkog naprezanja materijala se razlikuju. Lom u konstrukciji nastao od zamora drugačijeg je izgleda od loma izazvanog statičkom silom kidanja. Lom izazvan zamorom materijala karakteriše se odsustvom plastične deformacije. Mehanizam zamora je specifičan po nastanku na mestu nekog diskontinuiteta u dinamički najnapregnutijoj zoni. Uzroci su mikro ili makro nepravilnost koji dovode do prekoračenja čvrstoće materijala u lokalnoj zoni. Time se povećava prslina smanjujući površinu zdravog - nosivog dela. To je uzrok daljeg razvoja prsline koja ubrzano zahvata veliku površinu. Kada konstruktivni element više ne može da nosi ni srednji napon nastaje slom konstrukcije. Na pojavu zamora materijala utiče kvalitet izrade, obrade i spoljni oblik elementa.

Da bi se rešila predmetna problematika bilo je potrebno izvršiti istraživanje sa aspekta ukupnog sagledavanja uticaja nove konstrukcije koja bi bila neophodna za ugradnju i redizajn bagera. Na početku je izrađen model strele radnog točka i radnog točka kopanja metodom konačnih elemenata. Za različite slučajeve opterećenja određen je potreban nivo naponskog stanja sa mogućim obimom deformacija, koje bi se mogle pojaviti.

Potrebna merenja na samom sistemu su obuhvatala: (merenje vibracije strele radnog točka pre i posle revitalizacije, merenje napona u konstrukciji strele radnog točka pre i posle revitalizacije kao i merenje otpora na kopanje).

Model strele radnog točka izvršen je metodom konačnih elemenata pri čemu je ukupno definisano 4936 čvornih tačaka, 608 linijska konačna elementa i 4798 površinskih konačnih elemenata, [1] i [3].

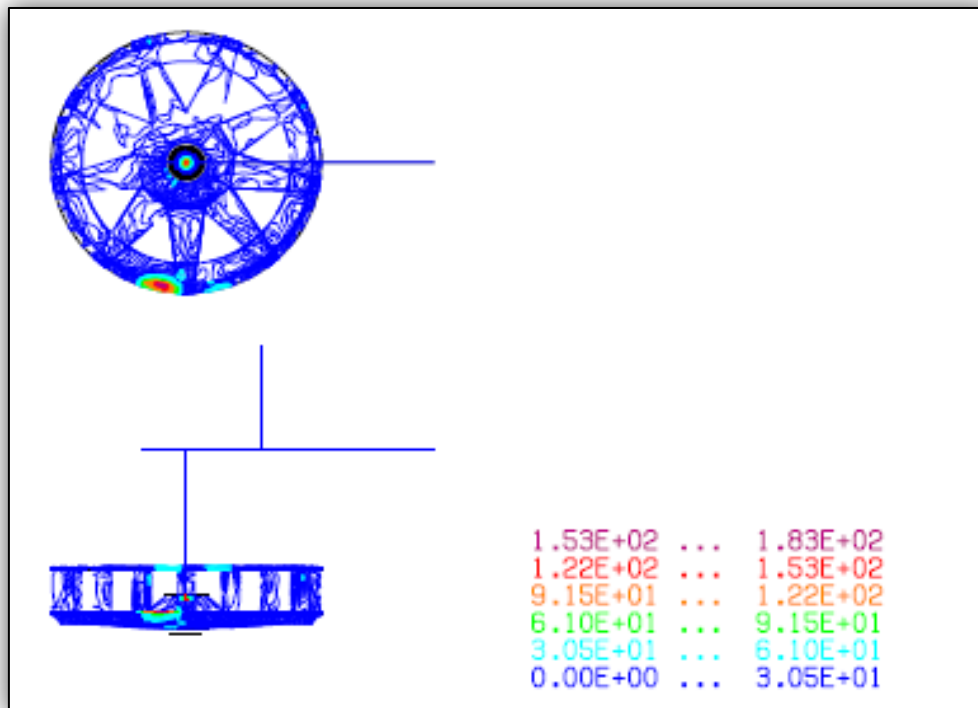
Model rotora radnog točka je urađen istom metodom, pri čemu su definisano 5091 čvornih tačaka, 101 linijska konačna elementa i 4896 površinskih konačnih elemenata.

Proračun strele radnog točka urađen je za dva slučaja opterećenja pri maksimalnom opterećenju snage pogonskog elektromotora i isključenju sigurnosne spojnice uz dodatno opterećenje limitirano težinom materijala na transportnoj traci i sekundarne težine a drugi slučaj kao statički proračun od inercionog opterećenja mase rotora i kompletne pogonske grupe.

Analiza aplikacija ponašanja strele radnog točka pri opterećenju pokazala je zadovoljavajuće ponašanje za oba razmatrana slučaja.

Proračun rotora radnog točka urađen je isto za dva slučaja opterećenja (položaj kašike i reznog noža sa zubima) pri maksimalnom iskorišćenju snage pogonskog elektromotora do slučaja isključenja sigurnosne spojnice, [1] i [4].

Analiza je pokazala mogućnost zadovoljavajućeg ponašanja rotora radnog točka pri čemu je maksimalna deformacija za prvi slučaj opterećenja pokazala da iznosi 89 mm uz maksimalni nivo napona 153 MPa.



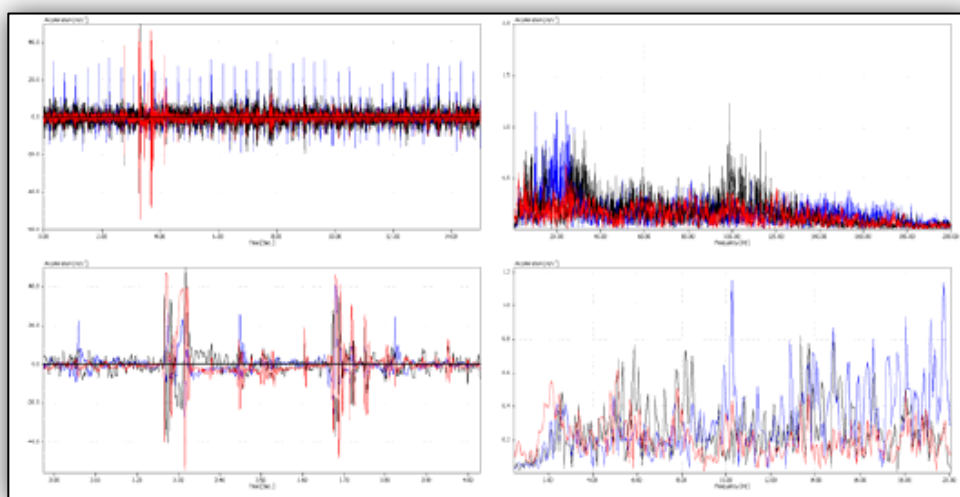
Slika 2. Prikaz napona na rotoru radnog točka za prvi slučaj opterećenja



Slika 3. Prikaz rotora radnog točka bagera posle revitalizacije

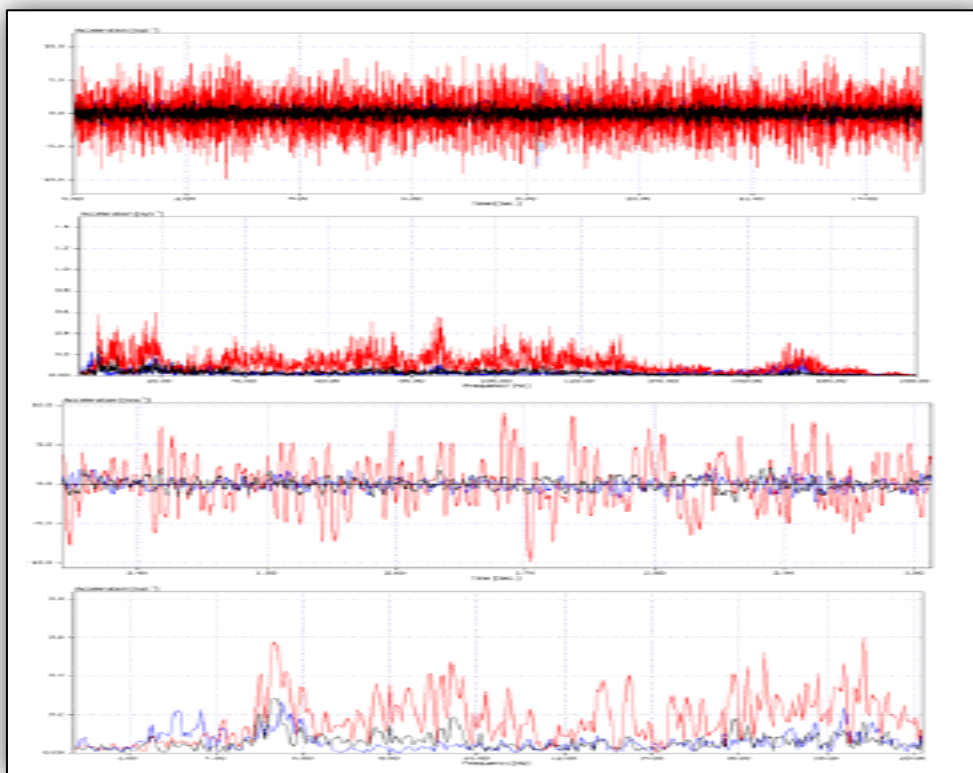
3. PRAKTIČNA IMPLEMENTACIJA PROCESA REDIZAJNANA POGONA RADNOG TOČKA

Praktična merenja vibracija na konstrukciji strele radnog točka i radnog točka vršena su četiri puta sa postojećom konstrukcijom (postojeće stanje) i posle kompletne revitalizacije bagera pri čemu je ugrađen novi pogon radnog točka kao i novi radni točak. Za merenje vibracija je korišćen trokomponentni senzor ubrzanja od 5g, 2000 Hz. Merenja su izvršena na grupi pogona (ležaju elektromotora, momentnoj podlozi reduktora radnog točka, reduktoru), streli radnog točka bagera-cevni nosač strele (četiri mesta na ukupnoj dužini), jarmu, nosećim lamelama, pogonu trake rotora i centralnom stubu. Na sledećim slikama su dati prikazi rezultata merenja ubrzanja u vremenskom i frekventnom domenu na jednom mernom mestu pre i posle izvršenja procesa revitalizacije, [1], [5] i [6].






Slika 4. Strela radnog točka Bagera (lamela) - merenje pre procesa revitalizacije

Linija crne boje	poprečni horizontalni pravac na strelu Radnog Točka	■
Linija crvene boje	pravac duž strele Radnog Točka	■
Linija plave boje	vertikalni pravac na strelu Radnog Točka	■



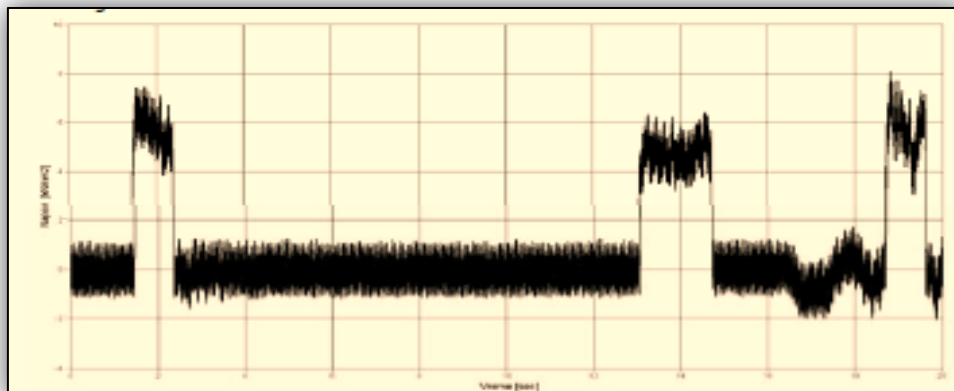
Slika 5. Strela radnog točka Bagera (lamela) - merenje posle procesa revitalizacije

Linija crne boje	poprečni horizontalni pravac na strelu Radnog Točka	
Linija crvene boje	pravac duž strele Radnog Točka	
Linija plave boje	vertikalni pravac na strelu Radnog Točka	

Merenja na lamelama strele radnog točka pokazala su da postoje elementi nepovoljnog dinamičkog ponašanja jer su registrovane velike vrednosti ubrzanja. Nepovoljno dinamičko ponašanje pre revitalizacije je nastalo kao posledica nestabilnosti reznih elemenata (kašika sa reznim delom i zubima) i samog vešanja lamele konstrukcije strele radnog točka bagera.

Rezultati merenja po izvršenom procesu revitalizacije i zameni projektovanih komponenti, pokazali su delimično povoljnije dinamičko ponašanje, obzirom da su registrovane niže ali i dalje realno velike vrednosti ubrzanja, [1], [7] i [8].

Merenje napona vršeno je primenom induktivnog senzora. Merenje napona vršeno je na više mesta celom dužinom strele radnog točka.

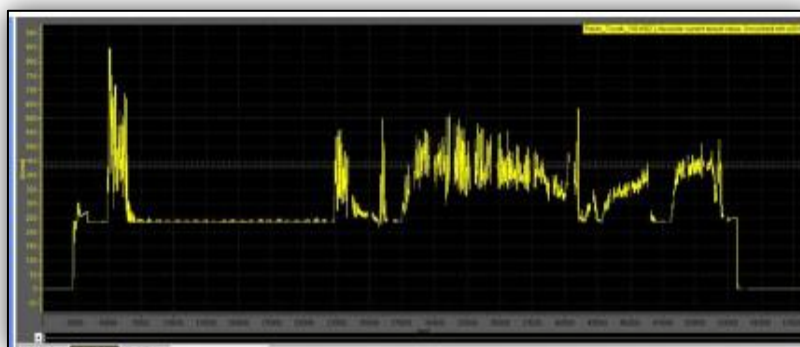


Slika 6. Prikaz merenja napona na poziciji nosača strele radnog točka sa registrovanim pikovima usled nepovoljnog dinamičkog ponašanja

Merenja napona na konstrukciji strele radnog točka pokazala su da su izmerene vrednosti maksimalnih napona u samoj konstrukciji pri nepovoljnom dinamičkom opterećenju znatno ispod dozvoljenih vrednosti i kreću se maksimalno do 15 kN/cm^2 . Registrovani pikovi na dijagramu su rezultata nepovoljnog dinamičkog ponašanja konstrukcije strele.

Merenja napona u konstrukciji strele radnog točka po izvršenoj revitalizaciji pokazala su da izmerene vrednosti maksimalnih napona strele radnog točka u samoj konstrukciji na komponentama pri povoljnijem dinamičkom opterećenju u odnosu na predhodna merenja su dosta ispod dozvoljenih vrednosti i maksimalno se kreću do 5 kN/cm^2 , [1], [9], [10] i [11].

Merenje otpora na kopanje vršena su sa ciljem upoređenja dobijenih rezultata. Merenje je vršeno registrovanjem angažovane struje za pogon rotora radnog točka sa proračunom potrebne snage za dizanje odkopnog jalovinskog materijala. Ukupna dužina rezne ivice sa zubima za kopanje u kontaktu sa materijalom i trenutni kapacitet bagera proračunati su preko elemenata odreska bagera i njegovih konstruktivnih karakteristika. Angažovanje struje se kretalo između 450-500 A, što je prihvatljivo sa aspekta izvršene rekonstrukcije, [1], [10], [11], [12] i [13].



Slika 7. Prikaz izmerene potrebne električne energije za pogon rotora radnog točka bagera

Pri izvršenju revitalizacije Bagera postojali su realni pragovi visokog rizika u svim sekvencama praktikuma. Analizom rizika, sa određivanjem realnih pragova, preduzimate su potrebne preventivne aktivnosti koje su u krajnjem rezultirale minimiziranjem pragova rizika, [6], [7], [11], [12], [13], [14] i [15].

4. ZAKLJUČAK

Izvršenjem revitalizacije rotornog Bagera SRs 1200*22/2, a na osnovu svih urađenih proračuna može se zaključiti: (proračunom strele radnog točka i radnog točka konstatovano je povoljno ponašanje pre svega u nivou deformacija i pragova napona koji su dosta realno ispod dozvoljenih). Početna merenja su nedvosmisleno ukazala na nepovoljno dinamičko ponašanje konstrukcije strele radnog točka, uzrokovano kopanjem, pri čemu realno postoji neusaglašenost sile kopanja i oblika reznih elemenata kašike sa zubima i nekim lošim konstruktivnim rešenjima koja su delimično rešena. Dakle implementirano rešenje je svakako bolje od bivšeg postojećeg stanja ali još uvek ne toliko dobro kako se očekivalo u krajnjem ishodu implementacije. Merenja nakon revitalizacije pokazuju nešto povoljnije dinamičko ponašanje. Postojao je određen diskontinuitet između računskog proračuna i njegove praktične primene pri redizajnu strele radnog točka predmetnog bagera.

Može se konstatovati da nova konstrukcija neće nepovoljno uticati na konstrukciju strele radnog točka i radnog točka bagera već iskazuje određena poboljšanja. Istovremeno se moraju izbegavati brzine kopanja koje su na nivou manjem od 70% od nominalne brzine koja je projektovana obzirom na povećanja frekvence vibracije konstrukcije. Istovremeno se mora napomenuti da predmetnom revitalizacijom nisu inkorporirana sva poboljšanja koja su mogla biti ugrađena.

REFERENCE

1. Internal documentation of the Kolubara Mining Basin doo, Lazarevac, Republic of Serbia (2013/2014/2015).
2. 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.
3. 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.
4. 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.
5. 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.
6. ISO 31000:2009: Risk management - Principles and guidelines. Geneva (Switzerland): International Organization for Standardizations (ISO), 2009.
 7. 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.
 8. 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.
 9. 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.
 10. 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.
 11. 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.
 12. 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.
 13. 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.
 14. 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.
 15. 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.

MICROCREDIT POLICY IN THE STATE OF SAO PAULO, BRAZIL: HELPING SMALL BUSINESSES TO DEVELOP

**Mário Henrique Marcondes Pereira, Vera Mariza Henriques de Miranda Costa,
Elisabete de Lourdes Teixeira Baleiro Inácio, José Luis Garcia Hermosilla**

Production Engineering Masters Program Department (Uniará), Brazil

Abstract: The small businesses are responsible for an important number of employments offered in the economy of any country nowadays. In Brazil, according to SEBRAE (agency of small businesses development), 67% of the economic active population is working in small firms. Taking care of these small companies in such context is an strategic policy of the governments. One of the crucial issues for the development of a small business is the credit, seeing that they are most of the times dependent of external capital to invest and grow wider. Thus, all around the world governments got concerned about it, and a lot of public policies of microcredit were launched. In Brazil this process started in 1950, and today one of the main microcredit programs of Latin America is in the state of São Paulo: the Banco do Povo Paulista (São Paulo's People Bank). This paper presents an overall vision of aspects of this program, which is operating since 1997 and is settled in 425 cities, in a partnership between the state government and city halls. This policy has been a considerable support for the development of small business since it has started. To reach its purpose, the paper makes a conceptual analysis of microcredit, it presents historical aspects of microcredit in the world and Brazilian context, and it presents as well public policies of microcredit which influenced the Brazilian programs' framework. Finally, the paper explains how Banco do Povo Paulista operates, and how it has helped to keep the São Paulo state the most productive among the 27 states of Brazil's territory.

Keywords: Microcredit, public policies, entrepreneurship, small business

1. INTRODUCTION

Small Business according to SEBRAE (Brazilian public agency for the development of small business) represent 98% of the total of companies in Brazil, and 67% of the formal economic active population (SEBRAE, 2011).

The last research about small business mortality in the state of Sao Paulo by this agency shows that in 2007, 27% of small firms close their doors in their first year of activities, and this number increases to 62% in the fifth year (SEBRAE-SP, 2007).

The same study analyses the causes of this high index of mortality, and among another factors, it brings out the inefficiency of public policies for the development of small business, specially related the difficulty of credit access (SEBRAE-SP, 2007).

That's one of the reasons in Brazil and also in other countries, the credit availability for small companies has been an important concern nowadays, seeing that these firms

normally present low capacity of capital to invest, what makes of them mostly dependent of external capital for this purpose (BERGER, A. N., UDELL, G. F., 2002).

The offer of credit represents an important opportunity of economic and social development, considering the relevance of the small businesses for the countries' economies. Thus, in Brazil as well as in another nations, the governments have been acted besides private banks, being agents of economic development under this perspective, making up public policies that increase and facilitate the access to the credit destined to small firms, which have less conditions for presenting collaterals.

Then it's applied in such conditions the concept of microfinances, that according to Karlan and Zinnan, 2011, is a strategic support of the government to communities initiatives, with the purpose of providing sustainable financial services for customers with less income, who might be individuals, families or formal or informal productive unities.

One important landmark in the spread of the model of microcredit was the foundation of the Bank Grameen, in Blangladesh, in 1978, by Muhammad Yunus (Souza, D.A. et al., 2007). It was the forerunner of many others of today's microcredit programs around the continents.

In Brazil, although there are registers of microcredit activities since 1950, historically, it has been in the agenda of Brazilian public policies effectively after the country left the eighties, period which receive the nickname of "lost decade" for the country, because of its high inflation indexes and low economic growth (BARONE, F. M.; SADER, E., 2008).

With the monetary stability in the middles 90's, public initiatives in the local, regional or national spheres of government increased the microcredit programs in the country.

In the state of São Paulo, it was created through the law 9.533, in April, 30th, 1997, the Popular Credit Investments Fund of São Paulo State. It has become a strong instrument for credit offer. It got the identity of "Banco do Povo Paulista" (São Paulo's Peoples Bank), and it is today in 425 cities of the 645 of the state, covering 66% of its territory. In this scenario, formal and informal entrepreneurs can get credit to develop their business in the state of São Paulo, with a quite low interest tax and special payments conditions, if compared to the traditional commercial banks.

So, this paper has the aim of presenting a review about the Banco do Povo Paulista, which has turned out to be one of the most microcredit programs of Brazil and Latin America.

2. MICROCREDIT CONCEPTUALIZATION

According to Barone and Sader (2008) there's not an universal definition for microcredit. There're authors who define the microcredit as transactions of loans with a small amount of money, and with social bias. Some other, consider that the definition is more related to the low income of individuals or firms involved, that means, the actors are more important than the money themselves.

In the view of Bouman (1989) both perspectives are combined, the microcredit is the loan with a small amount of money, provided to individuals with a low income, who belong a few assets to be offered as collaterals in the transactions, which must be repaid in a short range.

The oriented productive microcredit is one sort of microcredit among lots of others, and it's the object of this study. Its most important characteristic most is the focus in the entrepreneurs. In this case, it isn't provided for consumption, but to the acquisition of goods and services which may help in the small businesses development.

Castañón, 2004, presents three main methodologies on how the oriented microcredit transactions happen. The first is named "common banks" or "credit cooperatives", with a group of people creating and running a bank institution which provides credit services in better conditions than the private bank system. The second is named "solidarity bank", in which the loan is provided for the government or an institution for one member of a group of people. In this case collaterals are not required, but all the members of the group become responsible for each transactions made, and if any member do not pay his/her loan, everyone else in the group must pay it. The third and last methodology is the "individual loan", which is the loan provided by the government or institution to a single customer, normally collaterals or a co-signer is required though.

3. MICROCREDIT HISTORY IN BRAZIL

The first registers of microcredit in the world are from 1846 in Germany. However, the pioneer experience of microcredit like it is now well known is the Grameen Bank, in Bangladesh, founded by Muhammad Yunus, which served as an example for many other programs of microcredit all around the world and responsible for disseminate the social aspect of this policy.

The Grameen Bank reached in 1997 the amount of 2,4 billions of American dollars invested in loans for more than 2 millions people, operating with a very low tax of default of only 1,15%. That's impressive due to the fact of the no collateral policy of the Bank (Yunus, 2002).

Yunus (1999) points out that the social aspect is quite relevant for the microcredit as a public policy, but it can't become a welfare policy. It's very important and essential to keep the commitment of paying the debts for those who get the loans, so that they will also be more accurate in the management skills they must have to run their businesses or their financial life.

The arrival of the microcredit in Brazil happened in the decade of 50. In the beginning of microcredit history in this country, the civil society played an important role in the history of the Brazilian model. Zouain and Barone (2007) explain the microcredit in Brazil started in actions of Catholic Church in Rio de Janeiro. One bishop named Helder Câmara created a credit system for people considered socially or professionally excluded, the "Banco da Providência" (Providence Bank).

In 1973 was created in the cities of Salvador and Recife the "UNO – União Nordestina de Assistência a Pequenas Organizações" (Northeast Union for Assistance to Small Organizations), an NGO which structured the second experience of microcredit system in the cities of Salvador, state of Bahia, and Recife, state of Fortaleza (and surroundings).

In the 80's again in Rio de Janeiro, the Commercial Association of the city created the "Banco da Mulher" (Women Bank), providing microcredit to women for business growth. (ZOUAIN AND BARONE, 2007).

Suffering already the influence of the Grameen Bank, later in Brazil, in 1997, the public “Banco do Nordeste” (Northeast Bank) created the microcredit program “CrediAmigo”, which would become the biggest program of microcredit in Latin America considering the number of customers.

After that, other programs were created in another areas of the country, and among them the Banco do Povo Paulista.

4. MICROCREDIT CONTEXT IN BRAZIL

Historically, the decade of 80 was strongly affected by the high inflation indexes in Brazil, as well as a very low economic growth. It was a bad moment with a weak and deficient productive system, and population had no power for consumption. The financial system should provide credit to investment, but it was financing the public debits instead.

In the 90’s, the “Real Plan” was implemented in the country. It’s main purpose was to hold back the alarming inflation of the previous years. However, this plan itself wasn’t enough to hold back also unemployment, and the income concentration and informal economy of small businesses were becoming stronger with the globalization process. To empower the fight against these problems, the central government decided to use as one of its measures the productive microcredit as one of its policies of social inclusion (ZOUAIN AND BARONE, 2007).

The economic stabilization permitted that the microcredit programs spread around the country, not only in some isolated initiatives like before, but in all national territory. These programs were empowered by the central government, who created and implemented several actions, such as: the “Programa Comunidade Solidária” (Solidary Community Program), the BNDES – Banco Nacional de Desenvolvimento Econômico e Social (Social and Economic Development National Bank), the “Programa de Crédito Produtivo Popular” (Popular Productive Credit Program), and finally it also ruled the microcredit activities in Brazil. Regional and local governments, and NGO’s also became actors in this movement, creating policies and funds to finance the productive microcredit, which got in Brazil the characteristic of being public policy in essence in most of the cases.

The microcredit in Brazil have gotten different influences, depending on the predominant political ideology of the group in the government. The period known as the “FHC Era” from 1995 to 2003⁶⁵, the oriented productive microcredit was the focus of the policies, since it was the ideology of the government to stimulate the entrepreneurship activity. When Lula⁶⁶ became the president from 2004 to 2011, the focus changed for microcredit available for consumption for the poorest layers of the population as well. One the consequences was that the bank system usage of these poorest people increased considerably (BARONE AND SADER, 2007).

⁶⁵ period with this name because of the president Fernando Henrique Cardoso, responsible for the economic reaction of Brazil back to economic growth and low inflation indexes

⁶⁶ Luis Inacio Lula da Silva, president of central left party, the PT – Partido dos Trabalhadores (Workers Party)

Anyway, the microcredit became an important action of the governments since then, in the central government, the states and cities.

5. IMPORTANT MODELS OF MICROCREDIT PROGRAMS IN THE WORLD

Morduch (2009) points out that around one billion of people in the world today live in households with income per capita of less than one American dollar a day. The discussion to improve this poverty levels has led to a movement of creation of microfinance institutions which can provide credit to the excluded of the formal classic bank system.

Initiatives like these have showed up all over the planet, although there aren't precise evidences of results that they are really helping fighting poverty - some researches claim that they made the poor people dependent on these programs instead, and other criticize how sustainable these programs have been, if they one day ever became so. Anyway, these programs are important nowadays in the agenda of social public policies.

The microcredit programs have gone through evolution in history, and innovative ideas were added to the simple loan provision operation. The solidary credit contract, created by the Grameen Bank of Bangladesh is a good example. It provides credit to a group of five entrepreneurs. They get together weekly with another seven similar groups and one responsible for their loan from the Bank. The fact of being part of a group makes them more careful about the payments they must make for their loans, since if one doesn't pay, everyone else in the group will suffer the consequences, and the group will lose credibility. A simple idea that helps keeping very low levels of default (MORDUCH, 1999).

The "Banco Sol" (Sol Bank) of Bolivia also uses this mechanism of group credit contracts. But this Bank also makes operations to individuals. The difference of the Banco Sol is its flexibility to the conditions of payment, if compared to Grameen Bank of Bangladesh. The time for conclusion of the loan added by interests are longer in this case. Interests are also higher, that makes this program more sustainable than Grameen.

With more than two millions customers, the Bank Rakyat Indonesia is totally sustainable. It uses the method of individual loans, and it demands collaterals which are defined for the credit agent⁶⁷ according to each situation and how trustworthy the customer can prove to be.

The first loans are very low, and depending of the performance of the customer about following the contract in the payment conditions sets, the amount of money of the loan will be bigger in the next operation made by this customer. Rakyat installed posts of service all over Indonesia, and they face here the microcredit as business much more than a social policy, like in the two first models of Bangladesh and Bolivia.

This Indonesian system inspired FINCA – Foundation for International Community Assistance to create in Latin America the "Village Banks", a web of small bank posts that also provide microcredit services. And based on FINCA initiative, lots of other NGO's started doing the same in the American continent, as well as in Africa and Asia (MORDUCH, 1999).

⁶⁷ Credit agent is the worker of a bank, government or institution responsible for the credits operation

Microcredit is today a recognized international tool to provide money for poor people or help empower entrepreneurship on Earth.

6. BANCO DO POVO PAULISTA – SAO PAULO STATE GOVERNMENT MICROCREDIT MODEL

In April, 17th, 1970, the government of the state of São Paulo, Brazil, enacted the law number 18, whose purpose was to organize the credit system in the state, stimulating the promotion of social and economic development. But an important and effective action of this government came only a few years later, in 1997, when it instituted the Popular Productive Credit Investments Fund of São Paulo State, a program which became well known as “Banco do Povo Paulista” (São Paulo People’s Bank).

Banco do Povo Paulista is administrated by the State Department of Employment and Work Relations, and its aim is “to promote the generation of employment and income, through the concession of microcredit to the development of formal and informal small businesses” (in <http://www.bancodopovo.sp.gov.br>. Access in February, 15th, 2015).

The financial resources of this fund came initially of several sources: the budget of São Paulo State Government and the cities where it was implemented, special funds of the National Social and Economic Development Bank of Brazil, and donations of several natures.

Today the fund is increased with deposits, whose composition is 10% of financial resources of local city governments, and 90% or the state government.

To have an unity of Banco do Povo Paulista, a city government must make an agreement with the state government, and both share responsibilities for administrating the unities. Another important partnership was made with the Banco do Brasil (Bank of Brazil), a public bank which works as the agent of the operations. That means, while the credit agents of Banco do Povo Paulista select the candidates to microcredit loans and organize all the process, the money transactions are made by Banco do Brasil, a real bank institution. Despite Banco do Povo Paulista has taken “bank” on its name, it isn’t really a bank itself, that’s why Banco do Brasil plays an important role in the program.

In each city, the Banco do Povo Paulista has a committee composed by representatives of the state government, city government, Banco do Brasil and also civil society. This committee choses which candidates will get microcredit loans, based on a pre selection made by the credit agents. This committee is also responsible for the follow up of all the operations made in the unity.

Since Banco do Povo Paulista is a public policy, the interest rate in the loans are very low. The purpose isn’t the sustainability of the program, because of its being always increased by the public subsidies. The government sees it as an intervention for inciting the entrepreneurship activity. (SOUZA ET AL, 2008).

All the process of operations is made by the credit agent, since when the customer comes in an unity of Banco do Povo Paulista, the paper/documents work until the liberation of the loans in a system integrated with Banco do Brasil. There’re no assets required as collaterals, although there’re several rules for individuals who become a candidate for a receiving a loan.

The first rule is the condition that the business is operating for more than six months. Secondly, the business must have a revenue inferior than R\$ 360.000/year (nearly US \$ 120.000). The candidate to credit must reside in the city for more than two years, present references, and he/she can't have credit restrictions of any kind. At last, the candidate must present a co-signer, who will assume the debit in case it isn't paid. The co-signer also can't have credit restrictions.

Banco do Povo Paulista offers two different credit types: one for **working capital** (used for purchasing inputs, and making publicity and/or promotion of the business), and another one for **investment capital** (used for acquisition of machines, equipment, tools and vehicles). The time the client can get to pay the loan is until twenty for months, in equal installments, if the business is informal. In case the business is formal, the time is longer, until thirty six months. The program encourages a lot informal business to become formal, showing all the advantages for it.

The limit of money for credit operations differs, and they can be progressively higher in the second, third, and other transactions, depending on the client's history and performance on the payments.

7. FINAL CONSIDERATIONS

FUNDAC, a Brazilian research institute, and the State Department of Employment and Work Relations published an official report about the performance of Banco do Povo Paulista in February, 2012, measuring results of the previous years.

According to this report, Banco do Povo Paulista is now present in 463 of the 645 cities of Sao Paulo State, covering 72% of the territory. Considering the population distribution, it reaches the offer of its services for 93,14% of the total population of the state.

The total of operations in loans since Banco do Povo Paulista started operating in 1998 until December of 2011 is R\$ 863 millions (around US \$ 267 millions). In the year of 2011, from January to December, there was an increase of 22% of the amount of money in loans, compared to the same period of 2010. The total of contracts in 2011 is 31.967, and the value in money was R\$ 132 millions (around US \$ 44 millions).

Based on these numbers it's possible to evaluate the impact of this public policy in the state of São Paulo. Another important information is that 87% of the providers of all goods and services for Banco do Povo Paulista's customers are also companies from the state of São Paulo, and 58% of them are small companies. That means the benefits of the Banco do Povo Paulista work hasn't been only restricted to its clients, but also is an important source for heating economy regionally.

REFERENCES

- A. N. Berger, G. F. Udell. Small business credit availability and relationship lending: the importance of bank organizational structure. *The Economic Journal*, Oxford, 2002, p.32.

- F. M. Barone, E. Sader. Credit access in Brazil: evolution and perspectives. *Public Administration Review*, Rio de Janeiro, 2008, p. 1249. (Acesso ao crédito do Brasil: evolução e perspectivas. *Revista de Administração Pública*, Rio de Janeiro, 2008, p. 1249)
- F. J. A. Bouman. *Small, short and unsecured: informal rural finance in India*. Oxford University Press. New Delhi, 1989.
- Brasil, Complementar Law nº 123, September, 14th, 2006. Central Government, Brasília, 2006, p. 01.
- S. B. Caçador. Social and Economic Impactos of microcredit: Nossocredito case study. *Public Administration Review*, Rio de Janeiro, 2014, p. 1475. (Impactos sócio-econômicos do microcrédito: o caso do Nossocredito no Espírito Santo. *Revista de Administração Pública*, Rio de Janeiro, 2014, p.1475)
- J. W. Canôas, A. C. N. Salomão. *Microcredit and Social Assistance, Social Service and Reality*, Franca, 2010, p. 33. (Microcrédito e Assistência Social. *Serviço Social & Realidade*, Franca, 2010, p. 33)
- N. S. Carreño, A. H. Escolar, J. A. M. Sayago, *Microcredit and welfare: and empiric evaluation*, *Society and Economy Review*, Bogotá, 2011, p. 195. (Microcrédito y bienestar: una evaluación empírica, *Sociedad y Economía*, Bogotá, 2011, p. 195)
- M. J. A. Chowdhury, D. Gosh, R. E. Whight, *The impact of microcredit on poverty: evidence from Bangladesh*. *Progress in Development Studies*, Oxford, 2010.
- ECINF. *Urban informal economy research*. IBGE, Rio de Janeiro, 2003. Available at <<http://www.ibge.gov.br/home/estatistica/economia/ECINF/2003/ECINF2003.pdf>>. Accessed in: December, 2014.
- São Paulo State, Law 9.533, April, 30th, 1997, São Paulo, 1997, p. 01.
- FUNDAC. *Operational Performance of Banco do Povo Paulista*, São Paulo, 2012, p. 50. (Desempenho Operacional do Banco do Povo Paulista, São Paulo, 2012, p. 50)
- D. Karlan, J. Zinman, *Microcredit in Theory and Practice: Using Randomized Credit Scoring for Impact Evaluation*. *Science*, 2011, p. 1278.
- J. Morduch, *Why finance matters*, *Science*, 2011, p. 1271
- M. C. Neri, A.L. Medrado, *Experience Microcredit: and analysis of the impact of Credit Amigo*, *Northeast Economic Review*, 2014, p. 133. (Experimentando Microcrédito: uma Análise de Impacto do CrediAmigo, *Revista Econômica do Nordeste*, 2014, p. 133)
- M. C. Neri, GIOVANINI, F. S. Giovanini, *Small Businesses, garantes and credit access*. *Contemporary Economic Review*, Rio de Janeiro, 2005, p. 643. (Negócios nãnicos, garantias e acesso a crédito, *Revista Econonima Contemporânea*, Rio de Janeiro, 2005, p.643)

- SEBRAE, Anual Research of the Small Business, SEBRAE, Brasília, 2010. (Anuário do trabalho na micro e pequena empresa, SEBRAE, Brasília, 2010)
- SEBRAE, The presence of the small businesses in the Brazilian economy, SEBRAE, 2011. Available at <<http://antigo.sp.sebrae.com/Principal/Conhecendo%20a%MPE/>>. Access in June, 2014 (A presença dos pequenos negócios na economia Brasileira).
- SEBRAE, Factors that influence the mortality tax of small firms in Brazil, SEBRAE, Brasília, 2007. (Fatores condicionantes e taxa de mortalidade de empresas no Brasil, SEBRAE, Brasília, 2007).
- SEBRAE, 10 years monitoring the survival and the mortality of the small business. SEBRAE, São Paulo, 2008. (10 anos de monitoramento da sobrevivência e mortalidade das empresas, SEBRAE, São Paulo, 2008).
- SOARES, M.M. Soares, A.D. Melo Sobrinho, Microfinance: the role of the Brazilian Central Bank and the importance of credit cooperatives, Bacen, Brasília, 2007. (Microfinanças: o papel do Banco Central do Brasil e a importância do cooperativismo de crédito, Bacen, Brasília, 2007)
- R.B. Soares, F. A. Barreto, M. T. Azevedo. Leaving poverty with microcredit: the Crediamigo case study, Economic Studies, São Paulo, 2011, p. 119. (Condicionantes da saída da pobreza com microcrédito: o caso dos clientes do Crediamigo, Estudos Econômicos, São Paulo, 2011, p. 119)
- D. A. Souza, M. B. C. Novaes, L. F. Gil, Banco do Povo as an alternative model for financing small businesses. Administration Seminars, FEA/USP, São Paulo, 2008, p. 15. (O Banco do Povo como modelo alternativo para o financiamento de microempreendedores, Seminários de Administração, FEA/USP, São Paulo, 2008, p.15)
- Muhammad Yunus, The poors' banker, Ática, São Paulo, 2002. (O banqueiro dos pobres, Ática, São Paulo, 2002)
- D. M. Zouain, F. M. Barone, Studies about public policies of access to credit as a tool to fight poverty and promote social inclusion: microcredit in the FHC Era, Public Administration Review, Rio de Janeiro, 2007, p. 369. (Excertos sobre política pública de acesso ao crédito como ferramenta de combate à pobreza e inclusão social: o microcrédito na era FHC, Revista de Administração Pública, Rio de Janeiro, 2007, p. 369)

MARKETING STRATEGY STRUCTURE OF THE MARKET

Gordana Petrusavska

University American College Skopje, Macedonia

Abstract: To be successful, the company has to be focused on consumers, but it is not enough to be obsessed with consumers in a vacuum. People don't live in isolation. Everything they see, feel, do, and think affects how they buy. Most companies don't pay enough attention to what is going on in the world and how it is affecting consumers. Most marketers would say, sure, I know what is going on in the world. I'm well connected, I watch TV every day, and I read the newspaper every day. Well, that may be so, but most of them don't spend five minutes per week thinking about how the merger of some company or the change in one of the party leadership is going to affect their customers' behaviors. They may think about obvious things like the fact that a slump in the stock market isn't going to be great for selling cars and vacations. And it may prompt some companies to cut add budgets – which is stupid, because precisely the need to raise them is when customers don't seem in the mood to buy and need a reason to do that.

This paper shall focus on explaining that everything that happens impacts everything else. Everything is interconnected, and such, everything that is happening in the consumers' world matters to companies. Consumers live in an ocean of information where the movement of each molecule affects all the others, and a good marketer should be like a whale swimming through the ocean, filtering for food in the water around it.

In this work it is explained that people do things for reasons. It is marketers job to figure out what those reasons are and how to apply them in the businesses. All of their actions rise out of and reflect their emotions, opinions, and circumstances. Whether it is not voting, or buying or not buying soft drinks, light bulb, or airline tickets, it's all connected and related. Watching TV is to find out what other good marketing and business people are doing.

This paper focuses on analyzing consumers. Marketers learn things that will help get customers into the store or on the telephone to buy the products. Marketers look and learn everywhere, because everything is connected.

Finally, this paper concludes that there is a lot more competition, so marketers have to work harder to make sure that consumers choose their products. The opportunity is in the fact that when consumers have choices, they have to make decisions. And in order to make those decisions, they need information.

Keywords: Marketing, Strategy, Consumers, Behavior, communication.

1. INTRODUCTION

The notion and the need to study consumer behavior is not revolutionary. Marketers have always watched consumers and asked questions, but what most marketers don't do, is

watch consumers closely enough and then think about the implications of what they have observed. Consumers are not just link in a value chain that also includes manufacturing, distribution, planning, purchasing and sales. They are not just - one thing that marketers think about. They are not even the first among equals on the list that marketers have to think about. They are, quite possibly, the only thing worth thinking about. Everything else, including the important strategies come second to consumers.

2. STRUCTURE OF THE MARKET

If the company is in business and own goal is to maximize profits, as it should be, the only way can succeed is by focusing on, understanding, and pleasing consumers. If the company doesn't do that, will never be able to succeed. Marketers have to think about other things, too. They have to have salespeople, and a distribution system, to have efficient manufacturing, cost - effective purchasing, and good relations with the middle people who get the product into consumers' hands. "At the heart of marketing, at the heart of business, are the people who actually sell out the money to buy the product or service. Marketers have constantly to think about them and study them and build everything they do around them. Everything that happens to consumers and everything that consumers do should affect marketing decisions"(1).

When I say that marketers have to study and think about consumers, I don't mean in the old-fashioned way that most marketers think about consumers. Sure, it is important to look at buying patterns and how consumers relate to products and to the ones that they compete with. Marketers really have to connect with them, to get them to stop buying something else and to start buying the product, need to look a lot deeper and a lot more broadly. Anything that happens in that environment is going to change what consumers do and don't do. Economic conditions will change peoples' mindset. Climate changes, a hurricane, a major event, the death of a public figure, an election- whatever it is, it is going to change how consumers think and will have an influence on how they think about the product. This means that marketers have to look at politics, economics, history, social trends, fads, fears, and entertainment. And they have to think about it real hard. Just as buying behavior doesn't happen in isolation, neither does consumer behavior.

From time to time, marketers need to change the advertising and promotions, and it will work for them. They don't need to reposition the product or really change any of the promises. They just need to start doing different things. They need to begin to speak more directly to the customers through things such as sponsorships, and a barrage of consumer promotions. To outside observers, it may have appeared that marketers just behaving like old-style marketers and changing for the sake of re- explaining the products, but they were doing it because the public had indicated that that is what it wanted. This is a key difference between old- style marketing and marketing that emphasizes the point. Marketing is not a mysterious art based on intuition and whim. It is a science based on research and information. The changes marketers need to make should be subtle, but the important thing is the need to look, to listen, and learn and than finally act. That is how it will work.

There has been a seismic change in consumer markets in the past two decades that marketers think many people have missed. This is the rise of what is called, Consumer Democracy. What I mean by this is that suddenly, thanks to variety of factors, most notably technology and the development of global markets, consumers have more choices than ever before.

At the same time, great change has also occurred in more democratic and industrialized economies. In part, this is the result of technology and what the economists call commoditization. As one company comes up with a unique product, all of its competitors have the ability to very quickly imitate it. So consumers end up with a huge array of basically identical products, or interchangeable commodities.

“Marketers think that when people don’t have enough information for products, they don’t know which one to choose. Consumers understand that they have a choice. They understand that there are many things out there that they can choose from in each category, but they have no idea how to decide. How do customers buy gas in today’s environment? Do they really understand octane and how much detergent the gasoline has to have in order to clean the engine? How do the customers buy car- based on size (small, medium, large)? Almost all cars now offer front- wheel drive, automatic braking systems, cruise control, tinted windows, power windows and locks, and on and on. So which one to buy? Somebody has to tell them, and that somebody are the marketers. If they don’t tell consumers how to choose, they are either not going to choose, or they are going to choose based on the one thing they do understand: price. Of course, if the price is predominant element in the choices that the customers make, the profitability and the health of the business will go into the tank pretty quickly”. (2)

Marketers need to give to customers basis for deciding to buy the product. In a free-market society, consumers sit around looking at one another with glassy eyes, listening to the things marketers say as manufactures or purveyors of services and goods, and they ask them, why should I buy that product?” The challenge and opportunity for marketers is to tell them.

The car companies actually do this very well. Price and styling don’t really narrow the field very much, so they tell about all sorts of other things. They teach about rack – and – opinion steering, twenty - five inch wheels, ABS brakes, and all kinds of other things. Again, most of these things don’t matter much to consumers, like the width of the wheels, the mileage per gallon, and the speed at which they can go from zero to sixty- especially today, when most of the time they spend in their car in the traffic where speed is limited up to twenty- five miles per hour. Nevertheless, car companies are trying to give concrete reasons to buy their cars. The company that gives the consumers the most appealing reasons is the one that will get the sales.

In the old days, marketers didn’t need to explain this much because there were not that many choices. Today, and in the future, they need to tell consumers why they should buy stuff- every day. This means that marketers need to sell to them in own packaging, own shelf talkers, own point of sale, own advertising. They need to tell customers more and more why the product is different. Even if the product isn’t that different, better or special, it’s the job of the marketers to make people think that it’s different, better, and special.

Consumer communism is pretty scary stuff and very bad news for marketers because it means consumers are listening to somebody else, and not to them. Sometimes, consumer do

even more dangerous things, which is that are coming up with own criteria. Because the companies didn't give them any way to choose, consumers can develop own list of desirable attributes without their input. This is the result when companies are thinking about themselves and their product and not thinking about customers.

“As products become more global, marketers will increasingly have to take into account cultures and values that may be different from their own. Marketers job is to recognize the habits of people in different regions in the world and it is needed, to change the advertising, the way they run promotions and activities that would allow them to sell more products”. (3)

The fundamental thing that marketers should remember is that when the environment changes, consumers change. Marketers all over the world don't factor political movements or social changes into their plans. It is not that consumers necessarily have faith in the economy or the government, but the world is made up of molecules, and when there is a significant change in the arrangement of those molecules, all of them get jolted.

Lets think about a glass of water that is already three- quarters full, and we fill it up to the top. The quarter that is just put in doesn't sit on the top, actually blends and mixes with the rest of the molecules of the glass. The same thing happens to an environment as a whole, as well as to a specific marketplace. Anytime something new gets thrown in, it changes how each one of the molecules sits, how one relates to another. It is critically important to remember this to stay ahead of the curve.

I am believer that the events of the last five years relating to the Macedonian approach toward European Union and NATO have a deep effect on how Macedonians feel about everything. I believe that it has affected the consumers' psyche with regard to their purchases and with regard to how they view their future, and how they relate to self- indulgence, savings, going to see someone they haven't seen in a long time, or having a family reunion. My own personal belief is that the political upheavals and uncertainty in Macedonia have made people more cautious and economically conservative and more aware of the things they have in their lives that they value. I think that this is having an effect on everything from their willingness to buy, a new house or a car, to an increased desire to stay home, visit friends, and hold family reunions. I understand the premise that politics are affecting behavior, but how can marketer predict what that effect is going to be? Couldn't they just as easily conclude that the economy is good now, people are unhappy with the insanity around them, so they are going to divert themselves by buying things and running away on vacation? That is a good question? Marketers can't necessarily predict how people are going to react to a particular change. They have to watch and test and measure to see how they respond. But the important thing is that they need to be aware that a change, some change, is going to happen and be prepared to come up with own response.

“Another important way of focusing on consumers is that marketers don't pay enough attention on building relationships with customers. I absolutely don't believe in the premise “Get them young and they will be ours forever”. (4) But, that doesn't mean that marketers should view every sale as a one - time event. In fact, the easiest people in the world to market to, and the best customers who buy the most stuff at the highest prices, are the people who have already used our products or service and are pleased with it.

“Repeat sales are very effective, and very few companies actually work on getting them. Frequent – flyer and frequent – buyer programs are one way to go after repeat sales, but they can be very expensive, and they only work in business where the customers have a fairly steady continuing need for the product. There are a lot of other, simpler things that companies could do to make customers repeat their purchase, without spending a lot”. (5)

Eyeglass stores are great example of places the salespeople are so focused on selling expensive options today that they miss the chance to get customers to come back. People are always breaking, losing, or deciding not to like own glasses, so they are a good consumers for eyeglasses stores. Or at least they could be. But every time they go into one, they get the hard sell about picking more expensive frames and photo sensitive, lightweight lenses and getting coatings and ultraviolet protection and all kinds of other stuff. When they walk out, the clerks are doing high fives because they have sold them all of this big- ticket stuff, but they are feeling like they have been had. What salespeople don't seem to think about is that customers are going to buy another pair of glasses in just a few months and more pairs after that. And when they do, are they going to go back there? No. Salespeople have done nothing to build a relationship with customers.

Instead of trying to wring the last euro out of them today, the salespeople in the eyeglass store should be working to make sure that customers are coming back. The fact that they have come to the store means that they probably have already got their sale today, so what they need to concentrate on is the next sale. They have to be figuring out how to sell the second pair before the consumer walks out of their store. How hard would it have been to have the clerk make a note to call customers the next day and ask them if they liked the glasses? If they do this, they will be able to fix whatever was wrong, maybe establish a relationship with the customer and make sure that they will come to see them again.

There is another, and more important, reason for building customer relationships. That is because, if marketer has a relationship with own customers, they are more likely to stick with them when product comes under attack by another brand”. (6)

Consumers have to have a clear idea in their minds about what a product stand for- quality, speed, low price, high price, variety, whatever it is- before they will even consider actually buying it. But creating an image is only the first step. The goal is to get people to pull out their wallets and pay for the product. And the best way to do this is to give them reasons to buy it, and then the need to actually ask them to buy it.

“Marketing is not the same thing as sales or advertising, but it has to include both. It has to have a setup, a delivery, and a punch line. It must have a setup, the reason for the product, a delivery, the reason to buy, and the punch line- buy it please”. (7)

Advertising awareness and product awareness are pretty easy things to create. Marketers can generate advertising awareness with no problem. All they need to do is get on television and take the shirt off, and people will remember the advertising. Marketers can generate product awareness by naming the product with a strange name or something like that, and people will remember it. They can actually even generate favorite product status by creating an image of luxury or by running charming and endearing. But even being the favorite product doesn't get them to where they need to be, because being consumers' favorite doesn't necessarily mean that marketers are going to make the sale. It is not rear situation when the status as favorite product is going up, and in the same time product consumption to

go down. That is when marketers are dealing with the phenomenon that is called virtual consumption. Virtual consumption is what a lot of luxury goods like sports cars have. Everybody says there are great, they love them, but when we ask when or if they are going to buy one, they say no they cannot afford it, or it doesn't suit their needs or lifestyle, or they can get a better deal with something else, or, it doesn't come in the color they want.

The old conventional thinking that if marketers grab people's hearts, their wallets will follow is dead, finished. Let's think about political race. Do people vote for the candidate they think is a nice guy? Or do they vote for the one who takes a stand on the issues and tells them what he is going to do for them and their favorite causes? It's the same with products. If the goal is to sell more stuff, marketers need to give people reasons to buy. Simply knowing about the product isn't enough. Essentially, marketers need to say: So go buy it. Again and again.

What marketers find surprising are the radical differences among the light, medium, and heavy users regarding the specifics that they will think are foundational attributes of the product. Further, there are big differences not only between the people who consume lots of the products and people who only buy it occasionally,

There are vast differences between people who frequently buy the product and those who regularly support the competitors. This information is valuable for two very important reasons. One is that heavy users are obviously more profitable for than light users. So once marketers recognize them as a specific segment, they can then tailor own marketing to maintain and increase the usage of those heavy consumers and to win competitors' heavy consumers. The other is when marketers figure out what is that is appealing to heavy users of the product, they can use that information to help convert some of the light users. Heavy users generally can give more reasons for buying the product than light users. So what marketers need to figure out is how to get the light users to relate to more reasons the same way the heavy users did.

3. CONCLUSION

The strategy, however, is never going to work with people who oppose. But, generally shouldn't bother with them because to sell to them marketers are probably going to have to spend a lot of money for not much return. The soft opposition is gettable, but big packages are just going to turn them off.

"No matter how economical marketers make them, people who think that don't like the products are not going to go out and buy a ton of it. For the soft opposition, there is a need to do more things like trial- size giveaways and incentives to make a second purchase. And for all categories, marketers have to keep trying out new dimensions and giving people more reasons to try to decide that they prefer the brand". (8)

The tactics that marketers choose are going to have impact on lot of other variables in addition to support or opposition levels. Marketers have to look further to figure out why people are supporting or not supporting them. Sometimes people oppose because they think they don't like something about, and sometimes because they just like the competition better. Most often, people are undecided because they just don't know enough about any of the products in the market. They just need a lot more information.

“There is no single strategy or group of strategies that is going to work with everyone in a specific category. And most of the strategies that marketers use will work to some degree in more than one category. So, knowing where someone falls in loyalty spectrum is not going to give an instant, surefire sales pitch. Marketers still have to test and measure and keep giving people new reasons to buy and use the product”. (9)

One way to keep focused on finding things that really sell stuff is to make conversion rates one of the key measurements that are tracked. Retailers do this by counting how many of the people who come into the store actually buy something. Marketers figure that it cost a lot of money to run advertising and promotions to get people into the store, so how well they are doing in selling them stuff once they come in? Marketers know that they are already interested or they wouldn't be there.

I know that the most purchases today are not made over the telephone or in situation where a salesperson has access to individual buying history. But this will happen more and more in the future, as more purchases are made on-line and customer data is tracked and stored accordingly. Even if marketers do not have access to that kind of information right now, it is the direction they need to be thinking about.

“In the future, the way to sell products more efficiently and successfully is to focus on smaller and smaller segments and then tailor own offering to meet their needs”. (10)

REFERENCES

1. Fifield Paul, *Marketing Strategy*, Second edition, Butterworth Heinemann, GB, p.94, 1998
2. Gary, L.L. and Arvind, R., *Marketing Engineering*, 2nd edition, Prentice Hall, 128-135, 2003
3. Levitt, Theodore (1983) ‘*The Globalization of Markets*’, *Harvard Business Review*, 61 (3): 102-123.
4. Richard D. Czerniawski & Michael W. Maloney, *Creating Brand Loyalty and the management of power positioning*, 1999.
5. Practices and its Implications for Advertising Research’, *Journal of Current Issues and Research in Advertising*, 16, pp46-66
6. Robert F. Hartley, “*Marketing Mistakes and Successes*” 8th ed., New York: John Wiley, 2005, p.123
7. Cateora, P. R. And J.L. Graham (2005), *International Marketing*, 12th edition, New York: McGraw Hill/Irwin.
8. Shugan, Steven M. “*Estimating Brand Positioning Maps Using Supermarket Scanning Data*”, *Journal of Marketing Research*, 24 (February), 1-18, 1987
9. Hauser, John R. And Steven M. Shugan “*Defensive Marketing Strategies*”, *Marketing Science*, 2 (Fall), 319-60, 1983
10. Hart, Stuart and C. Banbury (1994) ‘*How Strategy-Marketing Process Can Make a Difference*’, *Strategic Management Journal*, 15 (May): 251-70.

STRATEGIES OF WORK MOTIVATION AS A FACTOR OF HUMAN RESOURCES

Jelena Simić, Jelena Rakić Davidović

Fakultet za menadžment, Sremski Karlovci, Serbia

Abstract: The present concepts of motivational systems, techniques and strategies become insufficiently flexible and therefore the modern concept of motivational strategies must be based on increasing business success through the satisfaction of employees. The aim of this study was to determine the basic life-cycle strategies of work motivation among employees and what are the personal traits that influence the selection of the same. Nowadays, there are tendencies for the economic, social changes and rapid social transition to be transformed into the so-called "knowledge society". There is also a need for the introduction of lifelong learning and learning activities throughout their lives with the constant aim of improving knowledge, skills and abilities within a management perspective, as a function of motivation strategies. In order to successfully operate, each company has to find the optimal combination of material and non-material incentives for its employees, and that they are primarily accepted by the employees. For successful work, each company has to find the optimal combination of material and non-material incentives for its employees that will depend upon many factors: the sector in which it operates, competition in the labor market, the nature of work, the structure of employees, etc. For the purpose of ensuring the adequate quality of employees in the company, it is necessary to provide an adequate level of earnings, but that is only a necessary condition – not the sufficient one. For the employees' motivation there are many other suitable non-material strategies for motivation such as the recognition of success, feedback to employees for their work, organizational culture in the company, motivation and self-motivation. Since the employees are the most important resource in the creation of an enterprise value, only the motivated employees will strive towards the realization of high performances and organizational goals.

The study included 85 employees of both sexes. The largest percentage of respondents (42.4%) was aged 36-45 years, and most of them (35.3%) with seniority from 6 to 10 years. The rating scale named Satisfaction leadership by L. Grubić Nešić has been used. The getting results indicate that the level of satisfaction with management is $AS = 3.23$; $SD = 0.53$. By applying Pearson's correlation coefficient, results which are gained indicate that there is a statistically significant correlation between the level of leadership satisfaction and the age of respondents (Pearson correlation = -0.27 ; $p = 0.05$), and between the level of leadership satisfaction and years of service of the respondents (Pearson correlation $n = -0.27$; $p = 0.05$). The increase in distrust of management's decisions contributes to the fall of the leadership satisfaction, and in relation with the age of respondents (Pearson correlation = -0.28 ; $p = 0.01$) and in relation to the years of service of the respondents (Pearson correlation = -0.23 ; $p = 0.05$). Biological life cycle of the individual, as well as the life cycle of the service life of the individual, suggests that the increase in the satisfaction of management can be achieved throughout an adequate communication between manager-employee if one considers the decisions taken by the management.

Keywords: motives, work motivation, leadership satisfaction, correlation.

1. INTRODUCTION

Motivacija predstavlja jedan od važnih pojmova u upravljanju ljudskim resursima. Motivacija se može definisati kao ukupnost procesa koji pokreću i odražavaju određene aktivnosti i ponašanja u pravcu postizanja postavljenih ciljeva.[1]⁶⁸ Poželjno stanje u organizaciji da zaposleni imaju interes koji će ih stimulirati na načine ponašanja koji će omogućiti ostvarenje ciljeva. Lista pokretača na određene aktivnosti, ciljeve je različita i obuhvata veliki broj motiva. Osobe koje ispoljavaju isto ponašanje mogu biti motivisane sasvim različitim motivima. Primarna orijentacija menadžera je pronalaženje odgovora na pitanje: na koji način uključiti i motivirati sve zaposlene, imajući u vidu specifičnu i važnu ulogu svakog pojedinca u preduzeću. U današnje vreme, menadžeri mogu da koriste veliki broj proverenih strategija za motivisanje zaposlenih, koje se, već uveliko, koriste u savremenim preduzećima kao što su: materijalna stimulacija, obogaćivanje posla, participacija zaposlenih, upravljanje pomoću ciljeva, priznanja i pohvale, usavršavanje, razvoj karijere, itd [2]⁶⁹.

Zadovoljstvo poslom je jedan od najčešće istraživanih i proučavanih aspekata motivacije za rad zaposlenih. Takođe se smatra i jednim od najvažnijih neprivrednih ciljeva organizacije. Kako su rukovodioci ti koji planiraju, organizuju, vode i osmišljavaju, odnosno komuniciraju sa zaposlenima, a sve to zajedno u svrhu zadovoljstva rukovođenjem. Na temeljima Hotorn studije razvila se Doktrina ljudskih odnosa koja ukazuje na značaj socijalne motivacije za rad, te da zadovoljstvo poslom predstavlja socijalni stav koji, pored kognitivnog i konativnog aspekta, čine i emocije, tj. osećanja [3]⁷⁰.

2. ZADOVOLJSTVO RUKOVOĐENJEM

Dosadašnja istraživanja koja su se bavila pitanjem zadovoljstva rukovođenjem ukazala su na dve grupe faktora od kojih zavisi da li će ljudi biti zadovoljni ili nezadovoljni svojim poslom. Prvu grupu čine opšti faktori, koji se odnose na društveno ekonomsku klimu, faktore radne organizacije, vrstu posla, uslove rada... Drugu grupu čine faktori koji se odnose na lične karakteristike samih radnika – položaj, socijalno poreklo, obrazovanje.[4]⁷¹

Kao jedna od osnovnih menadžerskih funkcija, vođenje je zasnovano na nizu psiholoških procesa, kao što su veština komunikacije, poznavanje psihologije ličnosti, principa motivacije, rešavanje konflikata i drugo.[5]⁷²

⁶⁸ R. Dunderović: *Osnovi psihologije menadžmenta*, "CEKOM"-books d.o.o., Novi Sad, 2007.g.

⁶⁹ Miljković S. Motivation of employees and behaviour modification in health care organizations, Article in Serbian. *Acta Medica Medianae* 2007; 46(2):53-62.

⁷⁰ Wright, Th. A. (2006). The emergence of job satisfaction in organizational behavior, A historical overview of the dawn of job attitude research. *Journal of Management History*, 12, 262-277.

⁷¹ Grubić-Nešić, L.: *Razvoj ljudskih resursa*, AB Print, Novi Sad, 2005.g.

⁷² Grubić-Nešić, L.: *Razvoj ljudskih resursa*, AB Print, Novi Sad, 2005.g.

Da bi se došlo do idealnog sklada čoveka i rada potrebno je sagledati poziciju inovativne organizacije uz psihološku dimenziju; a tu uključujemo:[6]⁷³ - osobine nosioca kreativne promene u organizaciji, - kreativnu klimu, - motivaciju za rad i - psihološke probleme rukovođenja inovativnom organizacijom. Rukovodioci donose nove sugestije i predloge.[7]⁷⁴

3. OSOBINE LIČNOSTI KAO PREDIKTORI ZADOVOLJSTVA

Rukovođenje je (Stogdill 1950 prema Chelladurai i sur. 1993) bihevioralan proces kojim se utiče na delovanje organizirane grupe u ostvarivanju postavljenih ciljeva [8]⁷⁵. Osobina ličnosti savesnost je iz modela Velikih pet koja značajno korelira sa zadovoljstvom poslom prema meta-analizi Džadža i saradnika[9]⁷⁶. Barik i Maunt [10]⁷⁷ (Barrick and Mount, 1991) potvrđuju pozitivnu korelaciju savesnosti i zadovoljstva poslom, pretpostavljajući da osobe koje imaju visok skor na savesnosti pokazuju dobre radne performanse, a ove opet dovode do zadovoljavajućeg priznanja za rad, samim tim i do većeg zadovoljstva poslom. Džadž (Judge et al. 1999) takođe ističe da je savesnost prediktor intrinzičnog poslovnog uspeha koji je operacionalizovan kao zadovoljstvo poslom. Takođe, osobina koja se pojavljuje kao značajan prediktor zadovoljstva poslom je ekstraverzija.

Obzirom da su funkcije rukovodilaca-menadžera planiranje, organizovanje, vođenje i kontrolisanje, a unutar tih funkcija se paralelno realizuje strategija radnog motivisanja, kroz komunikaciju sa zaposlenima, proširuju i obogaćuju aktivnosti, modifikuju ponašanja, zadovoljstvo rukovođenjem u ovom radu je posmatrano kao operacionalno objedinjenje svih pomenutih funkcija i strategija. Problem rada se može formulisati kao: da li postoji relacija između posmatranih indikatora zadovoljstva poslom, s jedne strane, i dužine radnog staža i starosti ispitanika, sa druge strane.

4. METODOLOGIJA

Hipoteze od kojih polazimo u ovom istraživanju formulisane su delom karakteristikama kompanije u kojoj je istraživanje sprovedeno, a u kojoj se ogleda većina specifičnosti poslovanja u ovom trenutku na ovim prostorima, i delom na rezultatima

⁷³ Grupa autora, Inovativno preduzeće (Upravljanje dinamikom tehnologije i razvoj inovativne organizacije), redaktor: Maja Levi-Jakšić, Beograd, 1995., str. 255-281.

⁷⁴ Toffler, A., "The Adaptive Corporation", Pen Book, 1985., str. 97.

⁷⁵ Chelladurai, P. (1993). Leadership. U: Singer, R.N., Muhphey, M., Tennant, L.K. (Eds.), Handbook of Research in Sport Psychology, pp. 647-672. New York: Macmillian Publ. Company.

⁷⁶ Judge, T. A. Higgins, C. A. Thoresen, C. J. and Barrick, M. R. (1999). The Big Five personality traits, general mental ability, and career success across the life span. Personnel Psychology, 52, 621-652.

⁷⁷ Judge, T. Heller, D. and Mount, M. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. Journal of Applied Psychology, 87, 530-541.

istraživanja Džadža- kada smo se opredelili da ne sagledavamo obeležja ličnosti zaposlenih, već njihove demografske karakteristike.

Prva hipoteza od koje polazimo je da je **nivo zadovoljstva rukovođenjem na prosečnom nivou.**

Hipoteza 2: **nivo zadovoljstva rukovođenjem nezavisan je od godina starosti ispitanika, kao i od godina radnog staža, tj. da među ovim varijablama ne postoji korelacija.**

Ukoliko su rukovodioci dovoljno i teorijski i praktično stručni za poziciju koju u kompaniji zauzimaju, a sa druge strane i svojim karakteristikama ličnosti “opremljeni” za ovu poziciju, onda će nivo zadovoljstva njihovim rukovođenjem biti nezavisan od uzrasta i radnog iskustva onih kojima rukovodi.

Istraživanje je sprovedeno na terenu, a učestvovalo je 85 zaposlenih, oba pola. Najveći procenat ispitanika (42.4%) je starosti od 36-45 godina, a najviše njih je (35.3%) sa radnim stažom od 6 do 10 godina. Korišćena je skala Zadovoljstva rukovođenjem L.Grubić Nešić, koja sadrži 10 stavki.

5. REZULTATI

Prikazani deskriptivni pokazatelji (Tabela br.1) ukazuju da je nivo zadovoljstva rukovođenjem, u odnosu na teorijski minimum i teorijski maksimum, na prosečnom nivou, što je u skladu sa prvom hipotezom.

Tabela br. 1. Deskriptivni pokazatelji zadovoljstva rukovođenjem (pojedinačne stavke)

	N	Min	Max	Mean	Std. Deviation
Naši rukovodioci ličnim primerom pokazuju kako treba raditi.	85	1.00	5.00	2.8706	1.03266
Moji rukovodioci su zadovoljni mojim radom.	85	1.00	5.00	2.9529	.97475
Moji neposredni rukovodioci se izuzetno trude da obave svoj posao najbolje što mogu.	85	1.00	5.00	3.3059	1.09135
U odnosu prema ljudima moji neposredni rukovodioci su dobri.	85	1.00	5.00	3.5294	1.03035
Zadovoljan sam nivoom stručnosti i znanja mojih neposrednih rukovodilaca.	84	1.00	5.00	3.2143	1.13085
Rukovodstvo našeg preduzeća uvek daje primat interesima preduzeća u odnosu na lične interese.	85	1.00	5.00	3.2588	1.22623
Više sam zadovoljan radom svojih neposrednih rukovodilaca nego viših rukovodilaca.	85	1.00	5.00	3.2000	1.16292
U našem preduzeću bolje prolaze oni radnici koji imaju poznanike među rukovodiocima.	85	1.00	5.00	2.6941	1.21522
Zadovoljan sam načinom na koji rukovodi moj neposredni rukovodilac.	85	1.00	5.00	3.3882	1.04761
U ispravnost odluka rukovodstva imam apsolutno poverenje.	85	1.00	5.00	3.8471	1.15990
<i>Deskriptivni pokazatelji zadovoljstva rukovođenjem (ukupne skale)</i>	84	1.80	4.20	3.2286	.52723

Međusobnu povezanost (Tabeli br.2) Zadovoljstva rukovođenjem i posmatranih nezavisnih varijabli (godine starosti ispitanika, godine radnog staža ispitanika) proverili smo Pirsonovim koeficijentom linearne korelacije.

Tabela br.2. Pirsonov koeficijent Zadovoljstva rukovođenjem i godina starosti zaposlenih

		Zadovoljstvo rukovođenjem	Godine starosti
Zadovoljstvo rukovođenjem	Pearson Correlation	1	-.269*
	Sig. (2-tailed)		.013
	N	84	84
Godine starosti	Pearson Correlation	-.269*	1
	Sig. (2-tailed)	.013	
	N	84	85

Sig. - nivo značajnosti: ** Korelacije značajne na nivou 0.01

* Korelacije značajne na nivou 0.05

Prikazani rezultati pokazuju da postoji statistički značajna ($p=0.05$) korelacija između zadovoljstva rukovođenjem i godina starosti zaposlenih. Negativan predznak korelacije ukazuje da zadovoljstvo rukovođenjem opada sa porastom godina starosti.

Rezultati u (Tabeli br. 3) pokazuju da postoji statistički značajna ($p=0.05$) korelacija između zadovoljstva rukovođenjem i godina radnog staža. Negativan predznak korelacije ukazuje da zadovoljstvo rukovođenjem opada sa porastom godina radnog staža.

Tabela br.3. Pirsonov koeficijent Zadovoljstva rukovođenjem i godina radnog staža zaposlenih

		Zadovoljstvo rukovođenjem	Godine radnog staža
Zadovoljstvo rukovođenjem	Pearson Correlation	1	-.272*
	Sig. (2-tailed)		.012
	N	84	84
Godine radnog staža	Pearson Correlation	-.272*	1
	Sig. (2-tailed)	.012	
	N	84	85

Prikazani rezultati nisu u skladu sa drugom hipotezom, te je **odbacujemo**.

Kako je dobijena negativna korelacija među posmatranim varijablama, namera je da utvrdimo da li postoji značajna korelacija između stavke sa najvećom aritmetičkom sredinom i posmatranih obeležja ispitanika.

Tabela br. 4 pokazuje da postoji statistički značajna korelacija ($p=0.01$) između poverenja u ispravnost odluka koje donosi rukovodstvo i godina starosti zaposlenih. Negativan predznak koeficijenta ukazuje da sa porastom godina starosti zaposlenih opada poverenje u ispravnost odluka koje donosi rukovodstvo.

Tabela br.4: Pirsonov koeficijent godina starosti zaposlenih i poverenja u ispravnost odluka rukovodstva

		Godine starosti	U ispravnost odluka rukovodstva imam apsolutno poverenje.
Godine starosti	Pearson	1	-.279**
	Correlation		
	Sig. (2-tailed)		.010
	N	85	85
U ispravnost odluka rukovodstva imam apsolutno poverenje.	Pearson	-.279**	1
	Correlation		
	Sig. (2-tailed)	.010	
	N	85	85

Podaci u Tabeli br.5 pokazuju da postoji statistički značajna korelacija ($p=0.05$) između poverenja u ispravnost odluka koje donosi rukovodstvo i godina radnog staža zaposlenih. Negativan predznak koeficijenta ukazuje da sa porastom godina radnog staža zaposlenih opada poverenje u ispravnost odluka koje donosi rukovodstvo.

Tabela br.5. Pirsonov koeficijent godina radnog staža zaposlenih i poverenja u ispravnost odluka rukovodstva

		Godine radnog staža	U ispravnost odluka rukovodstva imam apsolutno poverenje.
Godine radnog staža	Pearson Correlation	1	-.232 [*]
	Sig. (2-tailed)		.033
	N	85	85
U ispravnost odluka rukovodstva imam apsolutno poverenje.	Pearson Correlation	-.232 [*]	1
	Sig. (2-tailed)	.033	
	N	85	85

6. DISKUSIJA

Kao što kompanije imaju svoj životni ciklus, tako i zaposleni, osim svog životnog, imaju i "radni ciklus". Sasvim je izvesno da se životni ciklus kompanije poklapa sa životnim i radnim ciklusom samo pojedinih zaposlenih, dok će između ciklusa kompanije i životnog i radnog ciklusa pojedinih zaposlenih postojati jaz.

Osim specifičnosti poslovne klime: dugogodišnje tranzicije, političke, ekonomske scene koje se ferlektuju na svakodnevicu radno sposobnih, rezultati se mogu interpretirati i iz ugla "generacijskog jaza" među zaposlenima. Aktuelna i značajna karakteristika poslovanja je i sve veći broj mladih na odgovornim funkcijama. U ovom kontekstu, stariji zaposleni poseduju akumulirano iskustvo, dok mlađi zaposleni poseduju znanje o korišćenju savremenih sredstava za rad. U vezi sa ovim, dobijeni rezultat u praktičnom smislu može imati najmanje dva ishoda:

- a. Produblјivanje generacijskog jaza,
- b. Smanјivanje generacijskog jaza, dijalogom na temu odluka.

7. ZAKLJUČAK

Dobijeni nalaz ukazuje da će se uspeh u rukovođenju postići tek usklađivanjem stila rukovođenja sa životnim i radnim ciklusom zaposlenih. Konkretnije, kada se postigne usklađivanje između pomenutih ciklusa razvojem nivoa poverenja u ispravnost odluka rukovodstva. Razvojem i održavanjem visokog nivoa poverenja u odluke rukovodstva kod starijih zaposlenih i onih sa dužim radnim stažom, postići će se veće zadovolјstvo rukovođenjem, a time i viši nivo motivacije.

8. LITERATURA

- Chelladurai, P. (1993). Leadership. U: Singer, R.N., Muhphey, M., Tennant, L.K. (Eds.), Handbook of Research in Sport Psychology, pp. 647-672. New York: Macmillian Publ. Company.
- Grubić-Nešić, L.: *Razvoj ljudskih resursa*, AB Print, Novi Sad, 2005.g.
- Grupa autora, Inovativno preduzeće (Upravljanje dinamikom tehnologije i razvoj inovativne organizacije), redaktor: Maja Levi-Jakšić, Beograd, 1995., str. 255-281.
- Judge, T. A. Higgins, C. A. Thoresen, C. J. and Barrick, M. R. (1999). The Big Five personality traits, general mental ability, and career success across the life span. *Personnel Psychology*, 52, 621-652.
- Judge, T. Heller, D. and Mount, M. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of Applied Psychology*, 87, 530-541.
- Miljković S. Motivation of employees and behaviour modification in health care organizations, Article in Serbian. *Acta Medica Medianae* 2007; 46(2):53-62.
- R. Dunderović: *Osnovi psihologije menadžmenta*, "CEKOM"-books d.o.o., Novi Sad, 2007.g.
- Toffler, A., "The Adaptive Corporation", Pen Book, 1985., str. 97.
- Wright, Th. A. (2006). The emergence of job satisfaction in organizational behavior, A historical overview of the dawn of job attitude research. *Journal of Management History*, 12, 262-277.

¹ R. Dunderović: *Osnovi psihologije menadžmenta*, "CEKOM"-books d.o.o., Novi Sad, 2007.g.

¹ Miljković S. Motivation of employees and behaviour modification in health care organizations, Article in Serbian. *Acta Medica Medianae* 2007; 46(2):53-62.

¹ Wright, Th. A. (2006). The emergence of job satisfaction in organizational behavior, A historical overview of the dawn of job attitude research. *Journal of Management History*, 12, 262-277.

¹ Grubić-Nešić, L.: *Razvoj ljudskih resursa*, AB Print, Novi Sad, 2005.g.

¹ Grubić-Nešić, L.: *Razvoj ljudskih resursa*, AB Print, Novi Sad, 2005.g.

¹ Grupa autora, Inovativno preduzeće (Upravljanje dinamikom tehnologije i razvoj inovativne organizacije), redaktor: Maja Levi-Jakšić, Beograd, 1995., str. 255-281.

¹ Toffler, A., "The Adaptive Corporation", Pen Book, 1985., str. 97.

¹ Chelladurai, P. (1993). Leadership. U: Singer, R.N., Muhphey, M., Tennant, L.K. (Eds.), Handbook of Research in Sport Psychology, pp. 647-672. New York: Macmillian Publ. Company.

¹ Judge, T. A. Higgins, C. A. Thoresen, C. J. and Barrick, M. R. (1999). The Big Five personality traits, general mental ability, and career success across the life span. *Personnel Psychology*, 52, 621-652.

¹ Judge, T. Heller, D. and Mount, M. (2002). Five-factor model of personality and job satisfaction: A meta-analysis. *Journal of Applied Psychology*, 87, 530-541.

BUSINESS STRATEGY AND SUCCESS AMONG INDEGINIOUS IGBO ENTREPRENEURS: STUDY OF HOUSE HOLD EQUIPMENT LINE, MAIN MARKET ONITSHA, NIGERIA

Franca Obi

Federal University of Ndufu-Alike, Ikwo, Ebonyi State, Nigeria

Abstract: This work justifies “Business Strategy and Success among Igbo Entrepreneurs”. Igbo people right from the ancient time is known for being business inclined. They are believed to be the backbone of business in Nigeria, as a result, today; they are referred to as the Japanese and Chinese of Africa. The practice of the right business strategies is the secret of business successfulness among Igbo Entrepreneurs. These practices are imbedded in the communal culture of Igbo. This paper tries to look into “Igba-Odibo”, “Imu-Ahia”, “Imu-oru”, “Idu-Odibo” and “Igba-Oso-Ahia” as business strategies for achieving success in business which is measured through business/opportunity utilization, business/customers networking and increase sales volume and market shares. This paper also gives the in-depth symbolic interpretation and application of the dependent and independent variables used. Three research questions were formulated to investigate the relationship between business strategy and success. Related literatures were reviewed. The study population covers house hold equipment line of Main Market Onitsha in Anambra state, Nigeria which has shops capacities of over five hundred which were used to assumed the population of the study and out of the three hundred (300) questionnaires administered to the directors of the business or the Masters/Mistresses, who are the business owners during the study, one hundred and eighty (180) were returned, seventy three (73) were invalid so the researcher was left with one hundred and seven (107) valid questionnaires to work with. The data collected were tested using frequency table, percentages Pearson product moment correlation analysis and Regression analysis. The result shows that there is a strong positive relationship between the two variables. The researcher recommends that Government should encourage and strongly support these entrepreneurs by providing loans and adequate infrastructure that aids business and the Igbo should encourage their children to complete their higher education before embarking on any of these strategies.

Key words: “Igba Odibo”, “Imu Ahia”, “Imu-oru” “Idu Odibo”, “Igba Oso Ahia”

1. INTRODUCTION

Igbo people settle at South-Eastern part of Nigeria with the population of approximately 40 million (23.5%) of the total Nigerian population estimation at 170 million (Factbook, 2013). Igbo is the third major tribes out of above 250 ethnic groups in Nigeria. The after effects of the Biafran war (Nigerian ethnic war in the late 1960s which resulted in the mass explorations of Igbo wealth and property) severely damaged almost all the

infrastructure in the Eastern part of the country and rendered this ethnic group poorest, hence, life in this part of Nigeria was marked with poor infrastructure, lack of jobs coupled with the loss of life-time savings of the Igbo and discrimination by other ethnic groups (Falola and Afolabi, 2008). The Igbo were seen as the “disobedient child” due to the Biafran war. The Igbo entrepreneurs therefore, were left with no choice than to migrate to other places within and outside Nigeria hence, Falola and Afolabi (2008) note that there is hardly any part of the countries of the world where the Igbo cannot be found engaging in commercial activities. Olanrewaju (1999) praises the courage with which the Igbo carry on with their lives despite these bad experiences. Despite the fact that production of crude oil in Nigeria (the commodity that till today serves as the backbone of Nigeria economy) began in 1951 at Ihuo, near Owerri and Akata in 1953 in Imo State, a location in the South-Eastern part of Nigeria before the exploration of popular Oloibiri in Rivers State of Nigeria in August 3, 1956. Yang (2011) in London Economic Magazine describes South-East of Nigeria thus “It is a hub for traders from the Gulf of Guinea, a region blighted by corruption, piracy, poverty and disease but also home to millions of highly motivated entrepreneurs and increasingly prosperous consumers”.

2. STATEMENT OF PROBLEM

Many entrepreneurs devote much time to customers’ acquisition; only to lose them to competitors at a very short period of time because they have no experience of igba-odibo which serves as a training ground for entrepreneurs through exposure on how to networking and build customers relationship which are ways of attracting customers, gaining their trust and hence encouraging loyalty. Most entrepreneurs find customer networking and relationship marketing very difficult but they Igbo entrepreneurs are very good at that because the igba-odibo proves them the opportunity while on training to interact with their customers.

There is high rate of unemployment in Nigeria. The educational system in the country has been blamed as the cause of youth unemployment (Obi, 2015), due to its little or no emphasis on production of skilled manpower and entrepreneurship. For many of today’s students, skills and knowledge are being taught in an abstract manner, which makes it difficult for them to apply them in concrete, real-world situations (Collins, Brown, and Newman, 1989). “Imu-Ahia|Imu-oru|oru-aka” as a form of vocational skills is source of livelihood, means of being employed and a way to actively engage in economically worthwhile ventures. Therefore, while people go to school to acquire the theoretical aspect of saleable skills, through “Imu-Ahia|Imu-oru|oru-aka” these entrepreneurs acquire the practical aspect of saleable skills/jobs which boast their business expansions, increase sales volume and market shares that enable them to succeed in their businesses since luck is where preparation and opportunity meet.

Rising capital for business is arguably the most pressing policy objective around the developing world, and supporting the self-employed is critical in an environment where banks and venture capitalist are not favourable to a beginner who has almost nothing to deposit as collateral. Despite the effort of Government to ensure that its citizenry are engaged, many have remained unemployed due to the single reason of lack of capital to embark on the businesses of their choice. The Igbo entrepreneurs hardly wait for Government funds to be entrepreneur, Igba-oso-ahia has remained a source of livelihood and means of being employed

that aids incubate entrepreneurs to stand on their own, raise capital for business and actively engage in economically worthwhile ventures.

3. OBJECTIVES OF THE STUDY

The general objective of this study is to examine the relationship between Business Strategy and Business Success among indigenous Igbo Entrepreneurs using House Hold Equipment Line, Main Market Onitsha, Nigeria as the scope. The specific objectives of the study include to:

- 1) Ascertain whether “Igba-odibo” has contributed to customer relationship and business networking of indigenous Igbo Entrepreneurs.
- 2) To ascertain the extent to which “Imu-Ahia|Imu-oru|oru-aka” practice contribute to the level of employment generation among indigenous Igbo Entrepreneurs.
- 3) Examine the relationship between “Igba-oso-Ahia” and capital/fund acquiring for business among indigenous Igbo Entrepreneurs.

4. RESEARCH QUESTIONS

- 4) Is there any relationship between “Igba-odibo” and customer relationship and business networking of indigenous Igbo Entrepreneurs?
- 5) Does an “Imu-Ahia|Imu-oru|oru-aka” practice contribute to the level of employment generation among indigenous Igbo Entrepreneurs?
- 6) Does “Igba-oso-Ahia” contribute to increase capital/fund acquiring for business among indigenous Igbo Entrepreneurs?

Hypotheses

H₀₁: there is no relationship between “Igba odibo” and customer relationship and business networking among indigenous Igbo Entrepreneurs.

H₀₂: “Imu-Ahia|Imu-oru|oru-aka” practices do not contribute to the level of employment generation among indigenous Igbo Entrepreneurs.

H₀₃: “Igba-Oso-Ahia” does not contribute to increase capital/fund acquiring for business among indigenous Igbo Entrepreneurs.

5. LIMITATION OF THE PROBLEM

The greatest limitation encountered in this research work is non-availability of information as there is only few research works available in this area. There is also

availability of non-documentation of information on this aspect of Igbo culture since culture is acquired through interactions. These entrepreneurs believe that “time is money” therefore, it becomes very difficult to get their attention for information. Apart from the above mentioned limitations, this is a thorough research where the researcher had taken care of other factors like finance that would have constitute limitations knowing fully well of the nature of research embarked on.

6. SIGNIFICANCE OF THE STUDY

This research work titled; Business Strategy and Success of Indigenous Igbo Entrepreneurs in SMES: Study of House Hold Equipment Line, Main Market Onitsha, Nigeria, is meant to be significant in to the following: This study is particularly significant because, to the best of the knowledge of the researcher, it is perhaps the first study on indigenous Igbo entrepreneurs that focused exclusively on different Igbo business strategies.

Entrepreneurs: This research would serve as a useful one to encourage both the existing and potential entrepreneurs and if the indigenous Igbo entrepreneurs take the results seriously, as it would expose some of their lapses and also provide some solutions that can alleviate problems, and help them to sustain business growth and success.

Academia: The study also has contributed immensely to existing body of knowledge and literature in management sciences with focus on the area of entrepreneurship study. This study has ultimately enhanced further academic and non-academic research in the field of entrepreneurship. It could as well be used as a secondary research sources for further studies on indigenous Igbo entrepreneurship and apprenticeship since there is very little research on this area. **Government/policy makers:** Furthermore, the result of this study has brought to the fore the need for government and its relevant agencies to policies to encourage the indigenous entrepreneurs to advance their businesses in other to benefit the country.

7. REVIEW OF THE RELATED LITERATURE

Conceptual Framework

Indigenous entrepreneurship refers to the creation, management and development of new ventures by indigenous people for the benefit of indigenous people (Hindle and Lansdowne, 2007). Dana (2005), in comparison, defines indigenous entrepreneurship as self-employment based on indigenous knowledge. Timmons (2000) opined that entrepreneurship can be seen as the process of creating and seizing opportunities and pursuing them, regardless of the resources the individual possesses. Entrepreneur is defined as “One who undertakes a commercial enterprise and who is an organisational creator and innovator” (Mordi, Simpson, Singh & Okafor 2010). The definitions of the concept SMEs is relative and dynamic depending on time, country’s level of development and labour-capital intensity, industry and the institution giving the meaning for purpose. SMEs therefore could be defined in terms of: employment, number of employees, size, industry, country, asset value etc. However, in order to remove ambiguity the National Council of Industry (NCI) in 1996 streamlined the

definition, for review every four years, basing it on capital investment and employment. The NCI 2001 has SME defined as having total asset including working capital but excluding land and number of employees to be for small scale business between 2 million naira to 10 million naira and 10 to 30 employees, for medium scale business about 10 million naira to 40 million naira and 30 to 100 employees. By this, SMEs are only captured with in asset of 2 million naira to 40 million naira and employee of 10 to 100. The definition of Entrepreneurship, which is a major factor in SMEs, as a creation of value in exchange for money provides room for appreciation of value creation by SMEs.

Indigenous Igbo entrepreneurs through SMEs play major roles in Nigeria economic development, pioneering innovation, new methods and ideals. The role of entrepreneurship increase per capita output and income of the country. Through the process of Igba-odibo, Imu-ahia/imu-oru and Igba-oso-ahia, many have been able to be self-independent and even employed good percentage of the idle Nigeria populace, hence, entrepreneurship has assumed a more significant role in the economic development of Nigeria and researchers discovered that thousands of factors are responsible for the Igbo business success, out of which the Igbo trade apprenticeship system and high risk-taking spirit were isolated as the most paramount business success factors of the Igbo entrepreneurs (Orugun and Nafiu, 2014). In this research work, business is viewed as the activities involving buying and selling of goods or services. Business strategies are those competitive actions and activities employed by entrepreneurs in order to compete favourably and achieve business success.

Definition of Indigenous Igbo Strategy using Mintzberg (1978) Model

Mintzberg (1978) explained strategy as five "Ps" namely; strategy as a plan, ploy, a pattern, a position, and a perspective.

- 1) **Strategy as a plan:** This means that strategy is a continuous intended course of action. An entrepreneur intending to venture into business, studies the best method which will suit his motive. Business decisions are tough ones that required planning based on the resources at hand. The Igbo entrepreneurs thoroughly study the business environment of their choice businesses before venturing into it.
- 2) **Strategy as a ploy:** Meaning that strategy is a specific maneuver intended to adopt to maneuver competitors. This is why it seems as Igbo entrepreneurs are secretive in their businesses. An entrepreneurs needs to plot, scheme and organize ideas in order to advantages of an opportunity in their business since there is high competition in the business environment. The ability to take advantage of opportunity places an entrepreneur above others.
- 3) **As a pattern:** This means that strategy is also consistent in behaviour whether intended or not. Igbo entrepreneurs do not practice business; business is part and parcel of their life and part of culture inculcate in their upbringing, it is inherent part of their life. Indigenous Igbo entrepreneurs are communal, and almost possess similar characteristics and motivation in terms of business. Business is an embedded subset of the Igbo

culture, they understand very well the language of “Money and Business” and they are consistent with any business they engaged in which is part of their behaviour.

- 4) **As a Position:** Meaning that strategy is a means of locating indigenous Igbo in the Nigeria business environment. Business has remains a career associated with Igbo entrepreneurs both in Nigeria and Diasporas
- 5) **As a perspective:** This means that strategy is usually in line with indigenous Igbo culture or in line with the way they see things. Indigenous Igbo entrepreneurs see themselves as a collective group who work together on the basis of their common ancestry, history, language and, at times, religion. They have strong overlaps with ethnic, social and domestic entrepreneurship.

Some of these strategies implore by Igbo entrepreneurs include:

Igba-Odibo (servant) a common term for servant. Once a ward is under the care of his master/mistress, he becomes a servant “odibo”. The Igba-odibo in this context refers to the act of learning buying and selling. It is a process whereby a family gives out their children to live and serve the wealthy ones in the society. The master and/or mistress care and cater for the servant/maid’s wellbeing for an agreed period of time while in turn, the servant/maid assists his/her master and/or mistress in business and other domestic works while living with them. The Igbo believe that the same measure you measure, shall be measured unto you “onye fee eze, eze e-ruo ya aka”. Give honour to the deserving and you shall also be honoured. There is a clear difference between an entrepreneur who passes through the period of “Igba-odibo” and one that does not. The “Odibo” is expected to serve his master without reservation. Women also engage in the apprenticeship as unpaid house maids in most cases, but must be allowed to engage in apprenticeship in whatever vocation they desire (imu-oru). Afterwards, the master/mistress settles them in the business of their choice. Mukhtar (2012) note that this is against practice found the Northern part of Nigeria which have a system where one serves his “master” for as long as he lives without any plan put in place to make the “servant” independent

The other type of apprenticeship called “imu-oru” or “imu-olu” commonly called in Igbo (ndi-oru-aka) vocational or skilled business, this type of apprenticeship training existed during the pre-colonial era, clans and families jealously guarded their lineal skills through customs, family lineage and rituals. Skills were passed on within the family by training young people on family trades, crafts and skills. Male children born into a certain family or clan learnt their ancestral crafts and young children were usually recognized as members of a particular family or clan through the crafts they engaged in (Agbola, 2012). The youths were trained on the art of mask-making, mining, farming, metal works (blacksmith), boat-making, hunting, carving, sculpting, mat-making and dyeing, etc. Today, apprenticeship practice has gone beyond these to other different enterprises that engage in apprenticeship practices, which include; welding, mechanics, auto-mechanics, auto-electricians, tailoring, generator repairing, mobile phone repairing, carpentry, furniture making, catering, manicure/pedicure, and plumbing. In Nigeria, while people go to schools to acquire the theoretical aspects of these jobs, these apprenticed learn the practical aspects of these jobs, hence, researchers blame youth unemployment on the kind of educational system in the country, which has little

or no emphasis on production of skilled manpower and entrepreneurship development hence, suggests that Government should encourage the young people to take entrepreneurial development courses in from primary to tertiary institutions, since it's the only education which gives its graduates the saleable skills to be self-reliant and be employer of labour (Obi, 2015).

Both the master and the servant have their own share of benefits from "Igba-odibo". The servant is supposed to ever be grateful to his/her master and/or mistress for showing him/her the way. The master is forever seen as the God-father of the servant. This earns a lot of respect and prestige to the master. Most servants always turn out to be helpers to their masters/mistresses later in life. The servant, who might have come from a very poor family, could mobilize resources for his/her business without begging or disposing any of his/her biological father's property. The servant can always call on the master/mistress in case of any problem. At times, this relationship can result in marriage between the servant/maid and any of his/her mistress/master's immediate family. Most of the time, the "settlement" of a servant managing an outlet depends on the profit he realizes within a period, so that the master does not incur lose. The master may choose to use the servant to expand his business; achieve market penetration and development, both concentric and conglomerate diversification; or change to another business.

The system of "Igba-odibo" also has its disadvantages, as most servants/maids may not be as faithful as expected. Since some may involve themselves in stealing from their master/mistress instead of being patient. This might be as a result of peer influence, fear of not being given enough resources during settlement; fear of the unknown; bad advice from their family members; or friends; or greed. Some masters too, are greedy; they find it difficult to settle their servants/maids. Some do use their servants/maids for ritual or initiate them into cultic activities, maltreat or abuse them.

Imu-Ahia (Apprenticeship): This implies learning a business or the art of marketing. This is known as the traditional Igbo business-learning school (Olaewaju, 1999). It is a period or process when an apprentice learns the techniques of a particular business; terminologies used in the business and get acquainted with tools used in the business as well as the strategies of the business. Apprentices are normally between the ages of 7 and 12, and the practice last for 5 to 10 years. The apprentice is expected to be faithful to his/her master/mistress. During this period the master/mistress exposes the strategies of the business to him/her. If the apprentice is intelligent enough to master the business, the master/mistress may start-up another business outlet for the servant to manage. Especially, skilled businesses can be learnt through this method. Many wealthy families use this method to change or diversify their businesses, if their former business is not as profitable as they expect. Most wealthy families send their children apprenticeship training before giving them money to start their own business. This helps them to master all the strategies and techniques of the particular business. Some business experts collect money before training apprentices.

Idu-Odibo (official settlement of a servant): When a servant/maid has served his master and/or mistress faithfully, the master/mistress is expected to reward him. Both families see it as a great day because both the master/mistress and the servant/maid are seen as having been responsible. The master/mistress is expected to give part of his wealth to the servant/maid who had served him/her all these years. The servant/maid is expected to start

his/her own business from the resources the master/mistress used to settle him/her. Usually, people wine and dine at the freedom party which serves as a graduation and commencement ceremony for the ward is organized. Once the servant/maid is settled, he/she is free from his master.

Apprenticeship “Imu-ahia” is different from servant “igba-odibo” since, one can be an apprentice without living with his/her master. But an “odibo” must live with the master/mistress while learning a business from his master/mistress. Moreover, “Imu-ahia” does not require the master to settle the apprentice unless otherwise agreed from the beginning. Nevertheless, the terms and conditions of “Igba-odibo” are usually stringent with the number of expected years of service stipulated from the beginning, and the master is obligated to settle the servant.

Igba-Oso-Ahia: this Igbo terminology denotes a situation where an entrepreneur who has limited financial resources sells other people’s goods at a higher cost for some little gain. This method has produced capital for a lot of entrepreneurs who could not raise money for their businesses. These growing entrepreneurs are mostly seen in major markets hanging from one place to another looking for customers. Some of them follow customers around asking them what they wanted. They do not have their own shops. They claim to sell any type of goods with the assertion “enwere m ya” meaning “I have it”. They take customers to other people’s shops where those particular goods are sold, claim to own the shops and inflate the price of the goods for the customers. The real shop owners who understand them very well also pretend before the customer just to have the goods sold. The owner gets his/her money once the customer is out of the shop from those “oso-ahia” boys. If there is any need to return the goods to the shop, then the trick will be exposed.

Igba-oso-ahia is not the same thing as middle man or wholesaler in the distribution channel. Distribution channels are mediums developed by companies to get their goods to the final consumers. “Igba-oso-ahia” on the other hand is a trick used by young traders to raise money for business. Most Igbo boys at/in diaspora use this strategy to raise money.

Business Success of Indigenous Igbo Small and Medium Entrepreneurs

The Igbo entrepreneurs are known to be very successful in their lines of businesses because of their effectiveness in business operations. Among the Igbo, wealth is determined through a number of factors like developmental projects embarked upon in one’s community. So, the saying, “Aku ruo ulo, o kwuo ebe o si” (developmental projects declare one wealthy) and how many Odibo one trains in his community because Igbo is aggressively communal rather than individualistic. Wealth, therefore, is only a means to the acquisition of social prestige among the Igbo people. That is why business success is not a hidden among Igbo. Igbo entrepreneurs believe that success in their businesses is not a choice but a must. Circumstances like poor background and illiteracy are not limiting factors but a reason and strengthening forces for success. Successfulness connotes Effectiveness. Ogundele, (2007) notes that “effective entrepreneurs are successful entrepreneurs”. Business success is defined as the ability to choose appropriate objective for achieving a given business objective. Drucker, (1967) defines effectiveness as doing the right thing, hence equating it to Efficiency. Feather (1988) only refers to successful business owner as those who have entrepreneurial

characteristics. High effective firms are known for generation of a variety of company and society benefits like attracting resources, wealth creation and employment creation. Being effective in daily activities, goals and objectives translate to the entrepreneurial overall effectiveness and hence, success at the long run. Although, Burnett, (2000) notes that it is difficult to empirically measure the rate of entrepreneurial business successfulness because developing the tools to measure it has been problematic, nevertheless, Karvin, (2013) outline the variables to measure entrepreneurs business successfulness as: profitability, reputation, growth in number of employees, growth in number of customers, different target audiences. Business successfulness has no universal acceptable definition, but is being expressed on what a particular author believes are most related objectives and goals to be achieved in a particular business therefore, "Business successfulness of the Igbo entrepreneurs" is measured here by: relationship marketing and business networking, employment creation ability and capital/fund generation for businesses

8. THEORETICAL FRAMEWORK

The theoretical framework would be built around Psychological Contract and Cognitive Apprenticeship Theory.

Psychological contract Theory: Argyris (1960) viewed the psychological contract as an implicit understanding between a group of employees and their foreman, and argued that the relationship could develop in such a way that employees would exchange higher productivity and lower grievances in return for acceptable wages and job security. Argyris (1960) believed that employees would perform at a higher level if the organization did not interfere too much with the employee group's norms and in return employees would respect the right of the organization to evolve. Rousseau's (1989) defined the psychological contract as an individual's beliefs concerning the mutual obligations that exist between him/herself and the employer. These obligations arise out of the belief that a promise has been made either explicitly or implicitly and the fulfillment of promissory obligations by one party is contingent upon the fulfillment of obligations by the other.

Critics of the Psychological Contract Theory: Although the seminal works of Argyris (1960) used a qualitative approach (interviews) to collecting and analyzing data, the emphasis on qualitative research has been downplayed in contemporary studies of psychological contract in favor of quantitative cross sectional. The study indicates the positive role of implicit means of conveying expectations in the process of psychological contracting. Furthermore, Argyris (1960) presented the narrowest view of the psychological contract in terms of its focus on tangible resources.

Cognitive Apprenticeship Theory: A cognitive apprenticeship is much like a trade apprenticeship, with learning that occurs as experts and novices interact socially while focused on completing a task; the focus, as implied in the name, is on developing cognitive skills through participating in authentic learning experiences. Cognitive apprenticeship is a theory of the process where a master of a skill teaches that skill to an apprentice (Collins, Brown, and Newman, 1989). Essentially the apprentices are learning about both the overall

process of the larger task and profession and criteria for evaluating performance through the completion of small tasks. As they gain experience, they are offered larger, more central tasks to complete. Their understanding of how these tasks affect the end product in a holistic manner supports their performance, as does their knowledge of the criteria that will be used to assess the end product.

Critics of the Cognitive Apprenticeship Theory: the cognitive apprenticeship theory has its gap in the fact that some masters may not be the central point of learning, and the apprentice may subscribe to environmental imports.

9. METHODOLOGY

The preoccupation of this research work is to carry out a thorough investigation on relationship between business strategies and success among indigenous Igbo entrepreneurs in Nigeria. Correlation test is an inferential statistics that describes the magnitude and direction of relationship between the dependent and independent variables. It further measures the extent to which an independent variable predicts a dependent variable. In testing this hypothesis, success is considered the dependent variable while the aggregate measures of business strategies the independent variables. The sample of the study covers house hold equipment line Main Market Onitsha. The total number of the population an estimation of over five hundred traders since the actual number of the people is not certain but the number of shops capacity in the market was used to assume the number of business entrepreneurs in the market.

The researcher relied mostly on interview and questionnaires which were administered personally to complement the secondary data gotten via internet, history and records since there is not yet enough research in this area. The researcher's sound knowledge of the subject matter contributed immensely to the success of this work.

Main market is heavy populated and covers a wide geographical area hence; it is rated as one of the largest markets in West Africa. The market consist of many divisions known as "line", some lines bear names of some important or prominent personalities, some are known by the street where they are situated while others are known by the specific articles being sold there. Samples were randomly selected from different lines that represent the population upon which the study was based. The actual numbers of traders in the market are not certain but based on the shops aside from the ones on the streets that also make up the market; an estimation was made of house hold equipment line Main Market, Onitsha and three hundred (300) questionnaires were administered to the director of the business or the Masters/Mistresses, who are the business owners during the study, one hundred and eighty (180) were returned, seventy three (73) were invalid so the researcher was left with one hundred and seven (107) valid questionnaires to work with. Getting questionnaires filled by these traders was obviously a tedious work as many of them complained of time factor and some are not educated.

10. DATA PRESENTATION AND ANALYSIS

This chapter contains the result of statistical analysis conducted on the responses from the questionnaires.

The Data is presented on frequency tables and percentage. This analysis is used for the purpose of clarity and simplification. The data presented below is based on the returned questionnaires.

Table 1

Sex	Frequencies	Percentages
Male	75	70.0
Female	32	30.0
Total	107	100%

Source: research survey, 2015.

The above analysis shows that 70% of the respondents were male while 30% were female. That is, the distribution is concentrated on the male respondent than female. The Igbo culture places the role of family bread winning on young men, hence the traditional name “okpata-aku” meaning (wealth-producer) while women safe-guardes the wealth “odozi-aku or “ori-aku”.

Table 2

Age {years)	Frequencies	Percentages
Less than 30	22	20.6
31-45	48	44.9
45-59	27	25.2
60 and above	10	9.3
Total	107	100.0%

Source: Research Survey, 2015.

The table illustrates the age group and age segments of all the people interviewed. This table is very significant as it shows that this entrepreneurs start business at tender age. If approximately 21% of <30 years are already having their own business, could it be that they are either school dropout or succeeding their family business? This also confirms the name “ono na wata buru ogaranya” (a wealth young man). The market is saturate with young men of below 60 years. The bearing of this should be traced to family succession. The adults are warming up for retirement.

Table 3

Education Qualification	Frequencies	Percentages
No school certificate	21	19.6
First school leaving certificate	11	10.2
Secondary school/ Primary school drop out	34	31.7
WAEC/NECO/GCE	19	17.7
OND/NCE	8	7.4
BSC/HND	7	6.5
Others	3	2.8
Certificate In view	4	3.7
Total	107	100.0

Source: research survey, 2015

A look at the table shows that the Igbo are more into business than education. The school dropouts are leading this group with approximately 32% with illiterates approximately 20%. This founding supports the founding of Akeredolu-Ale (1975) and Akpor-Robaro, (2012) that more entrepreneurs had lower levels of formal education than the civil servants, although, Olarewaju (1999) notes that “most entrepreneurs normally possess primary education, apprenticeship or trading experiences before they undertake their industrial venture”. The questionnaires reveal that greater percentage among this group that obtained higher certificates are women. Those striving to improve themselves were just 4% approximately because of time factor.

Table 4

Family background of the respondents	Frequency	Percentage
Rich family	30	28.0
Poor family	50	46.7
Average family	27	25.3
Total	107	100%

Source: research survey, 2015

The essence of this table is to find out the type of the entry mode of different classes in business. It is still surprising that the rich also send their children to learn business through Igba-odibo and Imu-ahia mainly. This gives us another insight that Igba-odibo is not just for the poor Akpor-Robaro, (2012) claimed that the dominant literatures were of opinion that individuals who emerge as entrepreneurs are frequently individuals of a poor background, but has become a strategy of entering mode into business.

Section B

Table 5

Which one do you passed through?	Frequencies	Percentages
Igba-Odibo	58	54.2
Igba-Oso-Ahia	12	11.2
Imu-Ahia	29	27.1
None at All	8	7.4
Total	107	100%

Source: research survey, 2015

Obviously the greater percentages of respondents learn business through Igbo-odibo followed by Imu-ahia. Igba-oso-ahia is not so common. The table stresses the important of Igba-odibo as a practice that should be uphold and encouraged irrespective of the class.

Table 6:

How many years were you when you started learning business?	Frequencies	Percentages
< 7	8	7.4
8 – 10	46	42.9
11 - 13	32	29.9
14 -16	13	12.1
Above 16	8	7.4
Total	107	100

Source: research survey, 2015

This table is linked to the education qualification of the entrepreneurs. It shows greater percentages either drop out of school for business or simply could not precede to higher level of education, so the age brackets of 8 – 10 and 11 – 13 are leading this table with 43% and 30% respectively.

Table 7:

How many years do you served your master/mistress?	Frequencies	Percentages
Less than 4	30	30.3
4 – 7	50	50.5
8 years and above	19	19.2
Total	99	100%

Source: research survey, 2015

The total number is 99 because 8 people claimed that they did not pass through these strategies at all. It can establish here that people served their master between the 4 -7 years before they are settled to start their own business. The researcher found out that this is determined by the actual age, family back ground and education qualification of the child. The older the child: the lesser the years of service. Those people that served or learn businesses in less than 3 years are mainly from the rich family or higher school certificate holders.

Table 8

Did the training help you in your own business?	Frequencies	Percentages
No	85	85.9
Yes	14	14.1
Total	99	100%

Source: research survey, 2015

The importance of learning business cannot be over emphasizes as the proof is shown on the above table as 86% approximately agreed to that. The reason for the 14% percent that claimed it did not profit could among others factors also be the same reasons as in table 9 above.

Table 9

Are you still in same line of business you were trained?	Frequencies	Percentages
No	31	31.3
Yes	68	68.7
Total	99	100

Source: research survey, 2015

A total of 99 of are used to represent only those that passed through training in a particular business line. The greater percentage pf 69 is still in that line of business while 31% changed to another line of business. The reason for this is not far-fetched as so many factors can contribute to this like government policies e.g. band on importation of some goods like vehicles' tyre, second hand clothing (okirika), market saturation, diversification, relocation, opportunity alertness, huge capital to pursue a better line of business, lack of capital to continue, etc.

Table 10

Do you have Odibo?	Frequencies	Percentages
No	74	69.2
Yes	33	30.8
Total	107	100%

Source: research survey, 2015

Greater percentage see the need of training others in their line of business probably as they were trained but the researcher find out from the questionnaires that greater percentage that were not trained also have learner while some that were trained did not engage themselves to odibo instead interviewed reveals that they prefer sales girls and boys, instead of Odibo. The reasons for this are yet to be unfolded, but many complained of the insincere attitudes of servants who leave with their masters.

Table 11

Relationship with the master/mistress	Frequencies	Percentages
The same family	43	40.2
The same town	40	37.4
Outside my town	24	22.4
Total	107	100%

Source: research survey, 2015

This table is very significant as it reveals the core essence and effect of indoctrination into business among Igbo. It supports the communal culture of Igbo and the reason why a particular town dominates a particular line of business among Igbo. As we can see from the table, those from the same family and within the same community (town) dominate the table with 40% and 37% respectively.

Table 12

Where you settled by your master /mistress?	Frequencies	Percentages
Yes	79	79.8
No	20	20.2
Total	99	100

Source: research survey, 2015

79% were settled while 20% were not settled. The researcher did not actually proceed to find the reasons for this but it is obvious that conflict of different sort, bankruptcy, impatience or even sudden death could contribute to this.

Table 13

What kind(s) of settlement were you given?	Frequencies	Percentages
Cash only	31	39.2
Goods only	14	17.7
Combination	34	43.0
Total	79	100%

Source: research survey, 2015

Out of 99 respondents that claimed to have used one of these entry business modes, 20 respondents were not settled by their master /mistress. Hence, to proceed in this table, we have $99 - 20 = 79$.

From the table, we can deduce that the normal settlement comprises of combination of shop and cash for the beginners. Some actually subsidizes or monetized the shop, hence settling the servant with huge amount of money. Settling a servant with goods only as we can see from the table is not a good method.

H₀₁: Correlation between “Igba odibo” and Customers relationship and business Networking

Correlation	“Igba odibo”	Customers Relationship and Networking
“Igba odibo” Pearson Correlation	1	.975" .000
Sig. (2-tailed)	107	107
Customers Relationship and Networking	.975" .000	1
Sig. (2-tailed)	107	107

Source: research survey, 2015 *** Correlation is significant at the 0.01 level (2-tailed).

From the above Pearson correlation table Igba-Odibo and customers relationship and business networking: The correlation coefficient represented by (r^{**}) ranges between -1 to +1 and the closer the r value to +1, the stronger the relationship between the variables of study. As evidenced from the above table, the results indicates that a significant positive relationship exist between Igba-Odibo and customers relationship and business networking ($r = 0.975$, $p < 0.01$). Hence, the null hypothesis is hereby rejected while the alternative hypothesis that “Igba-odibo” has a positive relationship on customer relationship and business networking is hereby accepted. By this result, it therefore means that Igba-odibo has a strong or significant positive relationship on business and customers networking. By interpretation, this result is an indication that “Igba-odibo” helps an entrepreneur to start his own business

not as a learner. He must have been familiar with the customers of the business, have their phone contacts and addresses. The indoctrination through Igba-odibo allows them to be well-grounded in the business even before commencing their own business. They have mastered their business such that they are familiar with every aspect of the business, they can repair, amend, and reshape their goods. They know the in-depth intricacies of the various businesses they are involved in and this helps them in networking.

The Igbo entrepreneurs are very good in customer relationship. It helps the entrepreneur to know where to buy goods at a cheaper rate and how to sell. The Igba-odibo exposes one to have thoroughly understood their line of business at the palm of their hands.

H₀₂: “Imu-Ahia|Imu-oru|oru-aka” practices do not contribute to the level of employment generation among indigenous Igbo Entrepreneurs.

Correlations	Imu-Ahia Imu-oru oru-aka	contribution to the level of employment generation
Imu-Ahia Imu-oru oru-aka Pearson Correlation Sig. (2-tailed)	1	.960(**) .000
N	107	107
Contribution to the level of employment generation Pearson Correlation Sig. (2-tailed)	.960(**) .000	1
N	107	107

** Correlation is significant at the 0.01 level (2-tailed).

Table above is the Pearson correlation matrix of the impact “Imu-Ahia|Imu-oru|oru-aka” have on the level of employment creation among ingenious Igbo. The result of the multiple correlation matrix show that “Imu-Ahia|Imu-oru|oru-aka” has a positive relationship on the level of employment creation among ingenious Igbo. ($r=.96$). The computed correlations coefficient of the relationship between “Imu-Ahia|Imu-oru|oru-aka” and the level of employment creation ($r=.96$) is greater than the table value of $r=.195$ with 105 degrees of freedom ($df=n-2$) at alpha level for a two-tailed test ($r=.96$, $p<.05$). The decision rule is to accept the null hypothesis if the computer r is less than the table r otherwise reject the null hypothesis.

Since the computed $r=.96$ is greater than the table value of $.195$, reject the null hypothesis. Therefore, we conclude that “Imu-Ahia|Imu-oru|oru-aka” have a positive impact on business employment creation ($r=.96$, $p<.05$).

H₀₃: “Igba-Oso-Ahia” does not contribute to increase capital/fund acquiring for business among indigenous Igbo Entrepreneurs

Variable	Mean	Sd	Df	r-cal	P-value
“Igba-Oso-Ahia	12.62	1.95	98	0.254	.011
increase capital/fund acquiring for business	1635.	1.98			

Source: research survey, 2015 $P < 0.05$, r cal 0.0254, p -value 0.011, thus it is significant

Interpretation

Since the r calculated of 0.254 is greater than the p -value of 0.011 at degree of freedom of 98 at significant level of 0.05, therefore the null hypothesis is rejected and thus concluded that there is a relationship between “Igba-Oso-Ahia and contribute to increase capital/fund acquiring for business among indigenous Igbo Entrepreneurs. This no doubt increase sales volume and market shares. Many of them started with no capital and shop of their own, embarking on Igba-oso-ahia, but within a short period of time, they get a bigger shop filled with goods. It can only take a man who is effective, determined and persistence to get to that level from the scratch.

10. CONCLUSION AND RECOMMENDATIONS

The basic aim of this study was to investigate the relationship between business strategy among Igbo entrepreneurs and business success in Nigeria. This paper tries to relate the business strategies of indigenous Igbo entrepreneurs and their success. The research is descriptive and survey in nature and employs mainly primary data and few secondary data with unstructured interviews with some entrepreneurs and elders of the Igbo community.

These simple Igbo business strategies are not hidden and they are the major essence of indigenous Igbo entrepreneurs’ success in business. The Igbo culture is also a bed rock for achieving these business strategies as Igbo upholds and cherishes their tradition known as “omenani” or “odinani”. The spirit of kinship and brotherhood also has made it possible for these business strategies to be handed over form one generation to another apart from being open to every family irrespective of the class through the process of “Igba Odibo”, “Imu Ahia”, “Idu Odibo” and “Igba Oso Ahia”. Other tribes are therefore advice to perhaps emulate this aspect of Igbo culture in order to tackle unemployment which is one of the greater challenges facing our country today.

The Igbo should encourage their children to complete their higher education before embarking on any of this strategy. As a matter of fact the biological aspect of this research is not discussed in full in other not to deviate from the main issue, but it is also worthy discussing as the founding on age and education background of these entrepreneurs collected is an indicator that children left their family and education at tender age because of “Igba Odibo”, the questionnaire revealed that between the age of 30-45, this entrepreneurs are

already controlling a well flourished business without completing their studies, it also indicate that quiet a good number of them are primary and secondary school dropout.

The issue of family successor is another area that should be encourage among the Igbo entrepreneurs. So many families interviewed has good number of "Odibo" without any of their children involved in the business. The reason being that while their children are in school, other the "Odibo" should not be allowed to attend school but little did they know that they are training the 'Odibo' for tomorrow. Presently, the federal government through its agencies like TETFUND has seriously encouraging entrepreneurs in different levels of education in other to get people to embraces self-employment. The Igbo should not overlook what they have. Some of these children end up moving from one street to another in search of white collar jobs, the 'Odibo' having being settled is already employing other people in his business. In such a case, when the founder of the family business is no more, the business dies with the person.

Lack of experience management team; only very few Igbo entrepreneurs employs outsider as manager in their business, they are their own manager, cashier, sales person and virtually every work. Perhaps they do not know the important of management in their business.

Government should encourage and strongly support these entrepreneurs by providing loans and adequate infrastructure that aids business. If our government for instance will sponsor some of this Aba made products, the need for importing these products will be defeated because these Aba made products would compete with some of the imported products when their prices are affordable to common Nigerians and we can embark on exporting them too in large quantity to other countries, there by earning exchange currency and increasing the GDP of the country.

Entrepreneurship Education should be enriched in school curricula from post primary to tertiary institutions.

Vocational Training Centres should be created within the rural villages and semi-urban areas to be able to train rural villagers on entrepreneurship development. This will enable the youths and women who are not able to secure means of livelihood, to have one; and this training must be at low cost and be delivered using the life skills-based method and easiest communication means. The various tiers of government should be able to fund such training.

Entrepreneurship Education should be included in Education policy of many countries in Africa, to serve as a link between Technology/Technical and the industries and those who want to establish on their own.

REFERENCES

- Agbola, T. (2012) Apprenticeship and Manpower Training Strategy in Nigeria Building Industry. *Quarterly Journal of the Local Self Government Institute*, Vol. 2, No. 5 pp. 278- 287.

- Akeredolu-Ale, E.O. (1975) *The underdevelopment of indigenous entrepreneurship in Nigeria*, Ibadan: Ibadam University- Press
- Akpor-Robaro, M. O. M. (2012) The Impact of Socio-Cultural Environment on Entrepreneurial Emergence: A Theoretical Analysis of Nigerian *Society European Journal of Business and Management* www.iiste.org ISSN 2222-1905 (Paper) ISSN 2222-2839 (Online) Vol 4, No.16
- Argyris, C. (1960) "Understanding Organizational Behavior Homewood", IU.: Dorsey Press,
- Ariyo, D. (2001), The Future Lost: The Economic and Social Consequences of Child Abuse in Africa. *Journal of Stability and Development*, Vol. 7, No. 3
- Burnett D (2000). Hunting for Heffalumps. The Supply of Entrepreneurship and Economic Development (<http://www.technopreneurial.com/articles/heffalump.asp>).
- Collins, A., J. S., Brown, and, S. E. Newman (1987). Cognitive apprenticeship: Teaching the craft of reading, writing and mathematics (Technical Report No. 403). BBN Laboratories, Cambridge, MA. Centre for the Study of Reading, University of Illinois. January, 1987.
- Dana (1995). "Towards a multidisciplinary definition of Indigenous Entrepreneurship". In Dana, L.P. and Anderson, R.B. (Eds.). *International Handbook of Research on Indigenous Entrepreneurship*. Great Britain. MPG Books Ltd, Bodmin, Cornwall
- Drucker, P. F (1967) "The Effective Executive", London, Pan Book Ltd
- Falola, T and N. Afolabi (2008). *Trans-Atlantic Migration: The Paradoxes of Exile*.
- Feather, N.T. (1988), "Values to action: Recent application of the expectancy – Value model", *Australian Journal of Psychology*, 377-390
- Hindle, K and M. Lansdowne. (2007). "Brave spirits on new paths: toward a globally relevant paradigm of indigenous entrepreneurship research". In L.P. Dana and R.B. Anderson (Eds.), *International Handbook of Research on Indigenous Entrepreneurship*. Great Britain. MPG Books Ltd, Bodmin, Cornwall.
- Karvin. 'D. F (2013) "Female Entrepreneurship and the new Venture Creation; An International Overview". Routledge Milton Park, Abingdon, Oxon, Uk
Management Sciences, EBSU volume 6, issue number 1, 2014
- Mintzberg, H. (1987b). The Strategy Concept: Five Ps for Strategy. *California Management Review*, 30, 11–24.
- Mordi, C., R. Simpson, S. Singh and C. Okafor (2010).The Role of Cultural Values in Understanding the Challenges faced by Female Entrepreneurs in Nigeria; Gender in Management. *An International Journal*, Vol. 25, No. 1, pp. 5-21
- Mukhtar H (2012) The Effect of Culture on the Development of Entrepreneurs among the Hausa Ethnic Group in Northern Nigeria *Journal of Marketing and Management*, 4 (1), 59-73 59

- Obi, F. (2015) "Quality Entrepreneurial Education: Opportunities for Youth Development, Unemployment and Poverty Reduction in Nigeria". *Journal of Educational Policy and Entrepreneurial Research (Jeper)* Issn: 2408-770x (Print), Issn: 2408-6231 (Online) Vol.2, N0.1, January 2015. Pp 43-50
- Obi. F (2014) "Evaluation of Nigeria Universities through Corporate Personality and Reputation" *Nigeria Journal of Business (NJB); a publication of Faculty*
- Ogundele, O. J. K (2007) "Introduction to Entrepreneurship Development, Corporate Governance and Small Business Management", 2nd Ed Molofin Nominess, Lewis, Lagos
- Olanrewaju A. O (1999) "The Igbo Entrepreneur in the political economy of Nigeria" *African Study Monographs*, 20(3): 147-174
- Orugun, J. J and A, T Nafiu, (2014) "An Exploratory Study of Igbo Entrepreneurial Activity and Business Success in Nigeria as the Panacea for Economic Growth and Development" *International Journal of Scientific & Technology Research Volume 3, Issue 9, September 2014 Issn 2277-8616*
- Rousseau, D. M. (1989). Psychological and implied contracts in organizations. *Employee Responsibilities and Rights Journal* , 2: 121-139
- Schein, E. (1985), "Organizational Culture and Leadership: A Dynamic View", Jossey-Bass, San Francisco, CA.
- Timmons, J.A. (2000). "New Venture Creation: Entrepreneurship for the 21st Century", 5th Ed. Burr Ridge: Irwin
- Yang Yang (2011) African Traders in Guangzhou, China: Routes, Profits, and Reasons
LONDON ECONOMIST MAGAZINE
<http://www.cuhk.edu.hk/ant/PostgraduateForum2011/Econ/YANGYang.pdf>

**STUDENTS SYMPOSIUM ON
STRATEGIC MANAGEMENT**

TARGET I TARGET 2

Milan Miljuš

Ekonomski fakultet, Univerzitet u Kragujevcu, Serbia

Abstract: This chapter provides details of the payment systems in the EU. The landscape of payment systems in the EU was changed drastically by the introduction of the single currency “euro” in January 1999. As for the large-value payment system, the “TARGET” was introduced in 1999, which was a distributed system linking the national RTGS systems with the interlinking network. The “TARGET2” was introduced in 2007-2008 instead of the first-generation TARGET. The TARGET2 is a centralized system with a single platform.

In preparation for introducing the euro, the evolutionary progress of payment systems has been observed in the EU since the mid-1990s. The evolutions include the changeover from the RTGS System to the Hybrid System and also to the Integrated System. These sophisticated systems included the “RTGSplus” in Germany, the “PNS” and the “PIS” in France, and the “new BIREL” in Italy. It can be concluded that these evolutions of payment systems in each country led to the successful development of the TARGET2

Keywords: TARGET, TARGET2, RTGS

UVOD

Cilj rada je prikaz centralnog sistema velikih plaćanja Evropske unije TARGET i TARGET 2, koji je inovirana verzija TARGET sistema. Predmet rada je elektronski način plaćanja i sistema preko kojih se ta plaćanja vrše, a jedan od sistema su TARGET i TARGET 2. U prvom delu rada biće detaljno prikazan TARGET sistem pri čemu će pažnja biti usmerena na strukturu, komponente i način plaćanja kroz sistem TARGET. U drugom delu rada biće objašnjen sistem TARGET 2, koji su njegovi ciljevi, dugoročna strategija, kao i udeo država u TARGET 2 sisemu.

U januaru 1999. godine, Evropska monetarna unija (EMU) je zvanično počela sa korišćenjem evro valute. Paralelno sa tim, stvorena je i evro zona tj. jedinstvena valutna zona. Pre Evropske monetarne unije (EMU), platni sistem u Nemačkoj se obavljao u nemačkim markama, a u Francuskoj u francima. Sada, na nov način, postoji odnos “jedan na jedan” između valute i platnog sistema. Međutim, nacionalne vlute (Marka, Lira, Franak, i druge) su integrisane u evro, i platni sistem svake nacionalne valute je pretvoren u platni sistem evra.

Sistem plaćanja u EU se drastično promenio uvođenjem jedinstvene valute „evro“ u januaru 1999. godine. U nameri da primeni jedinstvenu, monetarnu politiku, unapredi efikasnost plaćanja, EU je uvela novi sistem plaćanja TARGET (Trans European Automated Real – TimeGross Settlement Express Transfer) koji je u realnom vremenu povezao nacionalne centralne banke i sisteme plaćanja u jedinstveni sistem. TARGET, platni sistem

Evropske monetarne unije ustanovljen je 1995. godine i uveden radi sprovođenja jedinstvene monetarne politike i efikasnog obavljanja međunarodnih plaćanja. TARGET je preuzeo ovu ulogu 1999. godine, i predstavljao je distribuiran (podeljen) sistem koji je povezivao nacionalne RTGS sisteme sa međusobno povezanim mrežama. TARGET 2 sistem je počeo da se koristi 2007-2008. godine umesto prve generacije TARGET-a. TARGET 2 sistem je centralizovan sistem sa jednom platformom.

RTGS sistemi su tehnološki savršeniji mrežni sistemi plaćanja velikih vrednosti, ali su istovremeno i skuplji sistemi, jer zahtevaju veću likvidnost komercijalnih banaka. Iako su razvijene tržine privrede uvele RTGS sisteme, one istovremeno zadržavaju i netting sisteme naročito za manja plaćanja.

1. TARGET

Kada je u januaru 1999 predstavljen evro, TARGET sistem je počeo operaciju evroizacije tržišta EU. TARGET je elektronska platforma za procesiranje plaćanja. Taj novi elektronski sistem sastoji se od 15 nacionalnih RTGS sistema zemalja članica EU (u Nemačkoj ELS, u Francuskoj TBF itd) kao i platnog sistema Evropske centralne banke (EPM). Osnovni cilj TARGET-a je da omogući korišćenje evro valute u međunarodnom i domaćem platnom sistemu.

Kako RTGS sistemi postoje u svakoj državi, TARGET sistem predstavlja sistem plaćanja velikih vrednosti koji se koristi u međubankarskim transakcionim fondovima, FX transakcijama i bezbednosnim transakcijama.

TARGET je trebalo da integriše finansijska tržišta u evro zoni kroz postepeno uvođenje evra. Osim toga, bio je predviđen da postane stub Evropske centralne banke koji će nastaviti vođenje monetarne politike na najefikasniji način. Treba napomenuti da je TARGET sistem bio prvi prekogranični RTGS sistem na svetu.

Ciljevi uvođenja sistema TARGET u evropski monetarni prostor su: obezbeđenje mogućnosti optimalnog vođenja monetarne politike u EMU, povećanja efikasnosti međudržavnih plaćanja i smanjivanja obračunskih rizika u sistemima plaćanja.⁷⁸

Evropska centralna banka (ECB) je iznela tri glavna cilja za razvoj TARGET-a:

1. Omogućiti siguran i pouzdan mehanizam evro naplate na RTGS bazi;
2. Povećati produktivnost i efikasnost plaćanja unutar zone Evropske Unije i to putem smanjenja troškova i povećanja sigurnosti i brzine obrade;
3. TARGET sistem treba da podrži formiranje evro sistema i monetarnu politiku u zoni evra, kao i da promoviše lako funkcionisanje sistema plaćanja, čime bi doprineo kako integraciji novčanog tržišta u evro zoni, tako i njegovoj stabilnosti.

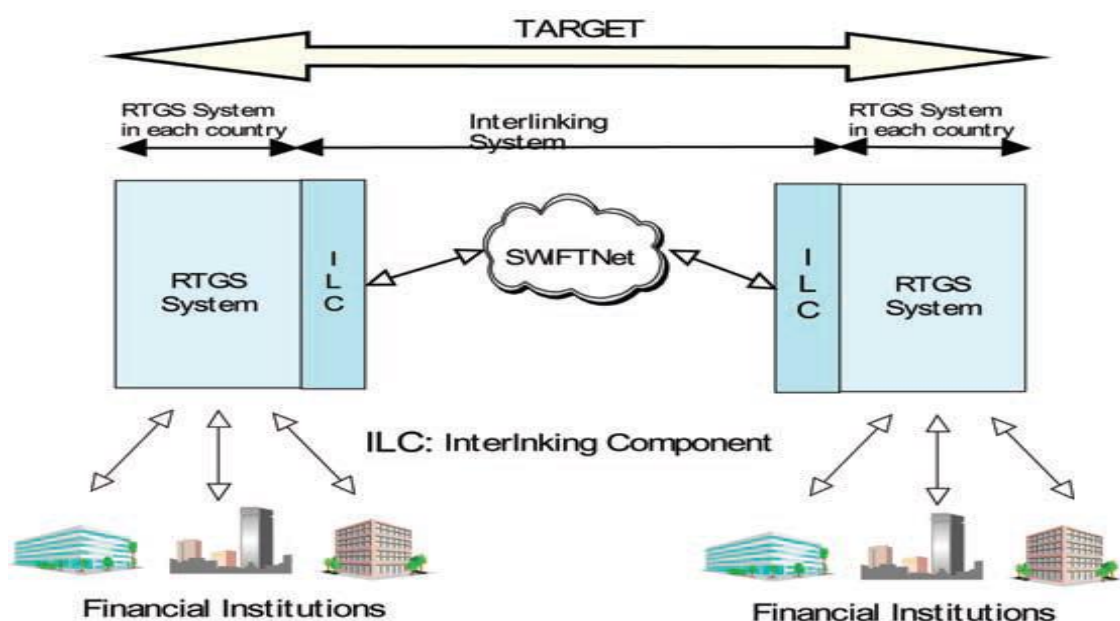
⁷⁸ Vuksanović, E. (2009) *Elektronski sistemi plaćanja*, Ekonomski fakultet Univerziteta u Kragujevcu

Operativna politika TARGET-a je odlučena na Upravnom Savetu Evropske Centralne Banke. TARGET sistem se tokom 2007-2008. godine razvio u napredniji TARGET 2 sistem.

1.1. STRUKTURA TARGET SISTEMA

TARGET čine:

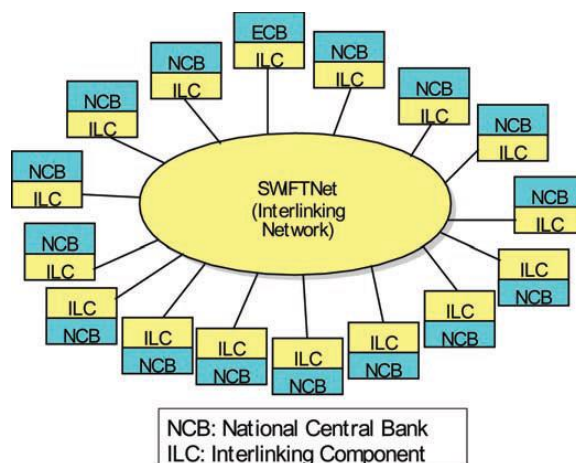
1. 15 RTGS sistema u EU,
2. Lančana mreža, koja predstavlja komunikacionu mrežu između RTGS sistema,
3. Platni mehanizam Evropske Centralne Banke, koji je i aplikacija celog sistema što se može videti na slici 1.



Izvor: Nakajima, M. (2011) *Payment System Technologies and Functions*, Reitaku University, Japan

Slika 1. Struktura TARGET sistema

U suštini, najveća specifičnost TARGET-a je da je to decentralizovan platni sistem, tj, da po svojoj koncepciji nije nov sistem plaćanja, već povezujući element za izvršavanje plaćanja transakcija plaćanja velikih vrednosti u okviru postojećih nacionalnih RTGS sistema EMU. Ovako koncipiranom decentralizovanom strukturom omogućeno je da se u sistem posredno uključi oko 30 000 banaka i njihovih filijala, kao i da se do uspostavljanja potpune harmonizacije i standardizacije u nacionalnim okvirima neometano upotrebljavaju nacionalni standardi za formate poruka. (slika 2)



Izvor: Nakajima, M. (2011) *Payment System Tehnologies and Functions*, Reitaku University, Japan

Slika 2. Decentralizovna struktura TARGET sistema

Tako se prekogranična plaćanja odvijaju bilateralno između uključene dve centralne banke. Svaki RTGS sistem procesuirá prekogranično plaćanje posebno, umesto da koncentriše sav platni promet ka Evropskoj centralnoj banci. Računi učesnika (finansijskih institucija) su postavljeni i vođeni od strane domaće Centralne banke. Razlog zašto je TARGET sistem preuzeo takav konfiguracijski sistem jeste minimizacija troškova razvojnog sistema izgradnjom samo jednog zajedničkog dela, kao i poštovanje ka svakoj zemlji. Mreža SWIFT-a je usvojena kao mreža za povezivanje.⁷⁹

1.2. KOMPONENTE TARGET-A

Tabela 1. prikazuje TARGET komponente koji su bili RTGS sistemi u državama EU. Od kraja 2006. godine, postoji 15 RTGS sistema koji su povezani na TARGET sistem, od kojih 12 potiče iz zemalja EU koje su usvojile evro, i 3 iz zemalja koje to nisu u potpunosti učinile (Danska, Švedska, UK).

⁷⁹ Masashi, N. (2011) *Payment System Tehnologies and Functions: Developments* – Reitaku University, Japan

Tabela 1. Komponente TARGET sistema

Država	RTGS Sistem	Udeo u ukupnim plaćanjima (2006, %)
Austrija	ARITS	1.5
Belgija	ELLIPS	3.6
Danska	KRONOS	0.6
Finska	BOF – RTGS	0.7
Francuska	TBF	25.3
Nemačka	RTGS ^{plus}	28.3
Grčka	HERMES	1.3
Irska	IRIS	1.2
Italija	BI – REL	7.1
Luksemburg	LIPS – Gross	1.5
Holandija	TOP	4.7
Portugalija	SPGT	0.6
Španija	SLBE	14.2
Švedska	Euro RIX	0.3
UK	CHAPS Euro	8.1

Izvor: Nakajima, M. (2011) *Payment System Tehnologies and Functions*

1.3. NAPLATA KROZ TARGET

TARGET je predstavljao sveukupni sistem naplate, i sama naplata se vršila individualno bez umrežavanja. Osim toga, TARGET je u realnom vremenu obrađivao i procesirao račune korisnika koji su korišćeni u skoro realnom vremenu.

TARGET sistem povezuje centralne banke u Evropskoj uniji kao i oko 5.000 komercijalnih banaka na prostoru EU. Procesiranje plaćanja počinje time što članice sistema daju platne naloge nacionalnom RTGS sistemu koji te naloge sam procesira ukoliko se radi o domaćim plaćanjima. Ako se radi o prekograničnim plaćanjima (Cross – border payments), onda se platni nalozi procesiraju preko EPM do nacionalnog RTGS sistema zemlje u kojoj se nalazi banka primaoca plaćanja. Uz pomoć elektronske platforme za procesiranje, svako plaćanje se obavi za nekoliko sekundi, ali najviše za nekoliko minuta. Ova velika brzina pored sigurnosti plaćanja, vrlo je značajna sa gledišta minimiziranja raznih tipova rizika. Plaćanja preko TARGET sistema vrše se isključivo u jedinstvenoj evropskoj valuti (evro).

Evrosistem čine Evropska Centralna banka (ECB) i Nacionalna Centralna banka (NCB). Kada Evrosistem prekine operacije za monetarnu i kreditnu kontrolu, dalja naplata za monetarne operacije treba ići kroz TARGET sistem. Druge naplate velike vrednosti procesirane od TARGET-a uključuju i naplatu za trasakciju strane valute, bezbednosnu transakciju i transakciju za tržište novca.

TARGET sistem je dizajniran pre svega za plaćanja velikih vrednosti (large – value payments), uključujući transakcije na novčanim i deviznim tržištima. Ovaj elektronski platni sistem nema gornji ili donji vrednosni limit za platne naloge, tako da i plaćanja manjih vrednosti mogu da budu procesirana. Međutim, pošto je provizija određena u fiksnom iznosu za svaku transakciju (postoji samo degressivna skala visine provizije po kriterijumu broja transakcija svakog učesnika na mesečnom nivou), to se korišćenje ovog elektronskog sistema ne isplati za transakcije manje vrednosti sem u izuzetnim i hitnim slučajevima. Mada je ovaj platni sistem namenjen pre svega komercijalnim bankama i drugim učesnicima iz evro zone, mogu ga koristiti i učesnici iz zemalja EU koje nisu u evro zoni, s tim što se plaćanja vrše isključivo u evro valuti. Takođe, kako nije postojalo limit za tip transakcije, TARGET sistem je mogao da se koristi i za poslovanje sa potrošačima isto kao i sa međubankarso poslovanje. TARGET sistem je bio platni sistem predviđen za kreditne transfere, a ne za debitne transfere.⁸⁰

1.4. OBIM POSLOVANJA U TARGET – U

TARGET je za kratko vreme postao jedan od najvećih platnih sistema u svetu. Marta 2000. godine preko TARGET sistema je bilo izvršeno 180.000 međunarodnih i domaćih platnih naloga prosečno *dnevno*, od čega se 39.000 naloga odnosilo na prekogranična (cross – border). Prosečna *vrednost* tih plaćanja iznosila je 1.040 mlrd EUR dnevno, od čega je međunarodnih plaćanja bilo u vrednosti od 436 mlrd EUR. To znači da je na međunarodna plaćanja otpalo oko 20% od ukupnog broja platnih naloga, odnosno nekih 42% od ukupne vrednosti svih platnih naloga.

TARGET upravlja ogromnim količinama i vrednošću novca, i bio je najveći platni sistem na svetu, zajedno sa Fedwire-om u SAD-u. 2008. godine prosečan dnevni protok je iznosio 370 000 transakcija. Od toga, 270 000 transakcija je izvršeno u domaćem saobraćaju, odnosno “unutar država članica”, Ostalih 100 000 su činile prekogranične transakcije, odnosno “među državama članicama”. Što se tiče ukupnog broja transakcija, potrošačko plaćanje (57%) je po obimu veće nego međubankarsko (42%). Prosečna dnevna vrednost koju je TARGET obrađivao 2008. godine iznosila je 2,667 milijardi evra. To znači da je TARGET sistem upravljao vrednošću godišnjoj GDP Evro zone u samo 3,5 dana. Domaći saobraćaj iznosio je 68% dnevne prosečne vrednosti, dok je prekogranični iznosio 32%.

1.5. UČESNICI, FORMAT I RADNO VREME TARGET – A

Funkcionisanje TARGET sistema zasnivalo se na poštovanju više principa od kojih su najvažniji:

1. *Princip tržišnosti* po kome se TARGET sistem koristi u cilju smanjenja sistematskog rizika za sva plaćanja u evrima, iako je samo korišćenje TARGET

⁸⁰ Ćirović, M. (2007) *Bankarstvo*, Ekonomski fakultet, Beograd

sistema obavezno jedino za plaćanja koja su direktno povezana sa operacijama monetarne politike Evropske Unije;

2. *Princip neopozivosti* prema kome su nalozi za plaćanja u TARGET sistemu neopozivi, što je i u skladu sa nacionalnim pravilima svakog pojedinačnog RTGS sistema;

3. *Princip finalnosti* prema kome TARGET sistem obezbeđuje intradnevnu finalnost obračuna naloga za plaćanje kod centralne banke, čime eliminiše rizik obračuna između članova svojstven ostalim mehanizmima plaćanja.

TARGET je otvoren ka bankarskoj zajednici u Evro zoni. Tačnije, kreditne institucije uspostavljene u Evropskoj Ekonomskoj Zajednici (EEA) maju pravo da postanu članice TARGET-a. Na kraju 2008. godine, postojalo je 747 direktnih članova i 3806 indirektnih članova. Pored toga, 11031 institucija širom sveta bila je dostupna putem TARGET-a kroz adresni BIC. Ove institucije su se nazivale "Korespondenti". Oko 55867 kreditnih institucija širom sveta je bilo dostupno putem TARGET-a. Ovaj broj je ekvivalentan broju od oko 60% banaka koje su povezane SWIFTNet-om. Dve trćine čine kreditne institucije iz zemalja članica Evropske Unije, dok jedna trećina potiče iz zemalja širom sveta.⁸¹²

Domaći formati svakog RTGS sistema su korišćeni u prvoj generaciji TARGET-a. Tako je svaki učesnik slao poruku o platnom prometu koristeći domaći format RTGS sistema svoje zemlje. Kada je poruka poslata, format zemlje učesnika koji je poslao poruku se pretvara u mrežni format, ili SWIFT format. Na sličan način, kada poruka o naplati prelazi sa Interlinking sistema na primajući RTGS sistem, ona se konvertuje sa SWIFT formata na domaći format primajuće države.

Radno vreme TARGET-a je 11 časova, od 07.00 h do 18.00 h (7:00 am-6:00 pm) po centralnom evropskom vremenu (CEO). Krajnji rok za poslovanje sa klijentima je 17.00 h (5:00 pm), sat vremena do kraja je okvirno vreme za međubankarsko poslovanje.

2. TARGET 2

Nepostojanje jedinstvene RTGS platforme, a naročito nepostojanje jedinstvene platforme za obračun hartija od vrednosti – u velikoj meri je otežavalo upotrebu kolaterala u međudržavnom kontekstu, što je delimično prevaziđeno sa TARGET 2 sistemom. Ovaj sistem je jedan od najznačajnijih projekata koji su sprovedeni na nivou Evropske unije i jedan od ključnih koraka ka potpunoj harmonizaciji platnog sistema EU u domenu plaćanja velikih vrednosti. Projekat su sprovele tri centralne banke: Nemačke (BBk), Francuske (BdF), Italije (Bdl), koje su sada i njegovi operatori. Razmišljanja u pravcu kreiranja ovog sistema započela su 2000. godine, a u oktobru 2002. godine Evropska centralna banka donela je odluku o kreiranju nove generacije TARGETA – TARGET 2. Uspeo je da ispuni glavne ciljeve: podržao je implementaciju jedinstvene monetarne politike i uspešno rukovao protokom

² Masashi, N. (2011) *Payment System Tehnologies and Functions: Developments* – Reitaku University, Japan

ogromne količine evra kako na nacionalnom tako i na međunarodnom nivou. Uprkos zapaženim rezultatima, postalo je primetno da decentralizovana struktura TARGET-a ima određena ograničenja.

Prvo, pod decentralizovanom strukturom, svaka centralna banka treba da napravi odgovarajuća ulaganja u totalno podeljenu (fragmentiranu) IT infrastrukturu, i voditi sopstveni sistem odvojeno. Ovakva situacija je bila daleko od idealne i rezultovala je velikom neefikasnošću uopšte.

Drugo, uslužni nivo i struktura naplate su se razlikovali od jednog do drugog RTGS sistema. Savremenije i ujednačenije usluge sa jedinstvenim sistemom naplate su bili neophodni. I konačno, proširenje EU je dovelo do pogoršanja već loše situacije. U maju 2004. godine 10 zemalja centralne i istočne Evrope se pridružilo EU, što je značilo da će se komponente TARGET-a povećati na 25 u budućnosti. Drugim rečima, oko 25 RTGS sistema će se konektovati na TARGET, ako TARGET zadrži decentralizovan konfiguracijski sistem. Ubrzo je Evrosistem počeo sa razmatranjem o redizajniranju kompletnog TARGET sistema.²

Pod TARGET okolnostima, svaka nacionalna komponenta predstavljala je čisti RTGS sistem sa samo RTGS funkcijama, dok je TARGET 2 sistem usvojio neke savremenije karakteristike koje su se već koristile u Nemačkom, Francuskom i Italijanskom platnom sistemu. Prilikom prelaska na TARGET 2 sistem, savremenije funkcije koje su se koristile u samo nekoliko zemalja su se sad proširile na celu evro zonu.²

2.1. DUGOROČNA STRATEGIJA TARGET – A

U oktobru 2002. objavljen je dugoročni plan razvoja TARGET-a., koji je prikazivao glavne principe i osnovnu strukturu TARGET-a. U decembru 2002. godine ECB je objavila konsultacioni članak, "TARGET 2: Principi i struktura". U dokumentu je izneto sledeće:

1. Sve TARGET komponente treba da pružaju "osnovnu uslugu"
2. Te usluge trebaju biti ponuđene po "jedinstvenijoj ceni"
3. Jedinstvena cena će biti bazirana na najefikasnijem RTGS sistemu koji ima najjeftiniju prosečnu cenu po transakciji,
4. Po isteku četvorogodišnjeg perioda od početka rada TARGET 2 sistema, platforme koje ne ispunjavaju uslove biće zatvorene.

TARGET 2 sistem je usvojio modularni pristup, a SSP (jedinstvena zajednička platforma) je napravljena od nekoliko modula. Svaki modul je dizajniran za specifične usluge i usko su povezani jedan sa drugim. Neki moduli su mandatorni (obavezni) za korišćenje dok su drugi opcioni. U mandatorne module spadaju: platni modul (PM), informacioni i kontrolni modul (ICM), modul za nepredvidjene situacije (CM), i modul statističkih podataka (SD). Najbitniji od njih je platni modul (PM). (Tabela 2)

² Masashi, N. (2011) *Payment System Tehnologies and Functions: Developments* – Reitaku University, Japan

Tabela 2. Modularni pristup TARGET 2 sistema

Obavezni	Opcioni
Platni modul (PM) Informacioni i kontrolni modul (ICM) Modul za nepredvidjene situacije (CM) Modul statističkih podataka (SD)	Računoodstveni modul (HAM) Modul za plasman postrojenja (SF) Modul rezervnog menadžmenta (RM)

Izvor: Nakajima, M. (2011) *Payment System Technologies and Functions*, Reitaku University, Japan

SWIFTNet se koristi kao mreža za povezivanje TARGET 2 sistema i njegovih korisnika. Nekoliko SWIFT servisa, uključujući FIN, Inter Act, File Act i Browse, se koriste za slanje, nadgledanje i upravljanje platnim porukama u TARGET 2 sistemu.

Kako bi se osigurao od nepredvidivih situacija, TARGET 2 sistem usvaja "multi-regionalnu" arhitekturu. Tačnije, postoje kompjuterski centri u dva regiona i dva različita mesta u svakom regionu. Glavne i povratne funkcije rotiraju periodično između dva regiona.

2.2. OKVIR UČEŠĆA U TARGET 2 SISTEMU

Postoje 4 načina učestvovanja u TARGET 2 sistemu. To su:

1. Direktno učestvovanje,
2. Indirektno učestvovanje,
3. Adresni kod (BIC),
4. Multi-adresni pristup

Direktno učestvovanje – Direktne učesnici poseduju RTGS račun u TARGET 2 sistemu. Oni mogu da podnose i primaju naplatu direktno ka/od sistema. Samo kreditne institucije sa sedištem u Evropskoj Ekonomskoj zoni (EEA) mogu da budu direktni učesnici.

Indirektno učestvovanje – Indirektni učesnici ne poseduju RTGS račun, i sve naplate se uvek obavljaju preko sistema, a uz pomoć direktnih učesnika koji deluju u ime indirektnih učesnika. Uplate se polažu na račune direktnih učesnika u TARGET 2 sistemu. Indirektni učesnici se registruju u direktorijumu TARGET 2 sistema i za njih su odgovorni direktni učesnici. Samo supervizorske kreditne institucije sa sedištem u EEA mogu da postanu indirektni učesnici.

Adresni kodovi – Su vrlo slični indirektnim učesnicima, s obzirom da ne poseduju RTGS račun i da direktni učesnici posluju u njihovo ime. Međutim postoje dve razlike

između adresabilnih kodova i indirektnih učesnika. Prva je ta što svaka finansijska ustanova koja poseduje BIC može postati adresabilni BIC. Drugo, samo su indirektni učesnici priznati od strane TARGET 2 sistema i zaštićeni su određenim normama. Adresabilni BIC nije priznat od strane sistema.

Multi-adresni pristup – U TARGET 2 sistemu, direktni učesnici su u mogućnosti da autorizuju njihove branše i druge kreditne institucije unutar iste grupe, locirane u zemljama EU, kako bi kanalisali platni promet kroz glavni račun direktnih učesnika.....Ove naplate se polažu na glavni račun direktnih učesnika. Samo direktni učesnici mogu da upravljaju likvidnošću u celini.

Tabela 3. Participacioni okvir TARGET 2 sistema

	Račun u TARGET 2	Način podnošenja/primanja naplate	Poravnanje plaćanja	U skladu sa pravilima sistema	Nalazi se u TARGET 2 direktorijumu
	Da	Direktno	Sopstveni račun	Da	Da
	Ne	Direktno	Račun direktnih učesnika	Da	Da
	Ne	Preko direktnih učesnika	Račun direktnih učesnika	Da	Da
	Ne	Preko direktnih učesnika	Račun direktnih učesnika	Da	Da

Izvor: Nakajima, M. (2011) *Payment System Tehnologies and Functions*

2.3. PROCES PLAĆANJA U TARGET SISTEMU

Prioritetne naplate

Za svaku naplatu se može odrediti njena prioritnost; “normalna”, “hitna”, ili “vrlo hitna”. “Normalna” naplata je naplata bez hitnosti i sprovodi se u režimu likvidne štednje. “Hitna” naplata je naplata koja se odvija preko RTGS režima. “Vrlo hitna” naplata je naplata koja se obavlja sa najvećim prioritom, i koja se koristi za poravnanje sa drugim platnim

sistemima, sa Centralnom bankom ili za naplatu/isplatu od CLS banke. Dok se naplate sa najvećim prioritetom ne obave, sve druge se stopiraju.

Vremenske naplate

Korisnici imaju mogućnost da uz položenu uplatu odrede i vreme kada će se ona izvršiti. Postoje dve opcije: “uplata do” i “uplata od”. Opcija “uplata do” određuje krajnji rok uplate, dok opcija “uplata od” određuje početak vremena naplate. Ovo je veoma korisno za vremenski kritične naplate poput naplate za CLS Banku.

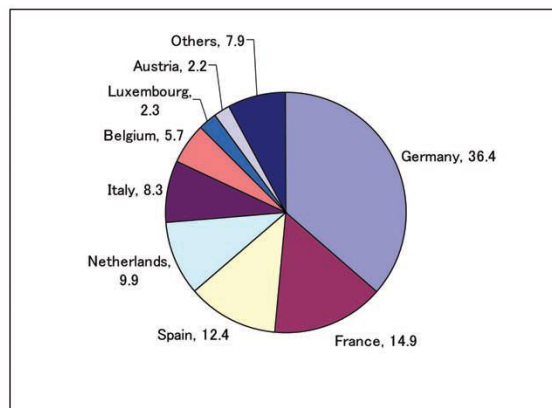
Odloženo plaćanje

Svim korisnicima u TARGET 2 sistemu je omogućeno da izvrše plaćanje do pet radnih dana unapred. Ovo se još naziva i “magacinska funkcionalnost”. U prvoj generaciji TARGET-a, naplata je bila moguća isključivo na dan poravnanja.²

TARGET 2 sistem omogućava direktnim učesnicima debitne i kreditne transferne funkcije. Sa ovom funkcijom, korisnik je u mogućnosti da prenese sredstva sa računa drugog direktnog učesnika. Međutim, korišćenje debitne funkcije je ograničeno na transfer novčanih sredstava između kreditnih institucija. Cilj korišćenja ove funkcije je prilagođavanje likvidnosti između nekoliko banaka u grupi, ili između sedišta banke i njenih branši. Prva generacija TARGET-a nije imala ovu funkciju.

2.4. UDEO DRŽAVA U TARGET 2 SISTEMU

TARGET 2 saobraćaj je koncentrisan u relativno malom broju država. 2008. godine samo pet država su imale udeo veći od 80 % u vrednosti. Tačnije, Nemačka, Francuska, Španija, Holandija i Italija su imale najviše udela, oko 82 % ukupne vrednosti. Ovi podaci reflektuju fundamentalnost ekonomske moći i aktivnosti na finansijskom tržištu svake zemlje.



Izvor: Nakajima, M. (2011) *Payment System Tehnologies and Functions*, Reitaku University, Japan

Slika 3. Udeo TARGET-a po vrednosti

ZAKLJUČAK

Iz navedenog možemo zaključiti da je TARGET sistem za kratko vreme postao jedan od najvećih platnih sistema u svetu. On je dakle povezujući element za izvršavanje plaćanja transakcija plaćanja velikih vrednosti u okviru postojećih nacionalnih RTGS sistema. Celokupna komunikacijska platforma se zasniva na mreži i standardima SWIFT – a.

Da bi neka kreditna institucija mogla da šalje ili prima međunarodna plaćanja u evrima preko ovog sistema, ona mora ili da bude direktni član nacionalnog RTGS sistema, ili da koristi usluge direktnih članova, ili da angažuje nacionalnu centralnu banku.

Kako predstavlja tehničku infrastrukturu za vođenje jedinstvene monetarne politike u Evropskoj monetarnoj uniji, njegova upotreba je obavezna u svim slučajevima u kojima se pojavljuju nacionalne centralne banke. Sva konačna izvršavanja plaćanja neto sistema, bilo da se radi o komercijalnim transakcijama ili transakcijama sa novčanog u devizno tržište. Bazira se na principima korespodentskog bankarstva, jer svaka nacionalna centralna banka vodi račune ostalih centralnih banaka država EMU. Celokupna komunikacijska platforma zasniva se na mreži SWIFT. Može se zaključiti da je nepostojanje zajedničke tehničke infrastructure, jedinstvenog interfejsa i funkcionalnosti bile glavni nedostatak ovog sistema, kao i to da su kompleksnost, različitost i brojnost međusobnih veza između RTGS – ova centralnih banaka umanjivali njegovu efikasnost.

Medjutim, TARGET 2 sistem je savremeniji, nov RTGS sistem. Za razliku od TARGETA koji je decentralizovan, TARGET 2 je centralizovan sistem sa jednom

² Masashi, N. (2011) *Payment System Tehnologies and Functions: Developments* – Reitaku University, Japan

platformom. Takođe, TARGET 2 sistem ima debitnu funkciju, a prva generacija nije imala ovu funkciju.

Nisu, znači sve banke koje su članice nacionalnog RTGS sistema automatski postale i članice TARGET 2 sistema kao što je to bio slučaj kod TARGET – a, nego je kriterijum bio drugačiji, moralo je da se ide na novo članstvo. Iako je jedinstven sistem, nije bio omiljen u komercijalnim ili bankarskim plaćanjima u Evropskoj uniji.

Mnogo plaćanja je ostalo da se izvršava kroz TARGET, a zašto, pa zato što su već bili član, a za TARGET 2 je trebalo da se plaća određena naknada za članstvo. Drugo, pitanje je da li je partner kome će on uplatiti član u toj platformi ili ne? A u TARGETU se zna da jeste, jer TARGET sistem okuplja sve nacionalne RTGS sisteme.

REFERENCE

1. Ćirović, M. (2007) *Bankarstvo*, Ekonomski fakultet, Beograd
2. Nakajima, M. (2011) *Payment System Technologies and Functions: Developments –* Reitaku University, Japan;
3. Vuksanović, E. (2009) *Elektronski sistemi plaćanja*, Ekonomski fakultet Univerziteta u Kragujevcu

IMPLEMENTATION OF MULTI-CRITERIA ABC ANALYSIS USING AHP METHOD

Andelka Stojanović

University of Belgrade, Technical Faculty in Bor, Bor, Serbia

Abstract: Effective inventory management plays an important role in the supply chain. In organizations that have hundreds of elements, it is impossible to devote equal attention to all. ABC analysis is one of the most popular techniques for classification of inventory. The classic method of classification may be inadequate in some cases. There is a problem of analysis and classification of products according to several criteria. Number and type of criteria that should be taken into account when managing inventory can be very large. Comparing pairs of a large number of elements, respecting each criterion is an impossible task. AHP method is used to determine the weight of each criterion and then implemented ABC ranking of elements on all criteria.

Keywords: ABC analysis, AHP method, multi-criteria analysis

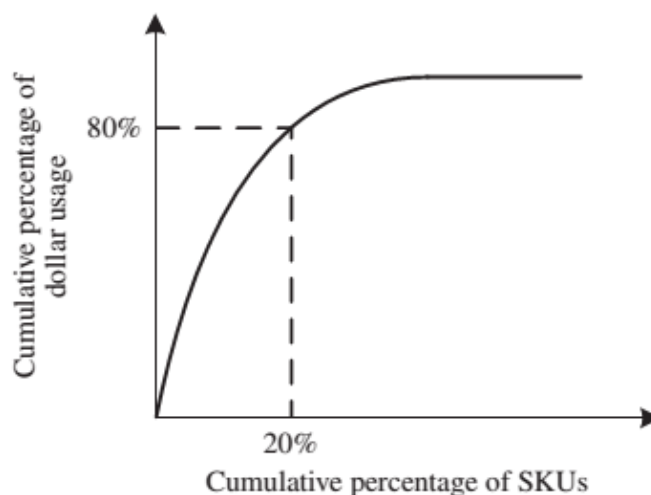
1. UVOD

Moderno poslovanje može da obuhvati veliki broj elemenata: gotovi proizvodi, rezervni delovi i sirovine. Ponekad njihov broj može da iznosi više hiljada. Upravljanje ovim elementima treba da odgovori na najmanje dva pitanja- kada i koliko naručivati?

ABC analiza je jedna od najpoznatijih tehnika za klasifikaciju zaliha. Konvencionalna ABC klasifikacija je razvijena u General Electric-u 1950-tih. Zasnovana je na Pareto analizi. (1) Pareto princip 80/20 kaže da je 80% ukupne godišnje vrednosti prodaje zasnovano na samo 20% od ukupnog broja elemenata.

U procesu klasifikacije elementi se dele u A, B, C grupe koje se zasnivaju na godišnjoj vrednosti prodaje. Godišnja vrednost prodaje se izračunava po formuli: obim tražnje x vrednost jediničnih cena. Grafički prikaz ABC raspodele je dat na Slici 1.

- Grupi A pripada relativno mali broj elemenata koji imaju visoku godišnju vrednost prodaje, oko 80 %.
- Grupi C pripada relativno veliki broj elemenata ali sa vrlo malom godišnjom vrednošću prodaje oko 5%.
- Između su elementi koji pripadaju grupi B i oni iznose oko 15% .



Slika 1: Primer krive ABC analize po godišnjoj vrednosti (2)

2. PROCEDURA IZVOĐENJA KLASIČNE ABC ANALIZE

Odabir odgovarajućih kriterijuma za merenje i klasifikaciju su osnova ABC analize. U praksi najveći broj organizacija koristi godišnju stopu prodaje. Postoji nekoliko koraka za ABC analizu:

1. Izbor pogodnog kriterijuma. Kriterijum izbora obično zavisi od svrhe analize. Na primer, stopa škarta se često koristi za kontrolu kvaliteta; % učešća na tržištu za istraživanja u marketing; godišnja vrednost prodaje se puno koristi za upravljanje zalihama.

2. Prikupljanje i provera potrebnih podataka. Svi prikupljeni podaci moraju biti tačni i jedinice mere moraju biti konzistentne.

3. Izvođenje neophodnih izračunavanja. Za upravljanje zalihama ovo uključuje:

- Izračunavanje godišnje vrednosti prodaje GV, gde je :
$$GV_i = c_i * d_i$$
 (c_i -jedinična cena i d_i - obim tražnje)
- Rangiranje elemenata vrši se u opadajućem poretku po vrednosti GV
- Izračunava se kumulativna vrednost po GV i njihova vrednost u procentima.

4. Određivanje broja grupa i prelomne tačke za svaku grupu, tj. pravilo klasifikacije za svaku grupu.

5. Klasifikacija elemenata u grupe na osnovu postavljenog pravila.

6. Prilagođavanje u skladu sa nekim drugim uslovima. (3)

Međutim, klasični metod klasifikacije može biti neadekvatan u pojedinim slučajevima. Može se dogoditi da pojedini proizvodi imaju visoku godišnju vrednost ali da nisu presudni za organizaciju, kao i da neki drugi budu klasifikovani kao loši iako su oni značajni za

organizaciju. Takođe, ne može se utvrditi kriterijum za nove proizvode zato što oni još uvek nemaju odgovor tržišta tj. obim tražnje.

Tada se javlja problem analize i klasifikacije proizvoda po više kriterijuma.

3. VIŠEKRITERIJUMSKA ABC ANALIZA

Broj i tip kriterijuma koji trebaju biti uzeti u obzir, prilikom upravljanja zalihama, zavisi od prirode organizacije. Tako je za neke zastarelost veoma važan kriterijum. Troškovi skladištenja, kritičnost određenog elementa, trajnost, postojanje zamena, vreme nabavke, količine pojedinačne nabavke, količine potrebne u toku jedne godine, penali za nedostajanje određenog elementa, mogućnosti skladištenja, su, takođe, važni kriterijumi.

3.1 ISTRAŽIVANJA VIŠEKRITERIJUMSKE ABC ANALIZE

Još od kada su Flores i Whybark (1987) (3) predložili da se sagleda više od jednog kriterijuma, ova oblast se aktivno istražuje. Široko je prihvaćeno da ABC analiza treba da obuhvati više kriterijuma. Metodologija uključuje tri glavna koraka nakon identifikovanja relevantnih kriterijuma. Prvo treba utvrditi koje su težine određeni kriterijumi a drugo potrebno je dodeliti vrednost svakom elementu po svakom kriterijumu. Ako se elementi mere različitim jedinicama, drugi korak uključuje ponovno skaliranje na skali 0-1 ili 0-100. Poslednji korak je kombinovanje težinskih koeficijenata i vrednosti elemenata po pojedinim kriterijuma i dobijanje ukupnih vrednosti težina za svaki element.

3.2 SUBJEKTIVNO ODREĐIVANJE TEŽINSKIH KOEFICIJENATA

Ovaj pristup prikazuje svaki element zaliha po svakom kriterijumu i onda se kombinuju različiti rezultati korišćenjem subjektivnog modela. Mnogi analitičari koriste okvir koji obezbeđuje AHP (the Analytic Hierarchy Process) metoda (4) Flores, Olsen, & Dorai, 1992; Partovi & Burton, 1993; Partovi & Hopton, 1994; Gajpal, Ganesh, & Rajendran, 1994; Kabir, Hasin, & Khondokar, 2011; Braglia, Grassi, & Montanari, 2004). (5) AHP se zasniva na upoređivanju parova kriterijuma u cilju određivanja težinskog koeficijenta svakog kriterijuma. Upoređivanje parova hiljada elemenata poštujući svaki kriterijum je nemoguć zadatak. Umesto toga alternative se procenjuju po svakom kriterijumu koristeći težine. To je AHP rangiranje. Rezultat može biti upotrebljen kako bi se elementi rangirali po različitim kategorijama. Ovi težinski koeficijenti se određuju jednom i mogu da se upotrebljavaju sve dok se sami kriterijumi ili odnos menadžmenta ne promeni.

3.3 RAZVOJ MODELA

Predpostavlja se da postoji N elemenata, i da treba da budu klasifikovani u A, B ili C grupe zasnovano na klasifikaciji po J kriterijuma. Bilo koji element po bilo kom kriterijumu označava se sa y_{ij} . Pretpostavlja se da su svi kriterijumi pozitivno povezani sa nivoom važnosti tj. veća vrednost elementa po pojedinom kriterijumu, veća šansa da se element nađe u A klasi.

Predloženi pristup sa težinskim koeficijentima se koristi kako bi se postiglo da svaki element, po više kriterijuma da jedan rezultat, nazvan optimalni rezultat elementa. Težinski koeficijenti koji se koriste za optimizaciju izračunavaju se kao grupa koeficijenata čiji zbir mora biti 1.

$$\max S_i = \sum_{j=1}^J w_{ij} * y_{ij}$$

$$\sum_{j=1}^J w_{ij} = 1,$$

$$w_{ij} - w_{i(j-1)} \geq 0, \quad j = 1, \dots, (J - 1)$$

$$w_{mj} \geq 0, \quad j = 1, \dots, J \quad (6)$$

4. PRIMENA VIŠEKRITERIJUMSKE ABC KLASIFIKACIJE

Turistička organizacija “Bor” vrši komisionu prodaju suvenira od više dobavljača. Na kraju svake godine vrši se procena prodaje i asortimana. Cilj je da se utvrdi gorišnja potreba za određenim proizvodima, kao i da se iz prodaje povuku proizvodi koji imaju slabu prodaju. Prilikom formiranja planova količina i dinamike nabavke potrebno je da se u obzir uzmu i veličine pojedinih serija s’obzirom da dobavljači imaju ograničene proizvodne kapacitete.

Za ovu analizu biće upotrebljena višekriterijumska ABC klasifikacija sa težinskim koeficijentima čija se vrednost dobija primenom AHP metode.

U tabeli 1. prikazani su rezultati dobijeni primenom klasične ABC analize.

Tabela 1. Klasična ABC analiza

Oznaka proizvoda	Obim tražnje	Jedinična cena	Veličina serije	Godišnja vrednost	GV (%)	Kumulativ	grupa
P17	221	100,00 din.	50	22.100,00 din.	8,41%	8,41%	A
P25	100	195,00 din.	20	19.500,00 din.	7,42%	15,84%	A
P43	104	156,00 din.	20	16.224,00 din.	6,18%	22,02%	A
P6	73	195,00 din.	20	14.235,00 din.	5,42%	27,44%	A
P3	121	100,00 din.	50	12.100,00 din.	4,61%	32,04%	A
P12	90	130,00 din.	20	11.700,00 din.	4,45%	36,50%	A
P37	30	325,00 din.	10	9.750,00 din.	3,71%	40,21%	A
P44	48	195,00 din.	10	9.360,00 din.	3,56%	43,78%	A
P15	22	390,00 din.	5	8.580,00 din.	3,27%	47,04%	A
P27	43	195,00 din.	20	8.385,00 din.	3,19%	50,23%	A
P46	64	130,00 din.	15	8.320,00 din.	3,17%	53,40%	A
P32	24	325,00 din.	5	7.800,00 din.	2,97%	56,37%	A

International May Conference on Strategic Management - IMKSM2015,
29-31 May 2015, Bor, Serbia

P16	58	130,00 din.	10	7.540,00 din.	2,87%	59,24%	A
P20	49	150,00 din.	15	7.350,00 din.	2,80%	62,04%	A
P1	365	20,00 din.	100	7.300,00 din.	2,78%	64,82%	A
P13	26	260,00 din.	5	6.760,00 din.	2,57%	67,40%	A
P28	9	676,00 din.	3	6.084,00 din.	2,32%	69,71%	A
P26	23	247,00 din.	10	5.681,00 din.	2,16%	71,88%	A
P30	26	195,00 din.	20	5.070,00 din.	1,93%	73,81%	A
P2	253	20,00 din.	100	5.060,00 din.	1,93%	75,73%	A
P14	17	260,00 din.	5	4.420,00 din.	1,68%	77,42%	A
P18	33	130,00 din.	30	4.290,00 din.	1,63%	79,05%	A
P35	40	104,00 din.	30	4.160,00 din.	1,58%	80,63%	A
P10	24	169,00 din.	10	4.056,00 din.	1,54%	82,18%	B
P29	19	195,00 din.	10	3.705,00 din.	1,41%	83,59%	B
P22	23	160,00 din.	15	3.680,00 din.	1,40%	84,99%	B
P7	23	130,00 din.	20	2.990,00 din.	1,14%	86,13%	B
P45	12	234,00 din.	3	2.808,00 din.	1,07%	87,20%	B
P8	7	390,00 din.	5	2.730,00 din.	1,04%	88,24%	B
P49	14	169,00 din.	5	2.366,00 din.	0,90%	89,14%	B
P9	12	195,00 din.	10	2.340,00 din.	0,89%	90,03%	B
P33	18	130,00 din.	20	2.340,00 din.	0,89%	90,92%	B
P48	21	104,00 din.	20	2.184,00 din.	0,83%	91,75%	B
P47	11	195,00 din.	15	2.145,00 din.	0,82%	92,57%	B
P40	6	325,00 din.	5	1.950,00 din.	0,74%	93,31%	B
P5	13	130,00 din.	10	1.690,00 din.	0,64%	93,95%	B
P31	8	195,00 din.	10	1.560,00 din.	0,59%	94,55%	B
P19	15	100,00 din.	20	1.500,00 din.	0,57%	95,12%	B
P23	42	35,00 din.	30	1.470,00 din.	0,56%	95,68%	C
P42	11	130,00 din.	15	1.430,00 din.	0,54%	96,22%	C
P39	8	169,00 din.	20	1.352,00 din.	0,51%	96,74%	C
P41	8	169,00 din.	15	1.352,00 din.	0,51%	97,25%	C
P11	5	260,00 din.	5	1.300,00 din.	0,49%	97,75%	C
P24	5	208,00 din.	5	1.040,00 din.	0,40%	98,14%	C
P34	13	78,00 din.	30	1.014,00 din.	0,39%	98,53%	C
P36	10	100,00 din.	20	1.000,00 din.	0,38%	98,91%	C
P50	3	325,00 din.	5	975,00 din.	0,37%	99,28%	C
P4	11	80,00 din.	50	880,00 din.	0,34%	99,62%	C
P21	3	180,00 din.	15	540,00 din.	0,21%	99,82%	C
P38	3	156,00 din.	25	468,00 din.	0,18%	100,00%	C

4.1 PRIMENA AHP METODE ZA ODREĐIVANJE TEŽINSKIH KOEFICIJENATA

Za određivanje težinskih koeficijenata koristi se AHP metoda. AHP je dobro poznata metoda po tome što je jednostavna i jasna. Može da se objasni u tri koraka. Prvo, donosilac odluke identifikuje sve kriterijume važne za dati problem. Drugo, kriterijumi se uređuju po određenoj hijerarhiji. Treće, serija upoređivanja parova preobražava subjektivne procene u skup težinskih koeficijenata. (4)

Poređenje dva elementa vrši se korišćenjem Satijeve skale prikazane u tabeli 2.

Tabela 2. Satijeva skala vrednovanja (7)

Značaj	Definicija	Objašnjenje
1	Istog značaja	Dva elementa su identičnog značaja u odnosu na cilj
3	Slaba dominantnost	Iskustvo ili rasuđivanje neznatno favorizuju jedan element u odnosu na drugi
5	Jaka dominantnost	Iskustvo ili rasuđivanje znatno favorizuju jedan element u odnosu na drugi
7	Demonstrirana dominantnost	Dominantnost jednog elementa potvrđena u preksi
9	Apsolutna dominantnost	Dominantnost najvišeg stepena
2,4,6,8	Međuvrednosti	Potreban kompromis ili dalja podela

U matricu poređenja se za svaki par kriterijuma unosi vrednost značaja jednog kriterijuma u odnosu na drugi.

Kriterijum 1 – jedinična cena;

Kriterijum 2- godišnja vrednost prodaje;

Kriterijum 3 – veličina serije.

Dobija se sledeća matrica:

	Kriterijum 1	Kriterijum 2	Kriterijum 3
Kriterijum 1	1	2	5
Kriterijum 2	1/2	1	3
Kriterijum 3	1/5	1/3	1

Vrši se normalizovanje sume redova

	Kriterijum 1	Kriterijum 2	Kriterijum 3	Suma
Kriterijum 1	0,59	0,60	0,56	1,75
Kriterijum 2	0,29	0,30	0,33	0,92
Kriterijum 3	0,12	0,10	0,11	0,33

Rezultat izračunavanja je vektor prioriteta koji predstavlja vektor sopstvenih vrednosti matrice.

$$\frac{1}{3} * \begin{bmatrix} 1,75 \\ 0,92 \\ 0,33 \end{bmatrix} = \begin{bmatrix} 0,58 \\ 0,31 \\ 0,11 \end{bmatrix}$$

Na osnovu rezultata prethodnog koraka svaki kriterijum dobija odgovarajući težinski koeficijent. To su: $W_1=0,58$ (Kriterijum 1), $W_2=0,31$ (Kriterijum 2), $W_3=0,11$ (Kriterijum 3)

Zatim se ispituje konzistentnost rezultata tako što se računa λ_{max}

$$\begin{bmatrix} 1 & 2 & 5 \\ 1/2 & 1 & 3 \\ 1/5 & 1/3 & 1 \end{bmatrix} * \begin{bmatrix} 0,58 \\ 0,31 \\ 0,11 \end{bmatrix} = \begin{bmatrix} 1,75 \\ 0,93 \\ 0,33 \end{bmatrix}$$

$$\begin{bmatrix} 1,75 \\ 0,58 \\ 0,93 \\ 0,31 \\ 0,33 \\ 0,11 \end{bmatrix} = \begin{bmatrix} 3,02 \\ 3 \\ 3 \end{bmatrix}$$

$$\lambda_{max} = \frac{3,02 + 3 + 3}{3} = 3,006$$

Izračunavaju indeks konzistentnosti CI i stepen konzistentnosti CR

$$CI = \frac{\lambda_{max} - n}{n - 1} = 0,003$$

$$CR = \frac{CI}{RI} = \frac{0,003}{0,58} = 0,005$$

RI je slučajni indeks i za matricu 3x3 je 0,58. Stepen konzistentnosti zadovoljava jer je manji od 0,10. Ovim je završeno izračunavanje težinskih koeficijenata za svaki kriterijum i oni se sada primenjuju u ABC analizi.

Za višekriterijumsku analizu koriste se jedinična cena, godišnja vrednost prodaje i veličina serije. Kako ovi kriterijumi imaju različite jedinice mere, vrednosti po pojedinom kriterijumu moraju biti prevedene na vrednosti od 0 do 1. Transformišu se uz pomoć sledeće formule:

$$\frac{F_i - F_{min}}{F_{max} - F_{min}}$$

Gde je F_i vrednost koja se transformiše, F_{max} maksimalna vrednost i F_{min} minimalna vrednost.

Nakon toga se izačunava Si za svaki element. Rezultati ovih izračunavanja i ABC klasifikacija dati su u tabeli 3.

Tabela 3. ABC klasifikacija po više kriterijuma

Oznaka proizvoda	Obim tražnje	Jedinična cena	Godišnja vrednost	Veličina serije	Si	%	Kumulativ	grupa
P28	9	676,00 din.	6.084,00 din.	3	0,6605	5,62%	5,62%	A
P25	100	195,00 din.	19.500,00 din.	20	0,4467	3,80%	9,42%	A
P15	22	390,00 din.	8.580,00 din.	5	0,4457	3,79%	13,22%	A
P17	221	100,00 din.	22.100,00 din.	50	0,4340	3,69%	16,91%	A
P37	30	325,00 din.	9.750,00 din.	10	0,4106	3,49%	20,41%	A
P32	24	325,00 din.	7.800,00 din.	5	0,3770	3,21%	23,61%	A
P6	73	195,00 din.	14.235,00 din.	20	0,3713	3,16%	26,77%	A
P43	104	156,00 din.	16.224,00 din.	20	0,3653	3,11%	29,88%	A
P8	7	390,00 din.	2.730,00 din.	5	0,3618	3,08%	32,96%	A
P13	26	260,00 din.	6.760,00 din.	5	0,3046	2,59%	35,56%	A
P40	6	325,00 din.	1.950,00 din.	5	0,2932	2,50%	38,05%	A
P3	121	100,00 din.	12.100,00 din.	50	0,2907	2,47%	40,53%	A
P44	48	195,00 din.	9.360,00 din.	10	0,2901	2,47%	42,99%	A
P27	43	195,00 din.	8.385,00 din.	20	0,2875	2,45%	45,44%	A
P26	23	247,00 din.	5.681,00 din.	10	0,2833	2,41%	47,85%	A
P50	3	325,00 din.	975,00 din.	5	0,2792	2,38%	50,23%	A
P12	90	130,00 din.	11.700,00 din.	20	0,2775	2,36%	52,59%	A
P14	17	260,00 din.	4.420,00 din.	5	0,2711	2,31%	54,90%	A
P30	26	195,00 din.	5.070,00 din.	20	0,2400	2,04%	56,94%	A
P20	49	150,00 din.	7.350,00 din.	15	0,2272	1,93%	58,87%	A
P11	5	260,00 din.	1.300,00 din.	5	0,2264	1,93%	60,80%	A
P46	64	130,00 din.	8.320,00 din.	15	0,2234	1,90%	62,70%	A
P45	12	234,00 din.	2.808,00 din.	3	0,2227	1,90%	64,60%	A
P29	19	195,00 din.	3.705,00 din.	10	0,2091	1,78%	66,38%	A
P1	365	20,00 din.	7.300,00 din.	100	0,2079	1,77%	68,15%	A
P16	58	130,00 din.	7.540,00 din.	10	0,2065	1,76%	69,90%	A
P47	11	195,00 din.	2.145,00 din.	15	0,1924	1,64%	71,54%	A
P10	24	169,00 din.	4.056,00 din.	10	0,1911	1,63%	73,17%	A
P9	12	195,00 din.	2.340,00 din.	10	0,1895	1,61%	74,78%	A
P22	23	160,00 din.	3.680,00 din.	15	0,1834	1,56%	76,34%	A
P18	33	130,00 din.	4.290,00 din.	30	0,1826	1,55%	77,90%	A
P31	8	195,00 din.	1.560,00 din.	10	0,1783	1,52%	79,41%	A

P24	5	208,00 din.	1.040,00 din.	5	0,1767	1,50%	80,92%	A
P2	253	20,00 din.	5.060,00 din.	100	0,1758	1,50%	82,41%	B
P39	8	169,00 din.	1.352,00 din.	20	0,1637	1,39%	83,81%	B
P49	14	169,00 din.	2.366,00 din.	5	0,1612	1,37%	85,18%	B
P41	8	169,00 din.	1.352,00 din.	15	0,1580	1,34%	86,52%	B
P35	40	104,00 din.	4.160,00 din.	30	0,1578	1,34%	87,87%	B
P21	3	180,00 din.	540,00 din.	15	0,1561	1,33%	89,20%	B
P7	23	130,00 din.	2.990,00 din.	20	0,1527	1,30%	90,50%	B
P38	3	156,00 din.	468,00 din.	25	0,1452	1,24%	91,73%	B
P33	18	130,00 din.	2.340,00 din.	20	0,1434	1,22%	92,95%	B
P42	11	130,00 din.	1.430,00 din.	15	0,1247	1,06%	94,01%	B
P5	13	130,00 din.	1.690,00 din.	10	0,1227	1,04%	95,06%	B
P48	21	104,00 din.	2.184,00 din.	20	0,1181	1,01%	96,06%	C
P4	11	80,00 din.	880,00 din.	50	0,1123	0,96%	97,02%	C
P19	15	100,00 din.	1.500,00 din.	20	0,1048	0,89%	97,91%	C
P36	10	100,00 din.	1.000,00 din.	20	0,0976	0,83%	98,74%	C
P34	13	78,00 din.	1.014,00 din.	30	0,0897	0,76%	99,50%	C
P23	42	35,00 din.	1.470,00 din.	30	0,0582	0,50%	100,00%	C

5. ANALIZA REZULTATA

Uporednom analizom klasične i višekriterijumske ABC analize, dobijeni su sledeći rezultati, prezentovani u tabeli 4.:

Tabela 4. Zbirna tabela klasične i višekriterijumske ABC analize

	Klasična ABC analiza	%	Višekriterijumska ABC analiza	%
Grupa A	23	46%	33	66%
Grupa B	15	30%	11	22%
Grupa C	12	24%	6	12%

Interesantna su i razmatranja pojedinih proizvoda.

- Proizvod P2 je nakon izveštene klasične ABC analize bio u grupi A. Nakon klasifikacije po više kriterijuma ovaj proizvod prelazi u grupu B. Radi se o proizvodu koji je dostupan u velikim serijama a ima nisku jediničnu cenu sa čime je opala njegova relevantnost kada su i ovi kriterijumi uzeti u obzir.
- Proizvod P8 je bio u B grupi sa osrednjom vrednošću godišnje prodaje ali se nakon nove klasifikacije nalazi u grupi A
- Proizvod P11 je po klasičnoj ABC klasifikaciji pripadao grupi C a nakon višekriterijumske ABC klasifikacije pripada grupi A. Ima relativno visoku cenu

- koštanja a proizvodi se u veoma malim serijama koje se u celosti prodaju.
- Proizvod P35 je iz grupe A premešten u grupu B. Niska cena po jedinici proizvoda i velike serije umanjuju značaj proizvoda iako ima veliku tražnju.

6. ZAKLJUČAK

Klasična ABC klasifikacija sa jednim kriterijumom je jednostavna i praktična. (8) Ipak, mnogi drugi kriterijumi utiču na upravljanje zalihama. Kada se u obzir uzme više kriterijuma važno da se proces upravljanja ne učini previše složenim. Treba uključiti dodatne kriterijume a pri tome zadržati razuman upravljački sistem, Analiziranje stotina elemenata i njihova klasifikacija po više kriterijuma mogu da zahtevaju puno vremena. Ovo stvara potrebu da se ipak ograniči broj kriterijuma koji se razmatraju. Korišćenje AHP metode obezbeđuje kombinovanje ovih kriterijuma i generiše konzistentne mere koje mogu da se iskoriste za klasifikaciju elemenata po ABC strukturi. Nova klasifikacija daje kompletniju analizu.

REFERENCE

1. I. Mihajlović, *Logistika proizvodnje*, Tehnički fakultet u Boru, Bor, 2008, p. 38.
2. Y. Chen et all, *A case-based distance model for multiple criteria ABC analysis*, Computers & Operations Research 35, 2008, pp. 776 – 796.
3. Chao-Hsien Chu, Ying-Chan Chu, *Computeruzed ABC Analysis: The Basis for Inventory Management*, Computers ind. Engn Vol. 13, 1987, pp. 66-70.
4. B. E. Flores, D. L. Olson, V. K. Dorai, *Management of Multicriteria Inventory Classification*, Mathl. Comput. Modelling Vol. 16, No. 12, 1992, pp. 71-82.
5. Y. Min-Chun, *Multi-criteria ABC analysis using artificial-intelligence-based*, Expert Systems with Applications 38, 2011, pp. 3416–3421.
6. N. Wan Lung, *A simple classifier for multiple criteria ABC analysis*, European Journal of Operational Research 177, 2007, pp. 344–353.
7. T.L.Saaty, *The analytichierarchy process*, McGraw-Hill, New York, 1980.
8. R. Ramanathan, *ABC inventory classification with multiple-criteria using*. 2006, Computers & Operations Research 33, pp. 695-700.

ECOLOGICAL AWARENESS OF STUDENTS OF TECHNICAL FACULTY IN BOR, UNIVERSITY OF BELGRADE

Sanela Božinović¹, Milica Niculović¹, Dragan Randelović²

¹University of Belgrade, Technical faculty in Bor, Serbia; ²Association of young researchers Bor, Serbia

Abstract: Consideration of ecological awareness represents an important global process which led to evoking ecological awareness on local level. In order to determine the level of ecological awareness in Bor and to obtain the real situation about the most important ecological problems and solutions, students of Technical faculty in Bor, University of Belgrade are surveyed. Most students considered that air pollution is the biggest ecological problem which can be solved by building a new metallurgical plants. Obtained results are compared with research results from 2013 where citizens of Bor are surveyed within revision of Local Ecological Action Plan (LEAP) for the Municipality of Bor.

Keywords: ecological awareness, environment, air pollution, students, Technical faculty, LEAP, Bor.

UVOD

Intenzivan razvoj privrede, brz rast industrijske proizvodnje i porast životnog standarda prouzrokovali su zagađenje svih komponenti životne sredine (vode, vazduha i zemljišta). Pomenuti ekološki problemi na globalnom i lokalnom nivou doveli su do razvoja ekološke svesti stanovnika Zemlje jer "ekološka svest" danas predstavlja odgovor na veliku zagađenost naše planete. Autori Kolmus i Agyeman definisali su ekološku svest kao poznavanje uticaja ljudskog ponašanja na životnu sredinu [1]. Između ostalog, svest o životnoj sredini ograničena je sa nekoliko perceptivnih i emocionalnih ograničenja. Perceptivna ograničenja uključuju kompleksnost mnogih ekoloških problema, koji prave ozbiljan kompromis između antropogenih aktivnosti i životne sredine [1].

RAZVOJ EKOLOŠKE SVESTI U BORU

Ekološka svest nastaje i razvija se pre svega na osnovu i u tesnoj vezi sa osnovnim ekološkim problemima u okruženju pojedinaca i njihovih zajednica, ali na nju u značajnoj meri utiču i procesi obrazovanja i vaspitanja, informisanja, društvenih i političkih aktivnosti.

Izgradnja industrijskih postrojenja u lokalnoj sredini, može dovesti do "buđenja" ekološke svesti stanovništva na lokalnom nivou [2]. U lokalnoj borskoj sredini na ekološku svest bi uticao, pre svega, karakter proizvodnih procesa koji imaju veliki negativni uticaj na

stanje životne sredine, ali i razvijenost i usmerenost sistema ekološkog obrazovanja, informisanja i ekoloških aktivnosti organa vlasti, nevladiniog sektora i samih građana.

Rudarsko – topioničarski basen Bor bavi se proizvodnjom bakra i ima izuzetan značaj za razvoj privrede Bora. Tehnološki proces prerade bakarnih sirovina iz Rudarsko – topioničarskog basena Bor praćen je izdvajanjem zagađujućih materija koje zagađuju vazduh, vodu i zemljište na teritoriji opštine Bor i šireg okruženja. Iz topioničkog dimnjaka se u atmosferu emituju gasovi, čestice prašine i teški metali [3]. „Gasovi se prenose na opštinu Bor i okolinu, a vazдушnim strujanjem raznose i na teritorije susednih država“ [3]. Otpadne vode na teritoriji opštine Bor se mogu svrstati u dve grupe [3]:

- bakronosne otpadne vode iz rudarskog dela i
- otpadne vode metalurško – hemijskog kompleksa iz fabrika sumporne kiseline i elektrolize bakra.

Takođe, pored vazduha i vode, zagađeno je i poljoprivredno zemljište u dometu topioničkog dima, dok je zemljište u dolini Borske reke i Timoka trajno uništeno [3]. „Pored industrijskog zagađenja, Bor i njegova okolina, suočeni su sa komunalnim zagađenjem velikih razmera“ [3].

Navedene činjenice bili su glavni razlozi za donošenje LEAP-a, kao osnovnog dokumenta za preduzimanje mera sanacije izvora zagađenja, uvođenja čistih tehnologija, rekultivacije i revitalizacije degradiranih i zagađenih prostora, očuvanje biološke raznovrsnosti, zaštite zdravlja stanovništva i koncipiranja održivog razvoja [3]. „Opština Bor je druga opština u Srbiji, koja je sačinila Lokalni ekološki akcioni plan (LEAP) još 2003. godine. Izrada plana i početne prioritete aktivnosti primene finansirani su od strane UNEP-a. LEAP je predstavljen na Evropskoj ministarskoj konferenciji o životnoj sredini u Kijevu, što je omogućilo dobijanje dodatnih finansijskih sredstava“ [4]. Izmenjeni zakonski propisi, lokalne strategije, planovi i odluke, ekonomski i socijalni uslovi su zahtevali reviziju postojećeg LEAP-a 2013. godine [4].

LEAP Bor je jedan od malog broja ovakvih strateških dokumenata koji ekološku svest vidi kao značajan faktor stanja životne sredine, te opisuje i predviđa niz aktivnosti na planu razvoja ekološke svesti - od uvođenja ekološke edukacije u sve obrazovne institucije, posebno ekoloških smerova u srednjim stručnim školama i na fakultetu, ekoloških emisija u medijima, ekoloških naučno-stručnih skupova, do različitih ekoloških programa, kampanja i aktivnosti ekoloških NVO. Jedna od takvih kompleksnih obrazovno informativnih aktivnosti je i program Ekološki dani Bora.

Dani mladih istraživača Bora, u okviru kojih je pokrenuto pre više od desetak godina obeležavanje značajnih ekoloških datuma, prerasli su kroz LEAP proces u Ekološke dane Bora. Od 2005. godine, ovaj program se realizuje kao „Ekološki dani Bora i borskog okruga“. Od 2008. godine, ovaj program, podržava i opština Bor svojim budžetskim sredstvima. Kroz navedeni period, pomenuti program je izrastao u ekološki brend borske sredine i predstavlja jedan od njenih odgovora na probleme „crne ekološke tačke“. Ovaj program predstavlja kompleksni, multimedijalni, partnerski, originalan i inovativan programski model, koji se oslanja na savremene informatičke tehnologije [5]. Tokom 2014. godine je obeleženo preko trideset značajnih svetskih ekoloških datuma:

- Svetski dan obrazovanja o životnoj sredini - 26. januar;
- Međunarodni dan energetske efikasnosti - 5. mart;
- Svetski dan šuma - 21. mart;
- Svetski dan voda - 22. mart;
- Svetski dan meteorologije - 23. mart;
- Svetski dan zdravlja - 7. april;
- Svetski dan planete Zemlje - 22. april;
- Svetski dan biodiverziteta - 22. maj;
- Svetski dan zaštite životne sredine - 5. jun;
- Svetski dan zaštite vazduha - 3. novembar;
- Svetski dan zemljišta - 5. decembar;
- Međunarodni dan planina - 11. decembar i drugi.

Program je obuhvatio organizovanje raznih tribina, prezentacija, izložbi, izleta i akcija od strane brojnih organizatora i učesnika.

CILJEVI ISTRAŽIVANJA

Kittredge i drugi su ispitivali ekološku svest privatnih zemljoposjednika, koristeći elektronske ankete kako bi procenili prisnost, znanje i iskustvo sa menadžmentom zemljišta [6]. Povećavanjem znanja lokalnog stanovništva, dobijaju se isplativi resursi za istraživanje i menadžment [7]. Ekološki otisak predstavlja analizu koju širom sveta koriste mnoge organizacije, između ostalog i univerziteti. Oni računaju svoje ekološke otiske koje koriste u procesu obrazovanja studenata [8]. Ključ socijalnog obrazovanja svakako predstavlja priprema studenata na izazov održivog razvoja, sa kojim se društvo suočava sada, ali i u budućnosti [8].

U ovom radu, ispitivana je ekološka svest studenata Tehničkog fakulteta u Boru, Univerziteta u Beogradu. Sprovedena je anketa, kako bi se utvrdio nivo ekološke svesti studenata Tehničkog fakulteta u Boru, Univerziteta u Beogradu. Anketni podaci su upoređeni sa podacima koji su dobijeni prilikom anketiranja građana Bora u okviru izrade revidiranog lokalnog ekološkog akcionog plana opštine Bor (LEAP-a) u 2013. godini [4]. Anketna pitanja su obuhvatila ocene i mišljenja studenata o stavu životne sredine i najvažnijim ekološkim problemima, koje privredne grane dalje prioritarno razvijati i šta prvo uraditi kako bi se rešili ekološki problemi, kao i ko najviše doprinosi rešavanju ekoloških problema i ko treba prvenstveno da ih rešava [9]. Anketa je sprovedena tokom aprila 2015. godine na uzorku od 205 ispitanika popunjavanjem upitnika u elektronskom obliku.

Glavna pretpostavka ankete je bila da se ekološka svest ispitanih studenata stalno razvija i jača i da je u vezi za intenzitetom različitih aktivnosti pokrenutih u proteklom periodu povodom obeležavanja važnih svetskih ekoloških datuma. Mišljenje studenata, dato u anketi, trebalo je da pokaže kakve su promene u ekološkoj svesti na najvažnijim ekološkim pitanjima.

METODOLOGIJA ISTRAŽIVANJA

U cilju ispitivanja ekološke svesti studenata Tehničkog fakulteta u Boru, Univerziteta u Beogradu, korišćena je anketa, koja je realizovana u okviru priprema za reviziju, odnosno aktuelizaciju postojećeg LEAP-a opštine Bor [4]. Anketni podaci su prikupljeni preko Facebook društvene mreže putem dobrovoljnog i anonimnog anketiranja. Sprovedeno anketiranje je uključilo studente svih studijskih programa i godina Tehničkog fakulteta u Boru, Univerziteta u Beogradu. Struktura učesnika je pokazala da se radi o studentima koji pripadaju tzv. zainteresovanoj javnosti za rešavanje ekoloških problema, pa su njihove ocene i mišljenja veoma značajni za veće učešće studenata Tehničkog fakulteta u Boru, Univerziteta u Beogradu u ekološkim aktivnostima. Prikaz sprovedene ankete dat je u prilogu (Prilog 1.).

Od ukupno 205 ispitanih studenata, muških ispitanika je bilo 67 (32,7%), a ženskih ispitanika 138 (67,3%). Najveći broj ispitanika (72,7%) koji su učestvovali u ovom istraživanju ima između 21 i 23 godine, zatim slede ispitanici sa starosnom granicom od 24 do 26 godina (10,7%), ispitanici preko 26 godina (8,8%), i na kraju studenti ispitanici koji imaju starosnu granicu od 18 do 20 godina (7,8%).

REZULTATI ISTRAŽIVANJA I DISKUSIJA

Po mišljenju studenata Tehničkog fakulteta u Boru, Univerziteta u Beogradu, najveći ekološki problem u opštini Bor je zagađenje vazduha, čak 91,2% ispitanih studenata tako misli. Ostala mišljenja su u manjoj meri prisutna. Da je otpad najveći ekološki problem u opštini Bor, misli 3,9% anketiranih studenata, 2,0% studenata misli da je zagađenje voda bitan problem, dok 1,5% ispitanika ima podeljeno mišljenje da su zagađenje zemljišta i niska ekološka svest glavni problemi. Ovaj poslednji podatak nam, između ostalog ukazuje, da je kod studenata tehničkih struka ekološka svest pre svega usmerena na uticaj tehnologija i proizvodnje na životnu sredinu, pa samim tim oni ne vide samu ekološku svest, kulturu i ponašanje kao problem i uzrok zagađenja. Što se tiče podataka iz LEAP-a, takođe je zagađenje vazduha etiketirano kao najveći problem, 63% građana je tako mislilo, dok su ostali podaci malo drugačiji, 20% građana je glasalo za nisku ekološku svest, 5% građana za otpad, dok su mišljenja 4% građana podeljena za zagađenje zemljišta i vode i ostale ekološke probleme [4].

Kao što je i očekivano, velika većina anketiranih studenata Tehničkog fakulteta u Boru, Univerziteta u Beogradu, ocenjuje da je životna sredina u borskoj opštini zagađena (85,9%) i čak veoma zagađena (10,7%). Ostatak ispitanika, 2,0% misli da je životna sredina malo zagađena, dok 1,5% ocenjuje da nije zagađena.

Takođe, na osnovu sprovedene ankete, možemo zaključiti da je ekološka svest ispitanih studenata Tehničkog fakulteta u Boru, Univerziteta u Beogradu, pod uticajnim dejstvom najtežih ekoloških problema u borskoj sredini – zagađenosti vazduha, 92,7% studenata je izjavilo da je vazduh u opštini Bor veoma zagađen. Ostali odgovori su prisutni u manjoj meri, 3,4% ispitanika misli da je malo zagađen, 2,9% ispitanika da je zagađen, a 1,0% ispitanika da nije zagađen. Prilikom izrade LEAP-a, 68% anketiranih građana je izjavilo da je

vazduh u Boru veoma zagađen, 30% ispitanika da je zagađen, 2% ispitanika da je malo zagađen, dok nijedan građanin nije odgovorio da vazduh u Boru nije zagađen [4].

Anketirani studenti su pravili razliku po pitanju kvaliteta vode Brestovačke i Borske reke. Brestovačka reka je po mišljenju studenata zagađena (89,3%), dok 4,9% ispitanika misli da je malo zagađena, 3,4% da je veoma zagađena, a ostatak (2,4%) da je čista. Kada je u pitanju, Borska reka, 89,8% ispitanih studenata misli da je voda veoma zagađena, 4,9% ispitanika da je zagađena, dok u manjem procentu, 3,4% ispitanika misle da je malo zagađena, a 2,0% da je čista. Ovakvo mišljenje studenata se bazira na činjenici da je Brestovačka reka u većoj meri zagađena komunalnim otpadnim vodama u odnosu na Borsku reku koja je zagađena industrijskim otpadnim vodama (koje inače faktički "sterilišu" komunalne otpadne vode samog grada Bora). Iz LEAP anketnih rezultata se uočavaju male razlike po pitanju kvaliteta voda Brestovačke i Borske reke. Naime, po mišljenju građana, Brestovačka reka je veoma zagađena (51%), a takođe i Borska reka (77%) [4].

Anketni rezultati pokazuju da je po mišljenju studenata i poljoprivredno zemljište u opštini Bor zagađeno (89,8%), 3,9% ispitanika deli mišljenje da je zemljište malo zagađeno, odnosno da nije zagađeno, dok 2,4% ispitanika misli da je veoma zagađeno. Ovi rezultati ukazuju na okupiranost studenata glavnim problemom na teritoriji opštine Bor – zagađenim vazduhom. Građani su svoje mišljenje u okviru LEAP ankete raspodelili na drugačiji način, 65% ispitanika je reklo da je poljoprivredno zemljište zagađeno, 23% da je malo zagađeno, 11% ispitanika da je veoma zagađeno, dok je 1% ispitanika mislio da nije zagađeno [4].

Dobijeni rezultati koji se odnose na zaštitu prostora očuvane prirode u opštini, pokazuju da studenti imaju kritičku svest o potrebi zaštite očuvane prirode. Najveći broj studenata (89,8%) je ocenio da se očuvana priroda ne štiti dobro, 5,9% smatra da se delimično štiti, dok 4,4% studenata misli da se priroda u opštini Bor dobro štiti. Što se tiče građana-ispitanika, većina (52%), takođe misli da se priroda ne štiti dobro, 42% misle da se delimično štiti, dok manji deo (6%) procenjuje da se priroda dobro štiti [4]. Podaci dobijeni ispitivanjem studenata nam takođe ukazuju da su studenti Tehničkog fakulteta u Boru, Univerziteta u Beogradu svesni koliko je vredan „zeleni potencijal“ opštine Bor.

Da stanje životne sredine, ipak utiče na naše zdravlje, najbolje pokazuje mišljenje ispitanih studenata. Kod 91,2% ispitanika prisutno je mišljenje da stanje životne sredine negativno utiče na zdravlje, dok se 3,4% studenata izjasnilo da ne utiče, 2,9% da pozitivno utiče, a 2,4% ispitanika da im nije poznato. Navedeni statistički podaci se, pre svega odnose na uticaj zagađenog vazduha na respiratorni sistem stanovnika Bora.

Informisanost o stanju životne sredine je veoma bitna za učešće studenata Tehničkog fakulteta u Boru, Univerziteta u Beogradu u ekološkim akcijama i rešavanju ekoloških problema. Na pitanje da li su informisani o stanju životne sredine u opštini Bor, ispitanici su u velikom broju (92,2%) odgovorili da su dobro informisani. Ostali ispitanici, 4,4% nema dovoljno informacija o stanju životne sredine na teritoriji opštine Bor, 2,4% ispitanika je odlično informisano, dok 1,0% ispitanika nije informisano. Prilikom popunjavanja LEAP ankete, 45% građana se izjasnilo da je dobro informisano o stanju životne sredine u opštini Bor, 34% građana da nema dovoljno informacija, 18% ispitanika da je odlično informisano, dok se 3,0% ispitanika izjasnilo da nije informisano [4]. Velika informisanost studenata o stanju životne sredine u opštini Bor može se pripisati činjenici da

na studijskim programima Tehničkog fakulteta u Boru, Univerziteta u Beogradu postoje stručni predmeti koji se bave ekološkim pitanjima.

Stepen i kvalitet informisanosti zavisi i od izvora informisanja [4], pa se u vezi sa tim u anketi postavilo pitanje preko kojih izvora se ispitanici najviše informišu o stanju životne sredine u opštini Bor. U najvećoj meri (86,3%) studenti se o ovom problemu informišu putem lokalnih televizija i radija, dok su mišljenja ostalih ispitanika (2,9%) podeljena na nacionalne televizije i radija, internet sajtove, i posete „otvorenih vrata“ RTB-a, za 2,4% studenata najbolja sredstva informisanja predstavljaju štampe i posete javnih tribina. Navedeni podaci svakako ukazuju na podršku lokalnih medija tokom obeležavanja programa „Ekoloških Dana Bora“ i ukazivanja na lokalne ekološke probleme. Obradeni rezultati iz LEAP-a, govore da su lokalne televizije i radija, kao i internet sajtovi najbolji izvor informisanja kod 33% građana, nacionalne televizije i radija kod 12% ispitanika, javne tribine i štampa kod 6% ispitanika, dok se 1% građana opredelio za „otvorena vrata“, a 9% za ostale izvore informisanja.

Studenti ispitanici smatraju da svi iz svoje nadležnosti trebaju da rešavaju probleme u opštini Bor (86,8%), dok 4,4% smatra da taj „zadatak“ pripada Rudarsko – topioničarskom basenu Bor, 3,4% misli da probleme treba da rešava opština, 2,4% je za državu, dok su mišljenja 1,5% ispitanika podeljena na javna preduzeća i građane. Iz rezultata LEAP ankete vidimo da građani takođe u najvećem broju misle (52%) da su svi iz svoje nadležnosti glavni nosioci rešavanja ekoloških problema u opštini Bor. Ostali ispitanici, 20% misli da je za to zadužena opština, 16% kaže da je RTB Bor, dok u manjem procentu (7%) misli da rešenja treba potražiti od države, 4% misli da je to „zadatak“ građana, a 1% ispitanika se izjasnio za javna preduzeća. [4]. Na osnovu odgovora, koji su dali studenti, može se zaključiti da im je u velikoj meri razvijena ekološka svest u rešavanju ekoloških problema.

Na pitanje, da li su spremni da se aktivno uključe u programe i akcije na poboljšanje stanja životne sredine, 90,7% studenata je dalo potvrđan odgovor, 4,9% negativan, dok bi se ostatak uključio 4,4% u zavisnosti od programa. I ovi rezultati takođe ukazuju na visoki stepen motivacije za učešćem i razvijene ekološke svesti studenata Tehničkog fakulteta u Boru, Univerziteta u Beogradu. Prilikom ispitivanja građana, 58% ispitanika bi se uključilo u ekološke akcije, 2% je dalo negativan odgovor, dok bi se 40% uključilo u zavisnosti od programa [4].

Prva mera koju treba preduzeti, kako bi se poboljšalo stanje životne sredine u opštini Bor, je izgradnja novih metalurških postrojenja (87,3%), 2,9% pridaje značaj rekultivaciji flotacijskih jalovišta, 2,0% studenata deli mišljenje da se prvo treba poboljšati sistem sakupljanja i odvoženja smeća, odnosno uraditi prostorni plan, 1,5% ispitanika misli da se trebaju izgraditi postrojenja za prečišćavanje rudničkih i metalurških otpadnih voda, odnosno očistiti divlje deponije, 1,0% ispitanika glasa za izgradnju postrojenja za prečišćavanje komunalnih otpadnih voda, odnosno za uvođenje novih obrazovnih programa u školama, dok bi 0,4% ispitanika izgradilo regionalnu deponiju komunalnog otpada, odnosno uvelo nove emisije o životnoj sredini na televiziju i radiju. Navedeni rezultati pokazuju da je kod ispitanih studenata prisutna svest o uvođenju savremenih tehnologija, kako bi se rešio problem zagađenja.

Kada je u pitanju razvoj privrednih grana, 87,8% ispitanih studenata misli da se sve privredne grane trebaju ravnomerno razvijati, 2,9% je glasalo za rudarstvo, 2,4% deli mišljenje za metalurgiju, odnosno poljoprivredu, 2,0% smatra da se šumarstvo treba razvijati,

1,5% je za turizam, dok 1,0% studenata glasa za rudarstvo i metalurgiju zajedno. Pomenuti odgovori pokazuju da je učvršćen preovlađujući stav da je neophodno podjednako, odnosno ravnomerno razvijati i rudarstvo i metalurgiju, ali i druge privredne grane na ostalim resursima koje poseduje opština Bor. Iz LEAP ankete se jasno vidi podeljenost mišljenja na ovu temu, 47% građana je za ravnomeran razvoj svih privrednih grana, 23% za rudarstvo i metalurgiju zajedno, 11% za turizam, 9% za poljoprivredu, 6% za rudarstvo, 2% za šumarstvo, dok se 1% građana opredelio za metalurgiju, odnosno ostale privredne grane [4].

Po mišljenju najvećeg broja studenata (83,4%), Rudarsko – topioničarski basen Bor, najviše doprinosi poboljšanju životne sredine u opštini Bor. Ovakav stav se može pripisati izgradnji nove topionice i primeni novih tehnologija u proizvodnji ovog industrijskog kompleksa. Ostala mišljenja, 5,9% ispitanika, doprinos pripisuje nevladinim organizacijama u opštini, 2,4% opštinskim službama, 2,0% smatra da je to opštinsko veće, 1,5% studenata glasa za škole i pojedince, 1,0% ispitanika deli mišljenje za javna preduzeća, odnosno inspektore za zaštitu životne sredine, dok ostatak ispitanika misli da su to skupština opština, nadležno ministarstvo i mesne zajednice. Rezultati iz LEAP-a se razlikuju, 26% građana je odgovorilo da ekološke organizacije u opštini imaju najveći doprinos, 22% ispitanika je glasalo za pojedince, 15% za opštinske organe, 14% za RTB Bor, 6% za državne organe, 5% za škole, dok je ostatak (12%) bio za ostale institucije [4].

ZAKLJUČAK

Ekološka svest mladih se u velikoj meri razvija i dobija na značaju jer njima ostaju ugrožena područja i prirodna bogatstva koje treba štiti. Takođe, mlada populacija predstavlja ogroman „resurs“, koji bi trebalo da se koristi tokom sprovođenja „vršnjačke edukacije“, koja ima za cilj dobijanje znanja od svojih vršnjaka, prilikom učešća u programu „Ekološki dani Bora“. Na osnovu anketiranja studenata Tehničkog fakulteta u Boru, Univerziteta u Beogradu može se zaključiti da je ekološka svest studenata veoma razvijena, da su dobro informisani o stanju životne sredine (92,2%) i da se najčešće informišu putem lokalnih televizija i radija (86,3%). 89,8% ispitanih studenata Tehničkog fakulteta u Boru, Univerziteta u Beogradu imaju kritičku svest o potrebi zaštite očuvane prirode i smatra da se očuvana priroda ne štiti dobro, dok je čak 90,7% studenata spremno da se aktivno uključi u programe i akcije na poboljšanju stanja životne sredine što je izuzetno visok procenat! Najveći ekološki problem u opštini Bor jeste zagađenje vazduha (91,2%) što se može rešiti izgradnjom novih metalurških postrojenja (87,3%). Po mišljenju 83,4% ispitanika, Rudarsko – topioničarski basen Bor može najviše doprineti poboljšanju životne sredine izgradnjom nove topionice i primenom novih tehnologija u proizvodnji bakra, što jasno ukazuje na prisutnu svest o uvođenju savremenih tehnologija kao rešenja problema zagađenja. Zanimljiva je činjenica da je 5,9% ispitanika mišljenja da, pored Rudarsko – topioničarskog basena Bor, nevladine organizacije mogu dati značajan doprinos u poboljšanju životne sredine, najverovatnije putem edukacije i razvoja ekološke svesti građana Bora. Navedene činjenice i rezultati ukazuju da studenti Tehničkog fakulteta u Boru, Univerziteta u Beogradu, predstavljaju „mlade intelektualce“, koji će svojim angažovanjem u budućnosti doprineti rešavanju ekoloških problema i jačanju ekološke svesti stanovnika Bora i cele planete.

Zato bi bilo neophodno i korisno u narednom periodu više uključiti studente i uopšte mlade u rešavanje ekoloških problema, posebno u sagledavanju novih problema kao što su klimatske promene, učešće javnosti u odlučivanju o zaštiti životne sredine, unošenje većeg stepena znanja i nauke i ekološke svesti u rešavanje ekoloških problema i dr.

REFERENCE

- [1] E. S. W. Chan, A. H. Y. Hon, W. Chan, F. Okumus, What drives employees' intentions to implement green practices in hotels? The role of knowledge, awareness, concern and ecological behaviour, *International Journal of Hospitality Management* 40 (2014) 20–28
- [2] G. Weiss, The influence of the local level on innovations in environmental technology The case of the German kraft pulp industry, *Geoforum* 39 (2008) 20–31
- [3] T. Marjanović, D. Ranđelović, Projektne osnove učešća javnosti u donošenju lokalnih ekoloških akcionih planova, *Ekološki klub Društva mladih istraživača, Bor 2002.*[4] M. Trumić, Maja Trumić, Toplica Marjanović, Dragan Ranđelović, Lokalni ekološki akcioni plan opštine Bor 2013-2022. godine, Univerzitet u Beogradu – Tehnički fakultet u Boru, Bor 2013.
- [5] Katalog Društvo mladih istraživača Bor, Kancelarija za zaštitu životne sredine opštine Bor, *Ekološki dani Bora, Bor, 2013.*
- [6] D. B. Kittredge, A. G. S. Gianotti, L. R. Hutyra, D. R. Foster, J. M. Getson, Landowner conservation awareness across rural-to-urban gradients in Massachusetts, *Biological Conservation* 184 (2015) 79–89.
- [7] S. T. Turvey, C. Fernández-Secades, J. M. Nuñez-Miño, T. Hart, P. Martinez, J. L. Brocca, R. P. Young, Is local ecological knowledge a useful conservation tool for small mammals in a Caribbean multicultural landscape?, *Biological Conservation* 169 (2014) 189–197.
- [8] W. Lambrechts, L. V. Liedekerke, Using ecological footprint analysis in higher education: Campus operations, policy development and educational purposes, *Ecological Indicators* 45 (2014) 402–406.
- [9] D. Ranđelović, M. Trumić, T. Marjanović, Lj. Marković-Luković, Maja Trumić, Ekološka svest građana Bora: Deset godina lokalnog ekološkog akcionog plana (LEAP) 2003-2013, *Limes-Časopis za društvene i humanističke nauke* (2014) 169-179.

PRILOG 1

ANKETA

Poštovani,

Anketa koja se nalazi pred Vama predstavlja instrument istraživanja koje se realizuje u okviru ispitivanja i ocenjivanja ekološke svesti građana Bora. Rezultati će biti prikupljeni u cilju dobijanja realne slike nivoa ekološke svesti o stepenu zagađenja na teritoriji opštine Bor.

Anketa je anonimna. Podaci koji se budu dobili biće korišćeni isključivo u navedene svrhe. Anketa sadrži niz pitanja sa ponuđenim odgovorima, a od Vas se očekuje da se opredelite označavanjem samo jednog od ponuđenih odgovora koji najpribližnije izražava Vaš lični stav o tvrdnji iznetoj u pitanju.

Unapred hvala na saradnji!

1. Pol:
 - 1) muški
 - 2) ženski

2. Godine starosti:
 - 1) 18-20
 - 2) 21-23
 - 3) 24-26
 - 4) preko 26

3. Koji je po Vašem mišljenju najveći ekološki problem u opštini Bor:
 - a) Otpad,
 - b) Zagađenje voda,
 - c) Zagađenje vazduha,
 - d) Zagađenje zemljišta,
 - e) Niska ekološka svest.

4. Ocenite stanje životne sredine u opštini Bor:
 - a) Veoma zagađena,
 - b) Zagađena,
 - c) Malo zagađena,
 - d) Nije zagađena.

5. Kako ocenjujete stanje kvaliteta vazduha u opštini Bor:
 - a) Veoma zagađen,
 - b) Zagađen,
 - c) Malo zagađen,
 - d) Nije zagađen.

6. Ocenite kvalitet vode Brestovačke reke:
 - a) Veoma zagađena,
 - b) Zagađena,
 - c) Malo zagađena,
 - d) Čista.

7. Ocenite kvalitet vode Borske reke:

- a) Veoma zagađena,
 - b) Zagađena,
 - c) Malo zagađena,
 - d) Čista.
8. Po Vašem mišljenju kakvo je stanje poljoprivrednog zemljišta u opštini Bor:
- a) Veoma zagađeno,
 - b) Zagađeno,
 - c) Malo zagađeno,
 - d) Nije zagađeno.
9. Da li smatrate da se dobro štite prostori očuvane prirode u opštini:
- a) Da,
 - b) Delimično,
 - c) Ne.
10. Da li stanje životne sredine, po Vašem mišljenju, utiče na Vaše zdravlje:
- a) Da, pozitivno,
 - b) Da, negativno,
 - c) Ne utiče,
 - d) Nije mi poznato.
11. Da li ste informisani o stanju životne sredine u opštini Bor:
- a) Odlično sam informisan(a),
 - b) Dobro sam informisan(a),
 - c) Nemam dovoljno informacija,
 - d) Nisam informisan(a).
12. Kako se najbolje informišete o stanju životne sredine:
- a) Putem nacionalnih televizija i radija,
 - b) Putem lokalnih televizija i radija,
 - c) Putem štampe,
 - d) Putem internet sajtova,
 - e) Posetom javnih tribina,
 - f) Posetom "otvorenih vrata" RTB-a.
13. Ko prevashodno treba da rešava probleme životne sredine u opštini Bor:
- a) Opština,
 - b) Rudarsko topioničarski basen Bor,
 - c) Javna preduzeća,
 - d) Država,
 - e) Svi iz svoje nadležnosti,
 - f) Građani.
14. Da li ste spremni da se aktivno uključite u programe i akcije na poboljšanju stanja životne sredine:
- a) Da,
 - b) Ne,
 - c) Zavisno od programa.
15. Šta prvo treba uraditi da bi se poboljšalo stanje životne sredine u opštini:
- a) Izgraditi nova metalurška postrojenja,
 - b) Rekultivisati flotacijska jalovišta,

- c) Izgraditi postrojenja za prečišćavanje rudničkih i metalurških otpadnih voda,
 - d) Izgraditi postrojenje za prečišćavanje komunalnih otpadnih voda,
 - e) Poboljšati sistem sakupljanja i odvoženja smeća,
 - f) Očistiti divlje deponije,
 - g) Izgraditi regionalnu deponiju komunalnog otpada,
 - h) Uraditi prostorni plan,
 - i) Uvesti nove emisije o životnoj sredini na radio i televiziji,
 - j) Uvesti nove obrazovne programe u školama.
16. Koju privrednu granu treba prioritarno razvijati:
- a) Rudarstvo,
 - b) Metalurgiju,
 - c) Rudarstvo i metalurgiju,
 - d) Poljoprivredu,
 - e) Turizam,
 - f) Šumarstvo,
 - g) Sve ravnomerno.
17. Ko najviše doprinosi poboljšanju životne sredine u opštini Bor:
- a) Skupština opštine,
 - b) Opštinsko veće,
 - c) Javna preduzeća,
 - d) Opštinske službe,
 - e) Rudarsko topioničarski basen Bor,
 - f) Nevladine organizacije u opštini,
 - g) Inspektori zaštite životne sredine,
 - h) Nadležno ministarstvo,
 - i) Škole,
 - j) Mesne zajednice,
 - k) Pojedinci.

THE IMPACT OF TRAFFIC ON AIR QUALITY AT THE INTERSECTION STREETS IN NISH

Žarko Vranjanac, Jovana Stojanović

University of Nish, Faculty of Occupational Safety in Nish, Serbia

Abstract: Traffic is an important and necessary part of modern society, but its prevalence and intensity identified as factors that contribute to certain adverse effects. Traffic congestion affecting the environment, reduce the level of air quality, and reduce the effectiveness and efficiency of the transport system by increasing travel time, increasing fuel consumption and others. To determine the amount of emitted gaseous pollutants arising from road traffic, in this paper, uses the software tool COPERT IV, which is based on the MS Windows platform. The remainder of this paper will present a description of the location, the required data, and the results of measurements emission of pollutants at the busiest intersection in Nish.

Keywords: air quality, environment, traffic, emission, pollutants.

1. UVOD

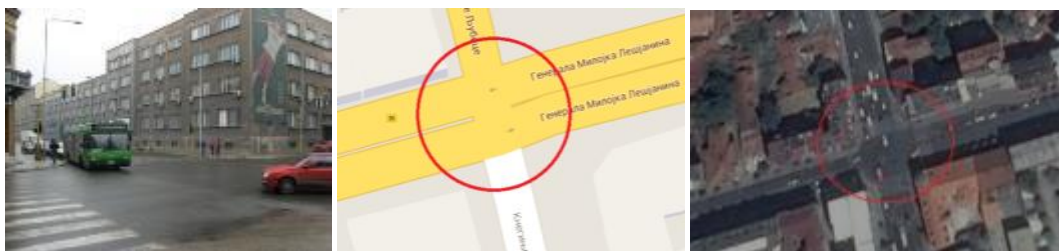
Sa aspekta zaštite životne sredine, značajan negativan uticaj saobraćaja je zagađivanje vazduha. Svaki utrošeni litar fosilnog goriva sagorevanjem proizvede približno 100 g ugljen-monoksida, 20 g isparljivih organskih jedinjenja, 30 g azotnih oksida, 2,5 g ugljen-dioksida i mnogih drugih štetnih i otrovnih materija, kao što su jedinjenja olova, sumpora i čvrste čestice.[1] Sva ova jedinjenja dovode do aerozagađenja, bilo direktnim uticajem na zdravlje ili globalno, npr. na izazivanje efekta staklene bašte.[2]

Za određivanje količine emisije gasovitih zagađujućih materija, koje potiču od drumskog saobraćaja, koristi se softverski alat COPERT IV⁸², koji je baziran na MS Windows platformi. [1]Razvoj ove metode je finansirala Evropska agencija za zaštitu životne sredine u okviru aktivnosti Evropskog tematskog centra za vazduh i klimatske promene, i on predstavlja jedini priznati alat za ove namene na evropskom nivou. Primena softverskog alata za proračun emisije zagađivača od strane drumskih transportnih sredstava, omogućava izradu transparentnih, standardizovanih i uporedivih baza podataka i procedura izveštavanja o emisiji zagađivača, u saglasnosti sa međunarodnim sporazumima i zakonodavstvom EU. [2]

⁸² COPERT IV je model i softverski alat za određivanje količine emitovanih zagađujućih materija koje potiču od drumskog saobraćaja.

2. OPIS LOKACIJE

Za istraživanje, koje se prikazuje u okviru ovog rada, izabrana je raskrsnica ulica Generala Milojka Lešjanina i Knjeginje Ljubice u gradu Nišu, opština Medijana. Predstavlja jednu od najfrekventnijih raskrsnica u gradu Nišu, koju karakteriše visoka frekvencija autobusa, putničkih, lakih i teških teretnih vozila kao i motocikala. Nalazi se u samom centru grada i predstavlja komunikaciju koja je od značaja za pristup mnogim centrima koji se nalaze u gradu, kao i izlaz iz njega.[3] Ova raskrsnica je prikazana na slici 1.



Slika 1. Slika, mapa i satelitski snimak lokacije

3. POTREBNI PODACI

Dužina pređenog puta na posmatranoj lokaciji iznosi 100m. Dok je saobraćaj praćen u dva vremenska intervala od po 1^h, pre podne u periodu od 9^h do 10^h, kao i posle podne u periodu od 16^h do 17^h. [5] Podaci koji su potrebni za proračun emisije zagađujućih supstanci na ovoj lokaciji i u datom vremenskom intervalu, prikazani su u tabelama, 1, 2 i 3.

Tabela 1. Karakteristična potrošnja goriva po km, po kategorijama vozila i za pređeni put ($FC_{j,m}$)

KATEGORIJA VOZILA	GORIVO	PROSEČNA POTROŠNJA GORIVA	PREĐENI PUT[km]	POTOŠNJA GORIVA ZA DATI PREĐENI PUT
AUTOBUS	BG	500	0,100	50
	B	/		/
	ED	240		24
MOTOCIKL	BG	/		/
	B	35		3.5
	ED	/		/
PUTNICKO	BG	57,5		5.75
	B	70		7
	ED	60		6
L.TERETNO	BG	/		/
	B	100		10
	ED	80		8

Tabela 2. Procenat registrovanih autobusa, motocikala, putničkih vozila i lakih teretnih vozila na teritoriji grada Niša, prema vrsti pogonskog goriva.

KATEGORIJA VOZILA	B-G[%]	B[%]	ED[%]	UKUPNO
AUTOBUS	1,29	0	98,71	77
MOTOCIKL	0	99,88	0,12	816
PUTNICKO	34,76	39,19	26,2	44770
L.TERETNO	15,73	8,8	75,45	1132

Tabela 3. Broj autobusa, motocikala, putničkih vozila i lakih teretnih vozila koji su prošli na datoj lokaciji u vremenskom intervalu od 2^h, prema vrsti pogonskog goriva

KATEGORIJA VOZILA	B-G	B	ED	UKUPNO
AUTOBUS	2	0	130	132
MOTOCIKL	0	10	0	10
PUTNICKO	1162	1310	876	3348
L.TERETNO	31	18	149	198
UKUPNO	1195	1327	1155	3688

Skraćenice:

BG– Benzin-gas

B – Bezolovni benzin

ED – Evrodizel

4. PRORAČUN EMISIJE IZDUVNIH GASOVA

Softverskim alatom COPERT IV procenjuje se emisija najznačajnijih zagađujućih supstanci kao što su ugljen monoksid (CO), azotni oksidi (NO_x), amonijak (NH₃), teški metali kao i gasova koji utiča na efekat staklene bašte (CO₂, N₂O, CH₄). [2]Program omogućava i određivanje elementarnog ugljenika i organskih čestica kao i nemetanskih isparljivih organskih jedinjenja (NMVOC) tokom rada motora na stabilnoj temperature što podrazumeva tzv. toplu emisiju i emisiju koja se javlja prilikom pokretanja motora tzv. hladan start. Sastvani je deo EMEP/EEA Emission Inventory Guidebook⁸³, metodologije UNFCCC⁸⁴, UNECE⁸⁵, TFEIP⁸⁶ kao i UNECE CLRTAP⁸⁷, kao i uputstva EU o maksimalnim emisijama

⁸³ Emission Inventory Guidebook - vodič za kataster emisija

⁸⁴ United Nations Framework Convention on Climate Change – Okvirna konvencija UN o klimatskim promenama

⁸⁵ United Nations Economic Commission for Europe – Ekonomska komisija UN za Evropu

na nacionalnom nivou. Ovaj model podržava specijalizovani softver,[4] koji u potpunosti ispunjava zahteve proračuna u svim navedenim dokumentima i metodologijama. U početku je COPERT bio namenjen nacionalnim stručnjacima za procenu emisije zagađujućih supstanci koje potiču od drumskog saobraćaja, radi formiranja godišnjih izveštaja. [4] Danas, može da se koristi i u istraživanjima za naučnu i akademsku primenu.

COPERT IV model daje mogućnost izbora jednog od tri metoda (Tier 1⁸⁸, Tier 2, Tier 3) za procenu emisije zagađujuće supstance koja potiče od drumskog saobraćaja. Obračunavanje se vrši prema jednačini 1.:

$$E_i = \sum_j (\sum_m (FC_{j,m} \cdot EF_{i,j,m})) \quad (1)$$

Gde je:

E_i - Emisija zagađujuće supstance [kg]

$FC_{j,m}$ - Potrošnja m vrste goriva vozila kategorije j [kg]

$EF_{i,j,m}$ - Potrošnja goriva – specifični emisijski faktor zagađujuće supstance i za kategoriju vozila j i vrstu goriva m [g/kg] – tabelarno.

4.1. EMISIJA CO

$$E_{CO} = E_{CO,A} + E_{CO,M} + E_{CO,PV} + E_{CO,LTV}$$

$$E_{CO,A} = 2 \cdot FC_{BG,A} \cdot EF_{CO,BG,A} + 130 \cdot FC_{ED,A} \cdot EF_{CO,ED,A}$$

$$E_{CO,A} = 2 \cdot 0,5 [\text{kg}] \cdot 5,7 [\text{g/kg}] + 130 \cdot 0,24 [\text{kg}] \cdot 8 [\text{g/kg}] = 255,3 [\text{g}]$$

$$E_{CO,M} = 10 \cdot FC_{B,M} \cdot EF_{CO,B,M} = 10 \cdot 0,035 [\text{kg}] \cdot 490 [\text{g/kg}] = 171,5 [\text{g}]$$

$$E_{CO,PV} = 1162 \cdot FC_{BG,PV} \cdot EF_{CO,BG,PV} + 1310 \cdot FC_{B,PV} \cdot EF_{CO,B,PV} + 876 \cdot FC_{ED,PV} \cdot EF_{CO,ED,PV}$$

$$E_{CO,PV} = 1162 \cdot 0,0575 [\text{kg}] \cdot 68 [\text{g/kg}] + 1310 \cdot 0,07 [\text{kg}] \cdot 132 [\text{g/kg}] + 876 \cdot 0,06 [\text{kg}] \cdot 4,7 [\text{g/kg}]$$

$$E_{CO,PV} = 16894,852 [\text{g}]$$

$$E_{CO,LTV} = 18 \cdot FC_{B,LTV} \cdot EF_{CO,B,LTV} + 149 \cdot FC_{ED,LTV} \cdot EF_{CO,ED,LTV}$$

$$E_{CO,LTV} = 18 \cdot 0,1 [\text{kg}] \cdot 155 [\text{g/kg}] + 149 \cdot 0,08 [\text{kg}] \cdot 11 [\text{g/kg}] = 410,12 [\text{g}]$$

$$E_{CO} = E_{CO,A} + E_{CO,M} + E_{CO,PV} + E_{CO,LTV} = 17731,772 [\text{g}] = 17,731 [\text{kg}]$$

⁸⁶ Task Force on Emission Inventories and Projections – Radna grupa za popis i projekciju emisija u vazduhu

⁸⁷ Convention on LongRange Transboundary Air Pollution – Konvencija o dalekosežnom pregograničnom zagađenju vazduha.

⁸⁸ **Tier 1** metod koristi gorivo kao pokazatelj aktivnosti drumskog transporta, zajedno sa prosečnim specifičnim emisijskim faktorima goriva.

4.2. EMISIJA NMVOCs

$$E_{\text{NMVOCs}} = E_{\text{NMVOCs,A}} + E_{\text{NMVOCs,M}} + E_{\text{NMVOCs,PV}} + E_{\text{NMVOCs,LTV}}$$

$$E_{\text{NMVOCs,A}} = 2 \cdot FC_{\text{BG,A}} \cdot EF_{\text{NMVOCs,BG,A}} + 130 \cdot FC_{\text{ED,A}} \cdot EF_{\text{NMVOCs,ED,A}}$$

$$E_{\text{NMVOCs,A}} = 2 \cdot 0,5 [\text{kg}] \cdot 0,260 [\text{g/kg}] + 130 \cdot 0,24 [\text{kg}] \cdot 1,6 [\text{g/kg}] = 50,18 [\text{g}]$$

$$E_{\text{NMVOCs,M}} = 10 \cdot FC_{\text{B,M}} \cdot EF_{\text{NMVOCs,B,M}} = 10 \cdot 0,035 [\text{kg}] \cdot 114 [\text{g/kg}] = 39,9 [\text{g}]$$

$$E_{\text{NMVOCs,PV}} = 1162 \cdot FC_{\text{BG,PV}} \cdot EF_{\text{NMVOCs,BG,PV}} + 1310 \cdot FC_{\text{B,PV}} \cdot EF_{\text{NMVOCs,B,PV}} + 876 \cdot FC_{\text{ED,PV}} \cdot EF_{\text{NMVOCs,ED,PV}}$$

$$E_{\text{NMVOCs,PV}} = 1162 \cdot 0,0575 [\text{kg}] \cdot 10 [\text{g/kg}] + 1310 \cdot 0,07 [\text{kg}] \cdot 14 [\text{g/kg}] + 876 \cdot 0,06 [\text{kg}] \cdot 1,1 [\text{g/kg}] = 2009,766 [\text{g}]$$

$$E_{\text{NMVOCs,LTV}} = 18 \cdot FC_{\text{B,LTV}} \cdot EF_{\text{NMVOCs,B,LTV}} + 149 \cdot FC_{\text{ED,LTV}} \cdot EF_{\text{NMVOCs,ED,LTV}}$$

$$E_{\text{NMVOCs,LTV}} = 18 \cdot 0,1 [\text{kg}] \cdot 14 [\text{g/kg}] + 149 \cdot 0,08 [\text{kg}] \cdot 1,75 [\text{g/kg}] = 46,06 [\text{g}]$$

$$E_{\text{NMVOCs}} = E_{\text{NMVOCs,A}} + E_{\text{NMVOCs,M}} + E_{\text{NMVOCs,PV}} + E_{\text{NMVOCs,LTV}}$$

$$E_{\text{NMVOCs}} = 2145,906 [\text{g}] = 2,145 [\text{kg}]$$

4.3. EMISIJA NOX

$$E_{\text{NOX}} = E_{\text{NOX,A}} + E_{\text{NOX,M}} + E_{\text{NOX,PV}} + E_{\text{NOX,LTV}}$$

$$E_{\text{NOX,A}} = 2 \cdot FC_{\text{BG,A}} \cdot EF_{\text{NOX,BG,A}} + 130 \cdot FC_{\text{ED,A}} \cdot EF_{\text{NOX,ED,A}} = 2 \cdot 0,5 [\text{kg}] \cdot 13 [\text{g/kg}] + 130 \cdot 0,24 [\text{kg}] \cdot 37 [\text{g/kg}] = 1167,4 [\text{g}]$$

$$E_{\text{NOX,M}} = 10 \cdot FC_{\text{B,M}} \cdot EF_{\text{NOX,B,M}} = 10 \cdot 0,035 \text{ kg} \cdot 9,5 \text{ g/kg} = 3,325 [\text{g}]$$

$$E_{\text{NOX,PV}} = 1162 \cdot FC_{\text{BG,PV}} \cdot EF_{\text{NOX,BG,PV}} + 1310 \cdot FC_{\text{B,PV}} \cdot EF_{\text{NOX,B,PV}} + 876 \cdot FC_{\text{ED,PV}} \cdot EF_{\text{NOX,ED,PV}} = 1162 \cdot 0,0575 [\text{kg}] \cdot 15,5 [\text{g/kg}] + 1310 \cdot 0,07 [\text{kg}] \cdot 14,5 [\text{g/kg}] + 876 \cdot 0,06 [\text{kg}] \cdot 11 [\text{g/kg}] = 2943,442 [\text{g}]$$

$$E_{\text{NOX,LTV}} = 18 \cdot FC_{\text{B,LTV}} \cdot EF_{\text{NOX,B,LTV}} + 149 \cdot FC_{\text{ED,LTV}} \cdot EF_{\text{NOX,ED,LTV}} = 18 \cdot 0,1 [\text{kg}] \cdot 24 [\text{g/kg}] + 149 \cdot 0,08 [\text{kg}] \cdot 15 [\text{g/kg}] = 222 [\text{g}]$$

$$E_{\text{NOX}} = E_{\text{NOX,A}} + E_{\text{NOX,M}} + E_{\text{NOX,PV}} + E_{\text{NOX,LTV}} = 4336,167 [\text{g}] = 4,336 [\text{kg}]$$

4.4. EMISIJA PM

$$E_{\text{PM}} = E_{\text{PM,A}} + E_{\text{PM,M}} + E_{\text{PM,PV}} + E_{\text{PM,LTV}}$$

$$E_{\text{PM,A}} = 2 \cdot FC_{\text{BG,A}} \cdot EF_{\text{PM,BG,A}} + 130 \cdot FC_{\text{ED,A}} \cdot EF_{\text{PM,ED,A}}$$

$$= 2 \cdot 0,5 [\text{kg}] \cdot 0,02 [\text{g/kg}] + 130 \cdot 0,24 [\text{kg}] \cdot 1,2 [\text{g/kg}] = 37,46 [\text{g}]$$

$$E_{\text{PM,M}} = 47 \cdot FC_{\text{B,M}} \cdot EF_{\text{PM,B,M}} = 10 \cdot 0,035 [\text{kg}] \cdot 2,7 [\text{g/kg}] = 0,945 [\text{g}]$$

$$E_{\text{PM,PV}} = 1162 \cdot FC_{\text{BG,PV}} \cdot EF_{\text{PM,BG,PV}} + 1310 \cdot FC_{\text{B,PV}} \cdot EF_{\text{PM,B,PV}} + 876 \cdot FC_{\text{ED,PV}} \cdot EF_{\text{PM,ED,PV}}$$

$$E_{\text{PM,PV}} = 1162 \cdot 0,0575 [\text{kg}] \cdot 0 [\text{g/kg}] + 1310 \cdot 0,07 [\text{kg}] \cdot 0,037 [\text{g/kg}] + 876 \cdot 0,06 [\text{kg}] \cdot 1,7 [\text{g/kg}] = 92,7449 [\text{g}]$$

$$E_{\text{PM,LTV}} = 18 \cdot FC_{\text{B,LTV}} \cdot EF_{\text{PM,B,LTV}} + 149 \cdot FC_{\text{ED,LTV}} \cdot EF_{\text{PM,ED,LTV}}$$

$$E_{PM,LTV} = 18 \cdot 0,1[\text{kg}] \cdot 0,03[\text{g/kg}] + 149 \cdot 0,08[\text{kg}] \cdot 2,8[\text{g/kg}] = 33,43[\text{g}]$$

$$E_{PM} = E_{PM,A} + E_{PM,M} + E_{PM,PV} + E_{PM,LTV} = 164,5799[\text{g}] = 0,164[\text{kg}]$$

4.5. EMISIJA N₂O

$$E_{N2O} = E_{N2O,A} + E_{N2O,M} + E_{N2O,PV} + E_{N2O,LTV}$$

$$E_{N2O,A} = 2 \cdot FC_{BG,A} \cdot EF_{N2O,BG,A} + 130 \cdot FC_{ED,A} \cdot EF_{N2O,ED,A}$$

$$E_{N2O,A} = \text{nema.podataka} + 130 \cdot 0,24 [\text{kg}] \cdot 0,061 [\text{g/kg}] = 1,903[\text{g}]$$

$$E_{N2O,M} = 10 \cdot FC_{B,M} \cdot EF_{N2O,B,M} = 10 \cdot 0,035 [\text{kg}] \cdot 0,059 [\text{g/kg}] = 0,0206 [\text{g}]$$

$$E_{N2O,PV} = 1162 \cdot FC_{BG,PV} \cdot EF_{N2O,BG,PV} + 1310 \cdot FC_{B,PV} \cdot EF_{N2O,B,PV} + 876 \cdot FC_{ED,PV} \cdot EF_{N2O,ED,PV} = 1162 \cdot 0,0575 [\text{kg}] \cdot 1,94 [\text{g/kg}] + 1310 \cdot 0,07 [\text{kg}] \cdot 0,213 [\text{g/kg}] + 876 \cdot 0,06 [\text{kg}] \cdot 0,087 [\text{g/kg}] = 153,726 [\text{g}]$$

$$E_{N2O,LTV} = 18 \cdot FC_{B,LTV} \cdot EF_{N2O,B,LTV} + 149 \cdot FC_{ED,LTV} \cdot EF_{N2O,ED,LTV}$$

$$E_{N2O,LTV} = 18 \cdot 0,1 [\text{kg}] \cdot 0,197 [\text{g/kg}] + 149 \cdot 0,08 [\text{kg}] \cdot 0,069 [\text{g/kg}] = 1,177 [\text{g}]$$

$$E_{N2O} = E_{N2O,A} + E_{N2O,M} + E_{N2O,PV} + E_{N2O,LTV} = 156,827 [\text{g}] = 0,156 [\text{kg}]$$

4.6. EMISIJA NH₃

$$E_{NH3} = E_{NH3,A} + E_{NH3,M} + E_{NH3,PV} + E_{NH3,LTV}$$

$$E_{NH3,A} = 2 \cdot FC_{BG,A} \cdot EF_{NH3,BG,A} + 130 \cdot FC_{ED,A} \cdot EF_{NH3,ED,A}$$

$$E_{NH3,A} = \text{nema.podataka} + 130 \cdot 0,24 [\text{kg}] \cdot 0,15 [\text{g/kg}] = 4,68 [\text{g}]$$

$$E_{NH3,M} = 10 \cdot FC_{B,M} \cdot EF_{NH3,B,M} = 10 \cdot 0,035 [\text{kg}] \cdot 0,063 [\text{g/kg}] = 0,022[\text{g}]$$

$$E_{NH3,PV} = 1162 \cdot FC_{BG,PV} \cdot EF_{NH3,BG,PV} + 1310 \cdot FC_{B,PV} \cdot EF_{NH3,B,PV} + 876 \cdot FC_{ED,PV} \cdot EF_{NH3,ED,PV} = 1162 \cdot 0,0575 [\text{kg}] \cdot 0,73 [\text{g/kg}] + 1310 \cdot 0,07 [\text{kg}] \cdot 0,173 [\text{g/kg}] + 876 \cdot 0,06 [\text{kg}] \cdot 0,018 [\text{g/kg}] = 65,585 [\text{g}]$$

$$E_{NH3,LTV} = 18 \cdot FC_{B,LTV} \cdot EF_{NH3,B,LTV} + 149 \cdot FC_{ED,LTV} \cdot EF_{NH3,ED,LTV}$$

$$E_{NH3,LTV} = 18 \cdot 0,1 [\text{kg}] \cdot 0,14 [\text{g/kg}] + 149 \cdot 0,08 [\text{kg}] \cdot 0,014 [\text{g/kg}] = 0,418 [\text{g}]$$

$$E_{NH3} = E_{NH3,A} + E_{NH3,M} + E_{NH3,PV} + E_{NH3,LTV} = 70,705[\text{g}] = 0,0707 [\text{kg}]$$

Skraćenice:

A – Autobus

B – Bezolovni benzin

BG – Benzin-gas

ED – Evrodizel

LTV – Laka teretna vozila

M – Motocikl

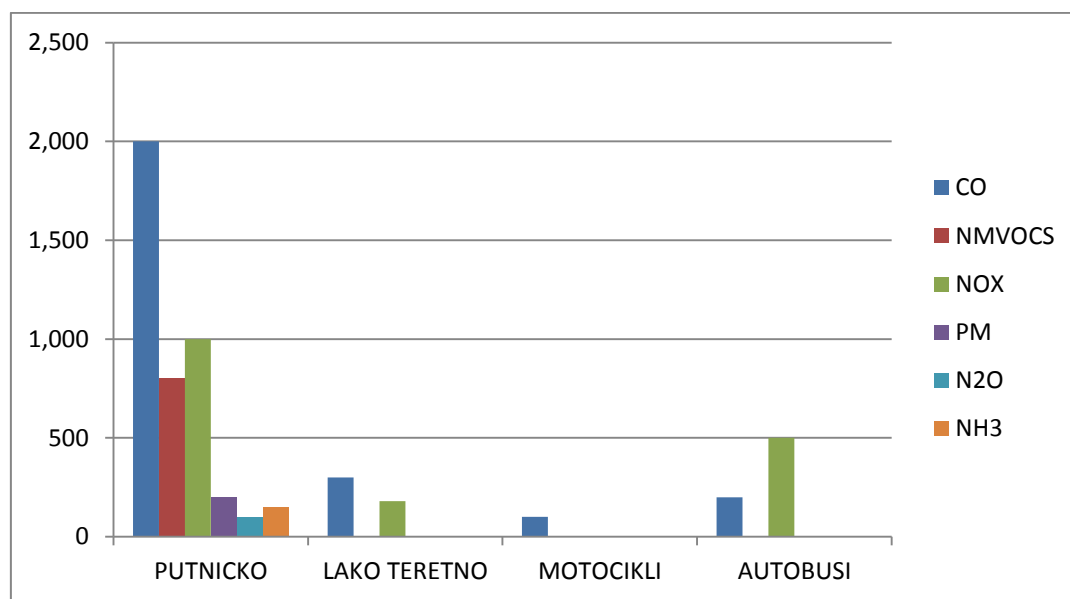
PV – Putničko vozilo

5. PRIKAZ REZULTATA

Rezultati istraživanja prikazani su u tabeli broj 4 i na grafikonu u broj 1.

Tabela 4. Emisija zagađujućih supstanci putničkih vozila, lakih teretnih vozila, motocikla i autobusa prema vrsti pogonskog goriva na posmatranoj lokaciji u datom vremenu.

EMISIJA [g]	CO	NMVOCS	NOX	PM	N ₂ O	NH ₃
VRSTA VOZILA						
PUTNICKO	16894,8	2009,7	2943,4	92,7	153,7	65,6
LAKO TERETNO	410,1	46,06	222	33,4	1,2	0,42
MOTOCIKLI	171,5	39,9	3,3	0,9	0,02	0,02
AUTOBUSI	255,3	50,2	1167,4	37,5	1,9	4,7



Grafik 1. Emisija zagađujućih supstanci putničkih vozila, lakih teretnih vozila, motocikla i autobusa prema vrsti pogonskog goriva na posmatranoj lokaciji u datom vremenu

6. DISKUSIJA REZULTATA

Ukupan uticaj saobraćaja ostvaren na raskrsnici kao rezultat frekvencije putničkih i lakih teretnih vozila, motocikala i autobusa dat je na grafikonu broj 1. Putnička vozila, obzirom na njihovu zastupljenost, ne dvosmisleno produkuju najveću količinu zagađujućih materija, čime značajno utiču na kvalitet vazduha na datom području. U periodu od 2h iz putničkih automobila emitovano je skoro 2kg CO, koji je izuzetno toksičan, skoro kilogram NOX kao i značajne količine NMVOCs, N₂O i NH₃. Laka teretna vozila iako u manjem broju ostvarila su značajnu emisiju CO i NOX, čime su direktno uticala na kvalitet vazduha. Što se motocikala tiče, emitovana je značajna količina CO. Autobusi emituju velike količine NOX i značajne količine CO čime učestvuju u narušavanju kvaliteta vazduha. [2]

Obzirom na prirodu polutanata, njihovo kumulativno dejstvo, kao i sumarni efekat saobraćaja, što podrazumeva zbir emisija iz svih pomenutih vozila, može se veoma jednostavno zaključiti da postoji direktna veza sa negativnim uticajem na zdravlje ljudi kao i na narušavanje kvaliteta vazduha.

7. ZAKLJUČAK

Iz svega navedenog, može se zaključiti da je saobraćaj u direktnoj korelaciji sa kvalitetom vazduha, posebno u urbanim sredinama. Emisija iz vozila direktno je povezana sa godinama modela i pređenom kilometražom, činjenica je da emisija iz vozila raste sa pređenom kilometražom. Povećanje količine ugljen monoksida (CO) u izduvnim gasovima je signal rada motora sa bogatom smešom, što bi ukazivalo na lošu karburatorsku kontrolu ili kod novijih motora loše ubrizgavanje goriva. Čime se dolazi do zaključka da i ekonomsko-društvene prilike imaju uticaj na kvalitet vazduha, jer ulaganjem u noviji, bolji vozni park, "kupujemo" čist vazduh i zdravu životnu sredinu.[4]

Svaka emotivana supstanca u gasovitom obliku, najbrže se putem inhalacije, unosi u organizam čoveka, pri tome, dolazi do respiratornog sistema odnosno do pluća koja su izuzetno prokrvljena i distribuiraju zagađenje putem krvi kroz čitav organizam. Takodje, štetne karakteristike i dejstva koja mogu da prouzrokuju su kancerogeni, teratogeni, mutageni efekat, kao i razne intoksikacije, iritacije i negativne reakcije.

Međutim, do danas, na teritoriji Republike Srbije nije realizovano sveobuhvatno istraživanje u cilju određivanja količina emitovanih gasovitih zagađujućih materija, koje potiču od drumskog saobraćaja.

Autori posvećuju ovaj rad, u nadi da će se sprovesti istraživanje, da će se smanjiti štetni efekti, da će se društveno-ekonomskom padu videti kraj i da će podjednako biti čistog vazduha kako za našu tako i za buduće generacije.

REFERENCE

1. A. Đorđević: Air quality monitoring in NIS (SERBIA) and health impact assessment, SCI, ISSN 0167-6369 (Print) 1573-2959 (Online), 2009.

2. A. Đorđević: Kvalitativno-kvantitativna ocena kvaliteta vazduha grada Niša, Zadužbina Andrejević, str.104. UDK: 502.3:502.175(497.11), ISBN 978-86-7244-706-4, Beograd, 2008.
3. D. Mitić, S. Vukanović, Kružne raskrsnice, YU ISBN 86-80897-77-9, Saobraćajni fakultet Beograd, 1990.
4. J. Jović, Planiranje saobraćaja u gradovima, Saobraćajni fakultet Beograd, 1996.
5. V. Depolo, Upravljanje projektima u saobraćajnom inženjerstvu, Saobraćajni fakultet Beograd, ISBN 978-86-7395-271-0, 2010.

CONSTRUCTION PROJECT OF PIPELINE PART THROUGH RESIDENTIAL BLOCK „STANKO VLASOTINCANIN“ IN NISH

Žarko Vranjanac, Jovana Stojanović

University of Nish, Faculty of Occupational Safety in Nish, Serbia

Abstract: A residential block "Stanko Vlasotincanin" in Nish is faced with many problems, when it comes to heating network. In fact, a large number of objects is not connected to the existing district heating network, "Heating Nish". Those objects that are connected due to the obsolescence of existing installations do not work, or to make a reduced capacity, causing a public rebellion and discontent citizens. Obsolescence installation in certain residential buildings can even endanger the safety of the local population. Therefore, this project offers a complete solution to the problem, in terms of organization and management of gas pipeline.

Keywords: pipeline, project, heating network.

1. UVOD

U srpskom jeziku termin „projekat“ ima dvojako značenje, istovremeno može da označava tehničku dokumentaciju i složen projekat (poduhvat), dok u SAD ili Velikoj Britaniji takvih problema nema, termin eng. "project" isključivo označava složeni poduhvat. Projekat izgradnje deonice gasovoda kroz stambeni blok „Stanko Vlasotinčanin“ u Nišu, jeste složen poduhvat za šta je potrebna dobra planerska osnova. Polazeći od čuvene Ajzenhauerove⁸⁹ izreke "Planovi su ništa, planiranje je sve", za ovakav projekat potrebno je pre svega jasno postaviti ciljeve koje dalje treba slediti.[2]

Južni tok⁹⁰ je napušteni projekat, gasovod je trebalo da krene iz južnog dela Rusije, od grada Anape u Krasnodarskom kraju po dnu Crnog mora, kroz turske teritorijalne vode, do Varne u Bugarskoj, a od Bugarske je trebalo da se grana u dva kraka. Jedan krak iz Bugarske, preko Grčke podvodno je trebalo da vodi do Italije, a drugi preko Srbije i Mađarske do Austrije, prikazano na slici 1.[1]

⁸⁹ Dvajt Dejvid „Ajk“ Ajzenhauer (engl. Dwight David "Ike" Eisenhower; Denison, 14. oktobar 1890 — Vašington, 28. mart 1969) je bio američki vojskovođa i političar, najpoznatiji po uspešnom komandovanju savezničkim snagama u Zapadnoj Evropi za vreme Drugog svetskog rata, isto kao i po tome što je služio kao 34. predsednik SAD.

⁹⁰ Južni tok (rus. Южный Поток, bug. Южен поток, mađ. Déli Áramlat) je projekat gasovoda kojim je trebalo da se transportuje prirodni gas iz Rusije do zemalja Evropske unije.

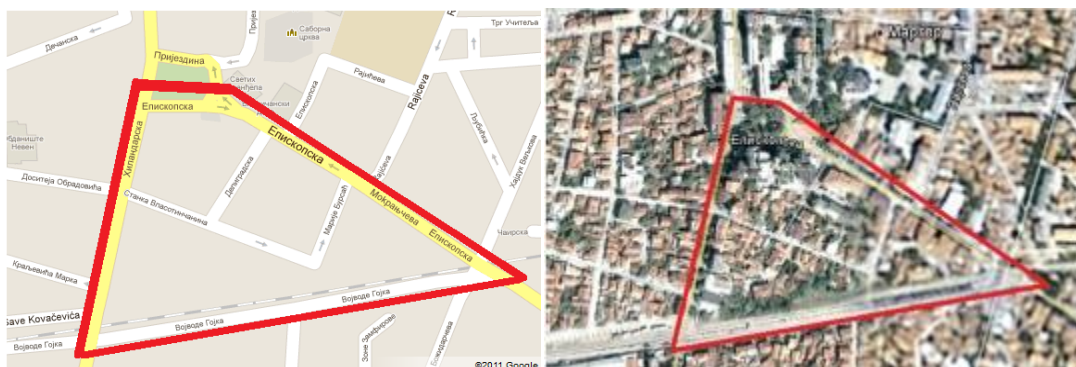


Slika 1. Napušteni projekat gasovoda „Južni tok“

Projekat izgradnje deonice gasovoda kroz stambeni blok „Stanko Vlasotinčanin“ u Nišu, je mogao biti jedan mali segment ovog gigantskog projekta, međutim sa menadžersko-organizacijskog aspekta, ovaj rad nudi kao modus i rešenja za probleme koji će se javiti u daljim fazama izgradnje gasovoda. [1]Kao jedna od osnovnih komunalnih delatnosti, snabdevanje stanovništva parom i toplom vodom je neophodno za pravilno funkcionisanje života urbanog stanovništva. Gasovod predstavlja inovativnije rešenje, ekonomičnije i ekološki prihvatljivije rešenje od postojećih sistema toplifikacije, koji se najčešće sreću u Republici Srbiji.

2. LOKACIJA

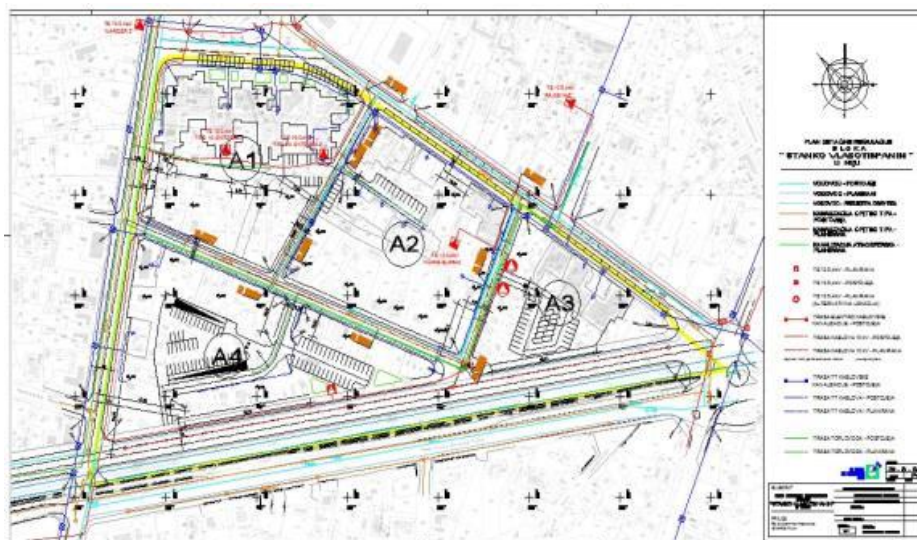
Projekat izgradnje deonice gasovoda kroz stambeni blok „Stanko Vlasotinčanin“ u Nišu, je naziv projekta čija je lokacija: Grad Niš, opština Palilula, naselje „Stanko Vlasotinčanin“, ulice „Episkopska“, „Hilandarska“ i „Vojvode Gojka“, slika 2.



Slika 2. Lokacija za izvršenje projekta

Na datoj lokaciji, prostor je podeljen na četiri zone, zelenu i rekreativnu zonu, stambeno-poslovnu, poslovno-stambenu i zonu porodičnog stanovanja sa poslovanjem, slika 3.

Postojeće komunalne instalacije su takođe zastarele, u veoma lošem stanju, rađene bez prethodno definisanog i preciznog plana, što može stvarati dodatne probleme pri aplikaciji novog sistema. Rešenje kompletne tehničke infrastrukture na lokaciji za realizaciju projekta je prikazano na slici broj 4.



Slika 4. Tehnička infrastruktura za stambeni blok „Stanko Vlasotinčanin“ u Nišu[3]

6. OPŠTI CILJ PROJEKTA

Cilj projekta je izgradnja deonice gasovoda i postavljanje instalacije gasovoda u stambenom bloku „Stanko Vlasotinčanin“ u Nišu.

6.1. SPECIFIČNI CILJEVI PROJEKTA

- Poboljšanje efikasnosti toplifikacije,
- Podizanje nivoa bezbednosti u objektima i usklađivanje sadržaja objekta sa zahtevima i standardima,
- Ušteda i smanjenje potrošnje električne energije,
- Ekonomska isplativost koja se ogleda u smanjenju računa za grejanje,
- Izgradnja deonice kroz stambeni blok „Stanko Vlasotinčanin“ u Nišu doprinosi ostvarenju projekta Južni tok.

7. RIZICI

- Problemi prilikom nabavke odgovarajuće vrste materijala za instalaciju,

- Opasnost pri rukovanju opasnom materijom, po život i zdravlje ljudi i po životnu sredinu, gas je zapaljiva i eksplozivna materija,
- Prekoračenje vremena potrebnog za postavljanje instalacije zbog eventualnih terenskih i vremenskih uslova.

8. KAPACITETI ZA REALIZACIJU PROJEKTA

Ljudski resursi:

- Diplomirani inženjer mašinstva,
- diplomirani inženjer građevine,
- master inženjer zaštite životne sredine,
- master inženjer zaštite na radu,
- radnici i izvršiooci projekta.

Materijalni resurci:

- Specijalna instalacija i
- finansiranje projekta.

Prirodni resursi:

- Prirodni gas.

Znanja:

- Realizacija projekta poverena je uigranom timu stručnjaka i
- mogućnost nastanka greške svedena je na minimum.

9. REZULTATI PROJEKTA I INDIKATORI POSTIGNUĆA

Tabela 1. Rezultati projekta i indikatori postignuća projekta

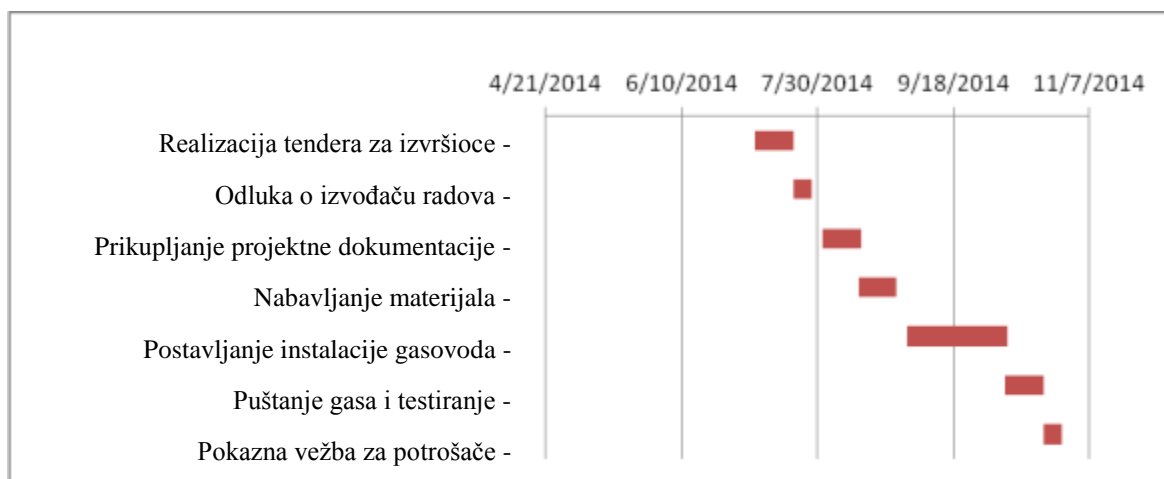
Rezultat	Indikator ostvarenja rezultata
Završena tehnička dokumentacija	Dobijena građevinska i energetska dozvola od strane nadležnih organa
Postavljena instalacija gasovoda	Dobijena upotrebna dozvola od strane nadležnih organa
Doveden gas	Obavljeno testiranje funkcionisanja gasovoda od strane nadležnog organa.
Obavljeno probno grejanje	Potrošači su upoznati sa načinima rukovanja novim toplifikacionim sistemom.

10. VREMENSKI TOK PROJEKTNIH AKTIVNOSTI

Tabela 2. Vremenski tok projektnih aktivnosti

Aktivnost	Jul				Avgust				Septembar				Oktobar			
	I	II	III	IV	I	II	III	IV	I	II	III	IV	I	II	III	IV
Realizacija tendera za izvršioce		X	X													
Odluka o izvođaču radova				X												
Prikupljanje projektne dokumentacije					X	X										
Nabavljanje materijala							X	X								
Postavljanje instalacije gasovoda									X	X	X	X	X			
Puštanje gasa i testiranje														X	X	
Pokazna vežba za potrošače																X

11. GANTOGRAM PROJEKTA



Grafik 1. Gantogram projekta

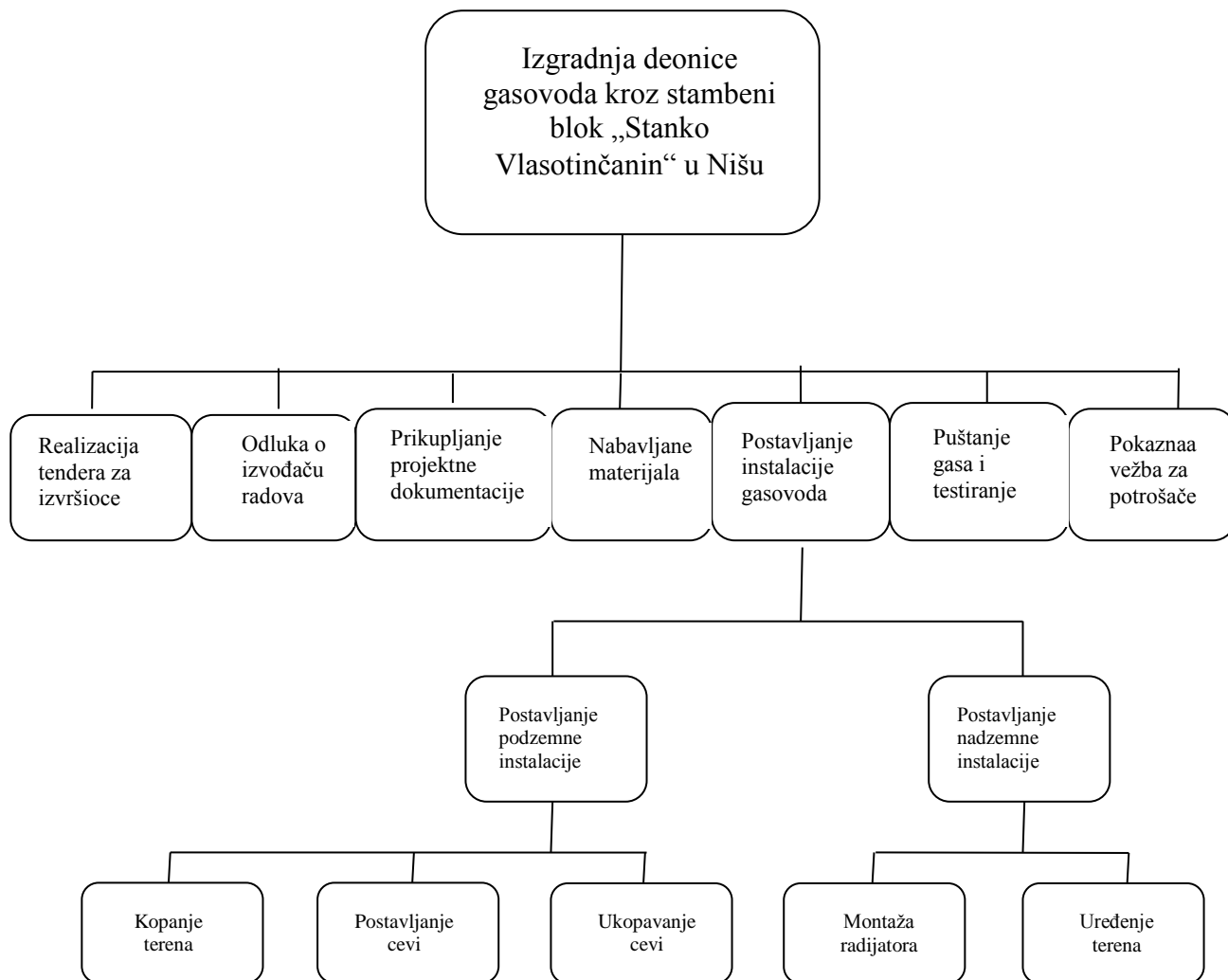
12. LFM MATRICA

Tabela 3. LFM matrica projekta

Horizontalna logika	Logika intervencije	Proverljivi indikatori progressa	Izvori i sredstva verifikacije	Pretpostavke
Vetikalna logika				
Opšti cilj	Izgradnja deonice gasovoda i postavljanje instalacije gasovoda	Utisci potrošača	Potrošači	
Specifični ciljevi	Poboljšanje efikasnosti toplifikacije; povećanje bezbednosti u objektima; ušteda i smanjenje potrošnje električne energije; smanjenje računa za grejanje; doprinos ostvarenju projekta Južni tok.	Što veće interesovanje drugih potrošača	Potrošači i vlasti	
Rezultati	Završena tehnička dokumentacija; Postavljena instalacija gasovoda; Doveden gas; Obavljeno probno grejanje	Vreme završetka 30. Oktobar	Komisije, inž.zaštite od požara, životne sredine i inž. mašinstva i građevine	Problemi prilikom izvođenja radova
Aktivnosti	Realizacija tendera za izvršioce; Odluka o izvođaču radova; Prikupljanje projektne dokumentacije; Nabavljanje materijala; Postavljanje instalacije gasovoda; Puštanje gasa i testiranje; Pokazna vežba za potrošače	Završeno postavljanje instalacije gasovoda i pušten gas	Komisije za pregled i ocenjivanje projekta	Problemi prilikom nabavke materijala, problemi prilikom izvođenja radova, terenske i vremene.

13. WBS STRUKTURA PROJEKTA

Na shemi 1, prikazana je WBS struktura projekta izgradnje deonice gasovoda kroz stambeni blok "Stanko Vlasotinčanin" u Nišu.



Shema 1. WBS struktura projekta

14. ZAKLJUČAK

Na osnovu svih aspekata, koji su sagledani u ovom radu, može se zaključiti da je ovaj projekat vremenski ograničen, da ima jasno određen cilj, da sadrži niz faza na osnovu kojih se realizuje, uz upotrebu velikog broja različitih vrsta resursa, dosegljiv je i jednoznačan. Upravo ove karakteristike, jasno definišu granice projekta, odnosno najkraći put za realizaciju projekta.[1] Svaki projekat, pa i projekat izgradnje deonice gasovoda kroz stambeni blok „Stanko Vlasotinčanin“ u Nišu, treba sagledavati na osnovu uspeha, i to tehničkih, ekonomskih, ekoloških itd.[4] Sa sigurnošću se nepobitno zaključuje da ovaj projekat donosi apsolutno novu tehnologiju u pomenutoj oblasti, a istovremeno predstavlja i ekonomičnije rešenje u skladu sa životnom sredinom, te integriše ekološko-tehnološki aspekt u jednu celinu.

REFERENCE

1. D. Petrović, P. Jovanović, V. Obradović, M. Mihić: Alati projektnog menadžmenta, Fakultet organizacionih nauka, Beograd, 2013.
2. D. Letić, B. Davidović, Operacioni i projektni menadžment, Tehnički fakultet „Mihajlo Pupin“, Zrenjanin, 2014.
3. Plan detaljne regulacije stambenog bloka „Stanko Vlasotinčanin“ u Nišu
4. D. Mitić, M. Protić, Energija naselja, Fakultet zaštite na radu u Nišu, 2012.

IMPROVING THE ENVIRONMENT THROUGH ENVIRONMENTAL MANAGEMENT

Milan Martinović

Geografski fakultet, Serbia

Abstract: Parallel with the constant increase in the processing and exploitation natural resources, deteriorating environmental situation. Large amounts of pollutants into the atmosphere, then an immense quantity of waste, affect the quality of the environment. Experts in the field of management may affect the improvement, with good analysis and adequate status display, as well as pointing out the problems that have to be managed in the coming period. In order to improve the environment at the local, regional and national levels, of extreme importance include the adoption of appropriate strategies, plans and laws in the environment. New management systems must be based on the constant improvement of business processes in accordance with sustainable development.

Keywords: pollution, management, ecological problems, goals, strategies

1. UVOD

Od prirode nastala je sva moderna tehnologija, a sada koristimo modernu tehnologiju kako bi sačuvali prirodu. - Autor

U cilju zaštite životne sredine, neophodna je izuzetna koordinacija i saradnja na svim nivoima upravljanja, kao i uključivanja velikog broja stanovništva u donošenje izuzetno bitnih odluka vezane za zaštitu prirode. Pored organizacija, bitnu ulogu imaju i eksperti iz oblasti menadžmenta životne sredine, koji svojim umećem mogu da doprinesu i usmere budući razvoj određenog mesta. Preteranom eksploatacijom prirodnih resursa, neverovatnom brzinom formiramo štetne uticaje na okolinu, time smo došli u period iz kojeg nema povratka, ukoliko svi akteri zagađenja okoline ne promene svest i zajedničkim naporom učine promenu, kako bi amortizovali štetne uticaje na životnu sredinu i sačuvali svoju okolinu. Kako bi se primetili efekti zaštite životne sredine na globalnom nivou, neophodno je da preko svake lokalne samouprave, učinimo što je više moguće u unapređenju i zaštiti prirode, kako bi zajedničkim snagama upotpunila šira slika zaštite. Na lokalnom nivou, u izradi prostornih i strateških dokumenata prostornog razvoja (Prostorni plan jedinice lokalne samouprave, Plan detaljne regulacije, Plan generalne regulacije, Generalni urbanistički plan, SLOR) učestvuju veliki broj stručnjaka iz oblasti životne sredine, pitanje je njihove realne pozicije moći i uticaja, vremena i sredstava, koja su im raspoređena, da se bave održivošću ostalih rešenja (većinom ekonomskih i domena infrastrukture) koja se naročito u zemljama u razvoju, favorizuju u odnosu na druga, ili realizuju sa veoma malom obazrivošću prema njihovom uticaju na socijalni i ekološki razvoj

2. EKOLOŠKI MENADŽMENT U OPŠTINAMA

U opštem javnom interesu jeste da lokalne samouprave pristupe uvođenju sistema upravljanja zaštitom životne sredine. Donošenjem takve odluke prouzrokuje se poboljšanje rada samouprave. Bitno je da se adekvatno primene primarne i sekundarne odgovornosti za svaki proces, zahtevi za odgovornost rukovodstva, interne kontrole (provere), propisivanje lične efektivnosti itd. Lokalna samouprava nakon što usvoji promene, može da očekuje određen problem, a to jeste teško oslobađanje loših navika iz ranijih perioda upravljanja i funkcionisanja.

Bitna stavka jeste da dopunsku vrednost u opštinama donose zahtevi standarda ISO 14001 u vezi sa procesnim pristupom. Prepoznavanje upravljanja procesima jeste jedna od zahtevnijih obaveza, sa kojom se mora suočiti svaka opština. Aktuelna su i pitanja kako tačno možemo identifikovati procese i kako ih možemo meriti i unapređivati. U opštini svako pojedinačno odeljenje, a samim tim i nadležni organ zaštite životne sredine lokalne samouprave želi da dobro ovlada svojim delom procesa i ukoliko je moguće da dobro odradi svoj posao, što još uvek ne znači da će kompletna organizacija (lokalna samouprava) na kraju postići efikasne rezultate.

Novi propisi u R. Srbiji iz oblasti zaštite životne sredine po ugledu na direktive zaštite životne sredine iz EU, zahtevaju od organa javne samouprave da obavezno razmenjuju podatke o kvalitetu životne sredine sa svim učesnicima, kao i da moraju u svim postupcima definisati unutrašnje i spoljašnje isporučioce i korisnike.

Zakonodavna vlast izvršila je decentralizaciju zaštite životne sredine tako što je odgovornost prenela sa nacionalne na nivo lokalne samouprave. Kako bi opštine uspešno privukle nove investitore, neophodno je da na lokalnom nivou, imaju kvalitetne odrađene studije i strategije iz oblasti životne sredine, kako bi investitor tačno znao na kakvom prostoru treba da uloži novac, i da li na određenim lokacijama njegova investicija može ostvarivati određen profit. Ukoliko opštine nemaju pokrivenost svoje teritorije sa planovima i strategijama životne sredine, investitori mogu očekivati duge procese donošenja i usvajanja određenih planova, zato opštine treba da se angažuju na vreme i u saradnji sa ekspertima iz oblasti životne sredine izrade planove i strategije za svoju opštinu.

2.1 EMS DOKUMENTA (ENVIRONMENTAL MANAGEMENT SYSTEMS)

U hijerarhiji dokumenata, EMS predstavlja osnovni dokument sistema upravljanja zaštitom životne sredine. Poslovnik EMS prikazuje način funkcionisanja sistema upravljanja u cilju dostizanja datih zahteva, sa listom svih procesa, dokumenata, njihovih međusobnih veza, ovlašćenja i odgovornosti i ispunjenju politike zaštite životne sredine i postavljenih ciljeva. Poslovnik o EMS koristi se kao osnova za:

- unapređenje procesa i sistema upravljanja EMS,
- obuku zaposlenih u lokalnoj samoupravi,
- upravljanje sistemom zaštite životne sredine na nivou lokalne zajednice,

- interne i eksterne provere sistema EMS,

Poslovníkom EMS-a treba da budu obuhvaćeni svi elementi lokalne samouprave i da odgovaraju procesnom modelu EMS. Poslovníkom EMS naručito sadrži sledeća poglavlja i to:

- Osnovne informacije
- Ličnu kartu lokalne zajednice na koju se poslovníkom odnosi;
- Organizacionu šemu, ovlašćenja i odgovornosti LS;
- Izjavu o politici zaštite životne sredine LS;
- Postupak sa poslovníkom EMS;
- Sistem upravljanja lokalnom samoupravom i zahtevi,
- Prilozi.

Primenom EMS u organizaciju samouprava, unapređuje se odgovornost sa svojim okruženjem, a pogotovo sa biznis sektorom i javnim sektorom, društvenim (nevladinim) organizacijama i javnošću. Uspešno vođenje procesa jedna je od najzahtevnijih obaveza sa kojom se mora sresti svaki organ lokalne samouprave u procesu evropskih integracija. Primenom EMS javlja se odlična mogućnost da organ lokalne samouprave izvede organizacijske promene i postepeno pređe iz podeljene u procesnu organizaciju. Kako bi opštine unapredile efikasnost i efektivnost zaštite životne sredine na nivou lokalne zajednice, opštine moraju pod hitno pristupiti uvođenju EMS u organizaciju, kako bi se postigli standardi Evropske unije i na taj način postali njen punopravni član. Uspostavljanje EMS u organizaciju lokalne samouprave predstavlja izuzetan doprinos razvoju i unapređenju poslovanja lokalne uprave, a na neki način i celokupnog sistema upravljanja zaštitom životne sredine [1].

3. ISO 14001

ISO 14001, je fokusiran na primenu efikasnog sistema menadžmenta životnom sredinom. (ISO -International Organization for Standardization). Uspešan uticaj ISO standarda uključuje osnovu za globalno poslovanje i lance snabdevanja, tehničku podršku zakonodavstvu, itd. Globalni razvoj ekološkog standarda počinje početkom devedesetih godina prošlog veka, nakon što je Britanska institucija za standarde (British Standards Institution - BSI) počela da radi na britanskom standardu BS 7750 - Specifikacija za sisteme ekološkog upravljanja, koji je objavljen u periodu kad je bio Samit planete u Riju 1992. Godine [2]. U odnosu britanski standard, jedini dodatak na kome je insistirala Evropska Unija, bio je element komunikacija unet sa ciljem da obezbedi povezanost između preduzeća i društvenog okruženja, odnosno javnosti, u oblasti ekoloških efekata preduzeća i njihovih aktivnosti [3]. Objavljen je 1996. god., kao međunarodni standard upravljanja zaštitom životne sredine, ISO 14001, koji je totalno promenio percepciju upravljanja životnom sredinom, a može se primeniti na organizacije svih veličina i vrsta. U današnje vreme, predstavlja najpopularniji standard upravljanja životnom sredinom, sa preko 400.000 objekata

u oko 175 zemalja su sertifikovani do kraja 2014. godine od njegovog prvog objavljivanja. Radi uspešnog usklađivanja glavnih standarda iz serija (ISO 9001 i ISO 14001), 2004. god., urađene su manje izmene u standardu ISO 14001, što je pored usklađivanja dovelo do toga da njegovi zahtevi budu jasniji. To je takođe značilo da organizacije više nisu morale da ulažu duplo veće napore prilikom sprovođenja ova dva sistema. Četiri godine kasnije standard ISO 14001 je još jednom objavljen, a njegovo treće izdanje, nacrt međunarodnog standarda ISO 14001: 2015 predstavlja prvu punu reviziju još od prvog izdanja, i sa pojavom novih ekoloških izazova sa kojima se suočavaju industrija i društvo, svakako da dolazi u pravom trenutku [4].

3.1 PRIMENA ISO 14001

Standard ISO 14001 se može primeniti na organizacije raznih vrsta i veličina, i može služiti u izradi sistema i procesa, kako bi se povećale njihove ekološke performanse. To uključuje potrošnju energije, upravljanje otpadom, saglasnost sa propisima, zahteve u lancu snabdevanja i planiranje resursa.

Kompanije mogu preko primene ISO 14001 standarda, da sačuvaju svetske resurse za buduće generacije, a isto tako da smanje negativne uticaje na životnu sredinu, praćenjem održivog poslovnog modela, kompanije mogu da uštede i novac i energiju. Donošenje standarda ISO 14001 takođe znači da organizacije imaju veće šanse da dostignu i usklade se sa pravnim i industrijskim zakonodavstvom, a to dovodi do nižih kazni i manjih troškova poslovanja.

Uspostavljena primena serije standarda ISO 14000 i sertifikat ISO 14001 podrazumevaju da je:

- izvršeno vrednovanje uticaja aspekata životne sredine
- uspostavljena politika i ciljeva zaštite životne sredine
- uspostavljene dokumentovane procedure za primenu Sistema zaštite životne sredine (Environmental Management Systems - EMS)
- utvrđeni postupci rukovanja opasnim materijama
- utvrđen plan za reagovanje u vanrednim situacijama
- u primeni interne provere kojima se utrđuju primena i efektivnost sistema.
-

Kao međunarodno priznati standard za upravljanje životnom sredinom, ISO 14001 je izgrađen na pristupu Planiraj-Uradi-Proveri-Deluj (PUPD), eng. Plan-Do-Check-Act (PDCA). Ovo je operativni princip svih standarda ISO sistema menadžmenta, uključujući i ISO 9001.

U kontekstu upravljanja životnom sredinom, PUPD pristup funkcioniše na sledeći način:

- Planiraj. Predstaviti životnu sredinu i identifikovati šta će uticati na sopstvenu organizaciju.

- Definisati ciljeve, zadatke i akcione planove za unapređenje svojih ekoloških performansi, koji su u skladu sa politikom kompanije o kojoj se primenjuje.
- Uradi. Sprovesti svoje akcione planove upravljanja životnom sredinom.
- Proveri. Pratiti svoje procese i operacije u odnosu na ciljeve kompanije i izveštavati o njihovim rezultatima.
- Deluj. Preduzeti određene mere za unapređenje ekoloških performansi na trajnoj osnovi.

Struktura nacrtu međunarodnog standarda ISO/DIS 14001: 2014 na osnovu Aneksa SL obuhvata:

- Uvod
- Obim
- Normativne reference
- Termine i definicije
- Kontekst organizacije
- Liderstvo
- Planiranje
- Podršku
- Funkcionisanje
- Evaluaciju učinka
- Poboljšanje.

4. ZAKLJUČAK

Kako bi životna sredina bila očuvana i za naredne generacije, neophodna je primena svih raspoloživih metoda kako bi sačuvali prirodu. Pored države i državnih institucija, neophodno je da se izrade i primene veliki broj zakona, strategija, planova iz oblasti životne sredine. Standard ISO 14001 dizajniran je tako da može da se primeni u svakoj organizaciji, kao i da koristi unapređenju njihovog poslovanja. Tu se mogu svrstati javna i privatna preduzeća, kao i neprofitna preduzeća koja žele da smanje troškove odlaganja otpada i korišćenja energije ili kompanije u lancu snabdevanja koje žele da budu više ekološki predodređene, a kao takav, ima izuzetan uticaj na njihov imidž na tržištu, što na kraju dovodi do rasta poslovanja, a samim tim i profita. Stupanje na snagu novog standarda i njegova primena u praksi će kompanijama otvoriti put ka poboljšanju svojih ukupnih performansi, stvaranju bolje reputacije, osvajanju novih tržišta i povećanju prodaje, smanjenju rizika od dobijanja kazni, diferencijaciji proizvodnje i sveukupnom unapređenju poslovanja. Sama revizija je zamišljena tako da se fokusira na pomoć organizacijama da razvijaju održive prakse poslovanja, što će doprineti poboljšanju njihove prakse upravljanja zaštitom životne sredine. Takav pozitivan rezultat imaće veliki uticaj na podizanju rezultata njihovog rada na visok nivo. Sprovođenjem novih standarda, organizacije dobijaju idealnu osnovu za pripremu za sve veće izazove koji se tiču zaštite životne sredine u predstojećem periodu. Pritom,

omogućava im se i uspostavljanje politike za promovisanje zaštite životne sredine iz ugla poslovanja svake od kompanija koje budu primenjivale revidirani standard ISO 14001: 2015, što će kao krajnji rezultat imati njihovu usmerenost na poštovanje principa održivog razvoja, prilagođavanje i uticaj na nadolazeće klimatske promene, zaštitu ekosistema i racionalno korišćenje sve oskudnijih prirodnih resursa.

REFERENCE

1. N. Staletović, Introducing EMS into the local government in the function of local community sustainable development, *Facta Universitatis, Working and Living Environmental Protection* Vol. 5, No 1, 2008, p. 97 - 104
2. British Standards Institution, ISO 14001 Whitepaper - Background and update to the 2015 revision, United Kingdom: British Standards Institution, London, (2014).
3. M. Kukrika, Mala enciklopedija životne sredine, Univerzitet u Beogradu - Geografski fakultet, Beograd, (2001).
4. SAI Global, ISO 14001:2015 Draft International Standard. SAI Global, Sydney, Australia, (2014).

OVERCOMING ECOLOGICAL CRISIS OF MODERN TIMES

Milan Martinović

Geografski fakultet, Serbia

Abstract: In recent decades, we have witnessed numerous warnings that appear in all areas of life. Unfortunately, the development of human civilization develops ecological crisis. People through their actions and the desire to improve their lives greatly affects the environment. Eventually effects take on enormous proportions, which individual can not stop. The entire society must be synchronized to operate, everyone need to be aware of how much negative impact they have on the environment, so that after a certain period we can see some progress in environmental protection. Good environmental management can contribute to the improvement, in order to preserve the environment for future generations. Environmental management system makes it possible to eliminate the negative impacts in relation to the environment and human health. Accordingly environmental protection should not be limited to economic and social development level.

Keywords: environment, ecological crisis, management, development, economy

1. UVOD

Naša planeta ne može da izdrži konstantno razaranje prouzrokovano neprekidnom proizvodnjom, paralelno sa neprekidnom eksploatacijom prirodnih resursa, kapitalizam ekonomskog rasta koji je čoveku trebalo da obezbedi ugodniji život, ustvari stvara više potreba nego što uspeva da zadovolji. Globalni modeli potrošnje i stavovi prema prirodnom okruženju imaju izuzetno veliki uticaj na raspoloživost resursa širom sveta,... današnja društva u mnogo većoj meri zavise jedna od drugih, nego što je to ranije bio slučaj. Svi smo mi putnici na svemirskom brodu zvanom Zemlja, ma gde živeli, tako da na sve nas utiču promene koje sa druge strane, ostavljaju posledice na prirodu [1].

2. NARUŠENOST EKOSISTEMA

Industrijska proizvodnja i mehanizacija poljoprivrede stvorile su ogromne količine otpada, radioaktivnosti, otrovnih gasova, pepela, kao i teške metale koje narušavaju procese obnavljanja zemljišta, vode, vazduha i osnovnu hemijsku ravnotežu u gornjem sloju atmosfere. To dovodi do istrebljenja određenih vrsta u lancu ekosistema od kojih i ljudska vrsta zavisi, kao i do određenih zdravstvenih problema. Nedovoljno se pažnje posvećuje zagađenju zemljišta, koji ima jak uticaj na ravnotežu ekosistema. Najviše se pažnje poklanja zagađenju vazduha, koji može čoveku da skрати i nekoliko godina života, ali zato zagađenje zemljišta ili vode, dovodi do katastrofalnih posledica, pa čak i opstanak nekih vrsta [2].

Narušavanje ravnoteže i odnosa u ekosistemu predstavlja posledicu postojanja jedne kulture, načina filozofije života savremenog, modernog čoveka.

3. EKOLOŠKA KRIZA

Sam pojam ekološka kriza, nastao je kao posledica industrijske revolucije i demografskih problema. Ekološka kriza je zapravo, kriza čitave civilizacije, koja se ne odnosi samo na industrijsko društvo, već i na društvenu organizaciju, zasnovanu na industrijalizaciji. Kriza se ne može prevazići ukoliko se ne dođe do radikalnih promena u društvu, jer kriza je zapravo čovekov nekorektan odnos prema prirodi. Kriza se može shvatiti i kao kriza kulture, kao shvaćanje i razumevanje čoveka prema prirodi. Takav odnos čoveka prema prirodi, proizilazi iz njegove kulture. Pre industrijskog perioda, čovekov odnos prema prirodi se drastično razlikovao, čovek je imao više razumevanja o mestu u kome živi, pa su i njegovi postupci bili u skladu unapređenja mesta za život. Rešavanje problema životne sredine kroz različite teorijske pristupe i raznovrsne naučne discipline, kao i kroz njihovo međusobno preplitanje vremenom je udario temelje novoj nauci pod čim će se okriljem odnosna tematika sveobuhvatno tretirati. Reč je o ekologiji za koju najčešće vezujemo oblast proučavanja odnosa živih bića prema njihovoj sredini, njihov međusobni odnos u sredini i uticaj sredine na živa bića [3] .

Razlozi ekološke krize ne može biti jedan, nego skup nekoliko koji utiče na ukupnu sliku prirode- a to su:

- Naučno-tehnološki – razvoj prirodnih nauka, pronalasci, industrijalizacija, urbanizacija, saobraćaj, shvatanje nauke kao objektivnog znanja
- Teorijski- antropocentrizam i materijalistička koncepcija čoveka kao vladara nad prirodom, tetiranje okoline kao objekta koji se neprestano koristi
- Društveni – stanovništvo, demografska eksplozija stanovništva
- Ekonomski- industrijska proizvodnja, način proizvodnje utemeljen na ekonomskoj logici profita i dobiti, ekspanzija privrednog razvoja, puna zaposlenost i povećanje kupovne moći i potrošnje.
- Kulturni – zapadno evropska kultura, vrednosti života, čovekov egoizam, neetički način razmišljanja, reklame i mediji.

Ekološka kriza se ispoljava na dva načina:

- Ekološki problem – čovekov uticaj na ekosisteme
- Ekološka katastrofa – čovekovih uticaja koji su doveli do ugrožavanja i razaranja ekosistema.

4. SOCIJALNA EKOLOGIJA

Nedostatak jedinstvenog naučnog gledišta oko definisanja i određivanja predmeta istraživanja i mesta koje socijalna ekologija ima pri društvenim naukama, dovelo je do izvesnih anomalija u njenom razvoju. Socijalna ekologija se slabo razvijala, smanjene su njene realne mogućnosti na polju rešavanja ekološke problematike, smanjen je interes za empirijska istraživanja na ovom sociologije, zatim treba spomenuti i postojanje veoma siromašne literature. Ali i pored problema i teškoća, socijalna ekologija se izborila za svoj status važne discipline. Ekološka sociologija predstavlja posebnu sociologiju koja za predmet svog proučavanja poseduje određene veze između čoveka i njegove sredine, istražujući uticaj životne sredine, kao zbir prirodnih i društvenih činilaca na čoveka, kao i uticaj čoveka na njegovu životnu sredinu sa stanovišta njegovog očuvanja kao okvira čovekovog života. Osnovna sociologija iskazala je posebnu zainteresovanost za ekološke probleme ali da je držeći se tradicionalne šeme discipliniranih podela ostala po strani te time omogućila razvoj socijalne ekologije. Socijalna ekologija istražuje uticaj čoveka na njegovu prirodnu sredinu, na taj način što se bavi pitanjem industrijskog sistema kao tehničkog ali i kao društvenog sistema. Temelj socijalne ekologije javlja se u odnosima tehničkog, socijalnog i prirodnog sistema, gde se formiraju tri pristupa:

- Antropocentrizam,
- Tehnologizam,
- Naturalizam,

Sa tri hipoteze:

- Hipoteza tehnološkog suficita - polazi od stava da je tehnologija najvažnija svera od koje zavisi budućnost. Njene mogućnosti su velike i neispitane. Industrijska civilizacija zasniva se na uverenju da od umešnosti korišćenja tehnoloških blagodeti zavisi sudbina društva.
- Hipoteza ekološkog deficita – prenaglašava dimenzije ekološke katastrofe. Prekomerna tehnološka društva degradiraju prirodu i redukuje njenu sposobnost za sopstvenu samoreprodukciju. Imperativ postaje: 1. Obezbediti pravo prirode na svoju prirodnu samoreprodukciju 2. Kroz ljudsku akciju socijalizovati prirodu i pomoći joj u samoreprodukciji.
- Hipoteza socijalnog maksimuma – zasniva se na dominantnim društvenim uverenjima koje produkuje vladajuća ekonomska i politička elita. Reč je o ciljevima koji podrazumevaju kvantitativni rast jer kvantitet postaje merilo kvaliteta a iskorišćavanje tehničkih mogućnosti i prirodnih resursa - nužnost na putu ka društvu obilja. Hipoteza socijalno-ekološkog optimuma je najvažnija za socijalnu ekologiju. Ona polazi od ograničenosti prirodnih resursa i delovanja prirodnih zakona kao i od umešnosti čoveka da upravlja tehnikom zarad ostvarenja društvenih optimalnih ciljeva.

Socijalna ekologija, takođe mora biti veza između ekologije i politike, zahvaljujući svom angažmanu na polju odnosa ekološke politike sa opštom politikom zajednice. Neophodno je da ukaže na dimenzije ekološke krize i moguće puteve njenog rešavanja. Pored teorijske uloge u smislu socijalnoekoloških ciljeva čovekove proizvodne delatnosti ona ne može odstraniti praktičnu društvenu ulogu. Javlja se i velike sličnosti između socijalne ekologije i globalne ekologije. Globalna ekologija proučava uzajamno dejstvo društva i prirode kao i zakonitosti njihovog međudelovanja. Za razliku od nje, socijalna ekologija bavi se globalnim problemima ljudskog razvoja kakvi su; zaštita životne okoline, problem energetskih resursa, glad, bolesti, osvajanje bogatstva okeana. Globalna i socijalna ekologija se preklapaju u prostoru tretmana - ekološkog odnosa društva i biosfere, dok sene slažu u tački razmatranja odnosa društva sa organskom prirodom, za koju je zainteresovana samo globalna ekologija. Zainteresovanost za ekološku problematiku, javlja se od 1960-tih godina, od strane eksperata iz različitih profesionalnih organizacija. Pored fokusiranja na zaštitu i očuvanje resursa, environmentalizam podstiče preudsmernavanje društvenih ciljeva i izgradnju potpuno novog prilaza životnoj sredini. Takođe, zaštita životne sredine postaje sve više i ekonomski problem sa stanovišta makro i mikro ekonomskih problema. Industrijalizacija, doprinela je ekstremnoj degradaciji životne sredine kao i ekološke ravnoteže. U ovom smislu pojava industrijske ekologije odgovara nastojanjima da se izvrši ekologizacija proizvodnje, sačuvaju resursi i unapredi kvalitet životne sredine. Ekologija postaje i političko pitanje, što potvrđuje pojava političke ekologije. Rađanje slobodne, odgovorne i otvorene zajednice za koju je kvalitet životne sredine na samom vrhu prioriteta, svera je interesovanja političke ekologije. U teorijskom ekološkom diskursu nastaje pravi haos u pogledu terminoloških i značenjskih određenja pojma čovekove sredine. Pored razlika koje su rezultat jezičke prirode, vlada prava poplava terminoloških nesaglasnosti.

5. ODNOS ZAGAĐENJA PRIRODE IZMEĐU RAZVIJENIH I NERAZVIJENIH ZEMALJA

Danas je u svetu profit prvi na listi, nebitno je šta se tačno radi i izrađuje, a zanemaruje se zaštita okoline, već se prvo pravi strategija kako zaraditi i napraviti profit, pa ako se u dogledom periodu okolina zagađi, u tom slučaju napraviće se neki plan ili strategija za njeno rešavanje, koja naravno ne može da ima očekivanog efekta. Takvo razmišljanje nas je kao društvo dovelo do katastrofalnog stanja životne sredine u svim krajevima sveta. Iako se misli da za razliku od Srbije, razvijene zemlje ulažu stotine puta više para u zaštitu životne sredine, iako ulažu više, to ne znači da zagađuju manje. Baš naprotiv, moderne zemlje raspolažu sa nebrojenim brojem fabrika, milionima automobila koji konstatno zagađuju vazuh, na stotine elektrana itd., u tom slučaju mnogo više zagađuju životnu sredinu za razliku od zemalja poput Srbije.

Holistički pogled na svet, i kao takav suprostavljjen je modernom pogledu na svet, jer posmatra čoveka i društvo u njihovom interakcijsko odnosu prema prirodi. Savremeni holistički pristup je pristup koji ukazuje da su čovekov položaj u svetu i njegov odnos prema

prirodi nedeljiva celina. Pa u rešavanju problema nije dovoljno donositi parcijalna rešenja, već se neprestano pitati o cilju, smislu o stvarnim potrebama i vrednostima [4].

6. ZAKLJUČAK

Čovek zavisi od svog odnosa sa prirodom i sa drugim ljudima. Od ove činjenice ne možemo pobeći, naše celokupno shvatanje života i sveta u kome živimo jeste uslovljeno načinom na koji se odnosimo prema prirodi od koje dobijamo sve ono što je bitno za naš opstanak. Da bih društvo zaživelu promena se mora odvijati na dva polja. Spoljašnja promena koja podrazumeva promenu proizvodne tehnologije i društvenog poretka i drugo polje a to je čovekova pojedinačna svest koja se mora menjati tako da sve manje shvata čoveka kao nešto što je odvojeno od prirode što stoji nasuprot nje, a više kao deo prirode i prirodnih procesa, čovek i priroda moraju krenuti u pravcu zajedničkog pomirenja. Kriza planetarizacije je zapravo kriza čovečanstva, koja se ne uspeva udružiti u čovečanstvo, te istovremeno kriza sveta još uvek nesposobnog da postane svet, kriza čoveka još uvek nemoćnog da se ostvari kao čovek [5]. Da bi u predstojećem periodu uspeli da prevaziđemo ekološku krizu, neophodno je da svaki pojedinac uradi sve što je u njegovoj moći kako bi na lokalnom nivou zaštitio prirodu. Zatim, kada na lokalnom nivou imamo izrađen koncept, i isplaniran budući razvoj, svaka opština u Srbiji će pojedinačno doprineti zaštiti životne sredine na nivou države. A naša država kao jedno celo, isto tako svojim doprinosom da omogući očuvanju životne sredine na globalnom nivou.

REFERENCE

1. E. Gidens, Sociologija, Ekonomski fakultet, Beograd, (2007)
2. Dž. Tarner, Sociologija, Mediterran, Novi Sad, (2009)
3. D. Marković, Socijalna ekologija, Zavod za udzbenike i nastavna sredstva, Beograd, (1991)
4. D. Koković. Socijologija obrazovanja, Matica Srpska, Novi Sad, (1994)
5. E. Morin, Kako izaći iz XX stoljeća, Globus, Zagreb (1983)

INNOVATION AND TECHNOLOGICAL PROGRESS IN THE LIGHT OF SUSTAINABLE COMPETITIVENESS

Jevtić Miroslava

Ekonomski fakultet, Univerzitet u Beogradu, Serbia

Abstract: Management of changes and competitiveness in contemporary organizations include three key factors: organizational structure change, technological change and human resources development. In so doing, a key role in this process has innovation which continuously stimulates progress and modern organization's adjustment processes. Given the importance of technological and social innovations, they represent the backbone of the revolution, progress and reforms in modern society. Modern organizations are in a dynamic process of global competition forced to create new product solutions, as well as the adoption of new sophisticated technologies. So today, the most important emphasis is placed on stimulating innovations. The most important organizational variables affecting the stimulation of the innovations include: organizational structure, organizational culture and human resources management practices. In this context we should emphasize the importance of the human factor, which is willing and able to acquire new knowledge and experience, in order to grow into the category of "champions of change". This paper provides an analysis of risk and innovation management in small and medium-sized enterprises, with special emphasis on the risk of innovation existence. At the end, the paper points out a detailed overview of the microeconomic and macroeconomic importance of the innovations. Special attention is paid to the Global Competitiveness Index importance and innovation as one of twelve "pillars of competitiveness". Therefore, companies in developed countries are forced to focus on the latest technologies application, production methods and modern equipment in order to maintain a competitive advantage.

Keywords: innovation, organizational structure, "champions of change", the risk of innovation, competitive advantage.

UVOD

Upravljanje promenama u savremenim organizacijama obuhvata tri značajne kategorije (Robbins & Decenzo 2001, str. 238): 1) organizacionu strukturu, 2) tehnologiju i 3) ljude (odnosno zaposlene). **Metamorfoza organizacione strukture** podrazumeva bilo koju promenu koja se odnosi na odnose upravljanja organizacijom, mehanizam koordinacije, stepen centralizacije, dizajn posla, stvaranje radnih timova ili slične organizacione strukturne varijabilne faktore. Strukturne komponente poput decentralizacije, širenja raspona kontrole, uprošćene specijalizacije rada i unakrsno funkcionalnih timova omogućavaju zaposlenima da aktivno učestvuju u procesima unapređivanja savremene organizacije. **Promena tehnologije** podrazumeva modifikaciju načina i metoda rada i/ili opreme. Osnovna usredsređenost na

tehnološke promene, u skladu sa zahtevom za permanentnim napredovanjem, kreće se u pravcu razvoja fleksibilnih procesa sa ciljem poboljšanja kvaliteta proizvodnih i drugih poslovnih zahvata. Kako su zaposleni, koji su *odani* konceptu trajnog organizacionog napretka, usmereni na pronalaženje inovativnih rešenja, iz navedenog proizilazi da se radni procesi moraju prilagođavati stalnim promenama u okruženju. Pomenuti zahtev za prilagođavanjem podrazumeva obimnu posvećenost obrazovanju, treningu zaposlenih i podsticanju inovacija. **Promena ljudi (odnosno zaposlenih kadrova)**, kao najkompleksnija i najsuptilnija organizaciona komponenta, se odnosi na promenu stavova zaposlenih, njihovih očekivanja, percepcije (odnosno opažanja) ili ponašanja. Humana dimenzija promena zahteva radnu snagu koja je posvećena ispunjavanju ciljeva organizacije, kao i kvalitetu i njenom stalnom napretku. Pored potrebe za obrazovanjem, obukom i razvojem ljudskih potencijala, takođe se nameće i imperativ za ocenjivanjem radnog učinka, kao i za uvođenjem adekvatnog sistema nagrađivanja koji podržava i podstiče trajan napredak.

Inovacije dodaju vrednost, pri čemu je ne zamenjuju (Drucker 1959, str. 31). Preciznije, one nisu u stanju da zauzmu mesto kreativnom delovanju, kao ni iznenadnom trenutku inspiracije. Međutim, inovacije ne mogu preterano uticati na preciziranje i usvajanje novih znanja, jer ovi procesi zavise i od drugih faktora. Naprotiv, one istovremeno utiču na multiplikaciju kako trenutaka i efekata inspiracije, tako i na stalno podsticanje napretka i procesa prilagođavanja savremenih organizacija. Istovremeno, one mogu da utiču i na unapređenje radnih procesa. I naposljetku, inovacije imaju sposobnost da *naslute* momenat u kojem mali i nemaštoviti koraci mogu da ugroze pojavu nove imaginacije, odnosno maštovite ideje.

Inovacije, takođe, ne mogu uticati na stalno prisutna ograničenja u postojanju savremenog društva. Uprkos navedenom, one dodaju novu dimenziju koja se ogleda u postavljanju *nedostižnih* ciljeva, utvrđujući načine adekvatne i poželjne organizacije posla. Iako je oduvek, istorijski posmatrano, bilo raznih inovacija, savremeni period se karakteriše činjenicom da je društvo postalo sposobno za sistematično delovanje, organizovanje i uključivanje ljudi sasvim prosečnih mogućnosti u zadatke koje su svojevremeno mogli da ispunjavaju samo ingeniozni pojedinci. Inovacije determinišu dve glavne oblasti: 1) kreativnu prirodu kosmosa i 2) savremeno društvo (Drucker 1959, str. 32). Tehnološke inovacije, kao vid pronalaženja novih načina poimanja prirode i njenog usmeravanja i stavljanja pod kontrolu savremenog čovečanstva, imaju za cilj da spreče nepoželjne pojave, kao i da pokrenu nove proizvodne procese. Za razliku od njih, društvene inovacije utvrđuju potrebe i mogućnosti savremenog društva sa ciljem da doprinesu razvoju koncepata i institucija usmerenih na zadovoljavanje humanih potreba. Stoga nove tehnologije predstavljaju okosnicu reforme i revolucije u savremenom društvu.

METODOLOGIJA, REZULTATI I ANALIZA ISTRAŽIVANJA

Ovaj rad proizilazi iz savremenih teorijsko-empirijskih iskustava vezanih za aktuelne ekonomske tendencije i kretanja. Zasniva se na primeni opštih metodoloških postupaka naučnog rada. U radu se primenjuju metode potpune analize sagledavanja problema i njihovih komponenti, kao i izvesne metode parcijalne analize – analiza sadržaja, funkcionalna analiza,

neki elementi komparativnih razmatranja, generička i faktorska analiza. Rad se ujedno zasniva i na metodi produktivne sinteze izvedenih saznanja i zaključaka. Pored apstrakcije i konkretizacije, u referatu se primenjuju i metode sistemske klasifikacije i dedukcije kao vid izvođenja posebnih zaključaka na osnovu opštih saznanja.

U radu je analiziran značaj inovativnih procesa i tehnološkog progresa kao najbitnijih determinanti mikroekonomske i makroekonomske konkurentnosti. Iz analize proizilazi značaj necenovnih faktora konkurentnosti, sa posebnim akcentom na primenu inovacija u savremenim organizacijama. Zaključuje se da su najuspešnije inovativne organizacije jer one hrabro usmeravaju svoje kreativne potencijale u proizvodnju profitabilnih autputa. Pored inovacija, savremene organizacije imaju poseban interes da stimulišu procese istraživanja i razvoja (R&D) i tehnološkog napretka. Stoga su one prinuđene na primenu najnovijih tehnologija, metoda i najnovije opreme kako bi bile u mogućnosti da sofisticiranim proizvodima i/ili uslugama steknu i zadrže komparativnu prednost. Iz rada ujedno sledi da u Indeksu globalne konkurentnosti (*Global Competitiveness Index-GCI*) *dvanaesti stub*, koji se odnosi na inovacije, ima izuzetan značaj, posebno u najrazvijenijim zemljama sveta.

PODSTICANJE INOVACIJA I TEHNOLOŠKOG PROGRESA U SAVREMENIM ORGANIZACIJAMA

Prvi ekonomista koji je ukazao na izuzetan značaj necenovnih faktora konkurencije, sa posebnim naglaskom na inovacije, bio je Joseph Schumpeter koji je već tridesetih i četrdesetih godina prošlog veka razradio tezu o inovacijama kao osnovnom faktoru rasta i konkurentnosti. U svom epohalnom delu *Kapitalizam, socijalizam i demokratija*, umesto cena Schumpeter ističe dominantne faktore konkurentnosti koji proizilaze iz novih proizvoda, nove tehnologije, novih izvora ponude i novih tipova organizacije. Samo ovakav koncept konkurentnosti obezbeđuje presudnu prednost u troškovima proizvodnje i kvalitetu proizvoda. Ovaj koncept ne utiče samo na visinu profitne stope i proizvodnju posmatrane organizacije, već opredeljuje i temelje njenog tržišnog opstanka. Ovakav je model konkurentnosti daleko delotvorniji u poređenju sa klasičnim cenovnim nadmetanjem ili agresivnim nastupom na tržištu. Stoga se ta *moćna poluga*, koja podstiče dugoročni rast autputa i smanjenje cena, javlja kao jedini *modus operandi* savremenih organizacija (Schumpeter 1994, str. 84-85). Schumpeter je inovacioni proces podelio na: 1) invencije, 2) inovacije i 3) imitacije. Invencija je bilo istraživanje, bilo pronalaženje novih ideja i mogućnosti za kreiranje novih i poboljšanje postojećih proizvoda i proizvodnih procesa u elementarnoj fazi i formi (Kovačević 2002, str. 272).

Savremene organizacije su, u dinamičkom procesu globalne konkurencije, prinuđene na kreiranje novih proizvoda i usluga, kao i na usvajanje novih sofisticiranih tehnologija kako bi se uspešno takmičile i opstale na globalnom tržištu. Standardi inovacija, kojima mnoge organizacije teže, upereni su ka usvajanju sposobnosti njihove dugoročne stimulacije. U pomenutom kontekstu se postavlja i logično pitanje faktora koji podstiču inovacije. Među najznačajnijim determinantama inovativnih promena u savremenim kompanijama izdvajaju se (Robbins & Decenzo 2001, str. 245-246):

- **Kreativnost** – kao sposobnost kombinovanja ideja na jedinstven način, ili kao realizacija neobičnih interakcija između postojećih zamisli. Samo one organizacije koje stimulišu kreativnost poseduju mogućnosti razvoja neuobičajenih pristupa, kao i jedinstvenog rešavanja problema i
- **Inovacije** – kao proces pretvaranja kreativne ideje u svrsishodnu uslugu, proizvod, metod ili konkretnu aktivnost.

Svaka se inovativna organizacija karakteriše sposobnošću usmeravanja svojih kreativnih potencijala u korisne i profitabilne proizvode i/ili usluge. Stoga se obično, tokom razmatranja organizacionih promena, sa ciljem podsticanja kreativnosti, akcent stavlja na stimulaciju inovacija i tehnološkog progresa. Pri tome, **tehnološki progres** može da se posmatra sa dva aspekta:

1) sa aspekta efekata tehnoloških promena – tj. uloge tehničkog progresa u razvoju zemlje, 2) u vidu promena u samoj tehnologiji koje oblikuju karakter proizvodnih procesa u savremenim organizacijama. Kako tehnološke promene predstavljaju značajan faktor rasta produktivnosti i konkurentnosti savremenih organizacija, ekonomska teorija obično posmatra tehnologiju kao odnos između (kvantitativno i kvalitativno) posmatranih faktora, s jedne, i proizvoda sa druge strane. Pod tehnološkim progresom se podrazumevaju promene u tehnologiji koje nastaju kao posledica svojevrsnog spoja sprovedenih istraživanja, inovacija, naučnih otkrića (npr. patenata), novih korenitih, praktičnih i primenjenih saznanja i privrednog rasta. Stoga se tehnološki progres, iniciran pomenutim determinantama, nikada ne iscrpljuje jer on endogeno raste. S druge strane je opseg primene savremene tehnologije determinisan stepenom njenog usvajanja, razumevanja i rasprostranjenosti (Korres 1996, str. 1.).

STRUKTURA I UBRZAVANJE INOVACIJA U INOVATIVNIM ORGANIZACIJAMA

Dok izvesni ljudi veruju u to da je kreativnost urođenog karaktera, ostali smatraju da se ona može podstaći kontinuiranim treningom i usavršavanjem. Druga grupa ljudi tretira kreativnost kao kompleksan proces koji je uslovljen (Robbins & Decenzo 2001, str. 246):

- **Percepcijom** – u smislu jedinstvenog doživljavanja stvarnosti. Međutim, transformacija percepcije u stvarni događaj ne može da nastane u jednom trenutku. Preciznije, sve ideje moraju da prođu kroz svojevrsni proces *inkubacije* koji podrazumeva prikupljanje i analizu obimne količine uskladištenih, pažljivo čuvanih, preuzetih, analiziranih i uobličanih informacija kako bi se konačno došlo do inovacije. Podrazumeva se da pomenuti period može trajati veoma dugo, čak i godinama;

- **Inspiracijom** – kao trenutkom ili fazom u toku stvaralačkog mišljenja u kojem se iznenada dolazi do rešenja problema i

Kreativnim radom – koji zahteva kontinuirano ulaganje inventivnih napora. Stoga inovacija podrazumeva metamorfozu inspiracije u svrsishodan proizvod, korisnu uslugu ili način delovanja. Obično u ovoj fazi dolazi do grupisanja pojedinaca na konkretnom radnom zadatku, što jeste od krucijalnog značaja, jer čak i najbolje i najveće invencije mogu biti odložene, usporene ili izgubljene u slučaju kada pojedinac nije u stanju da efikasno saraduje i komunicira sa svojim neposrednim okruženjem. Stoga se kreativni rad javlja kao preduslov ostvarivanju kreativne ideje.

U obimnim istraživanjima utvrđene su tri grupe organizacionih varijabli koje utiču na stimulisane inovacije u inovativnim organizacijama. Prema autoru Damanpour Fariborzu (Damanpour 1991, str. 555-590) one se odnose na:

- **Organizacionu strukturu** – najpre je dokazano da **organska struktura organizacije** pozitivno utiče na razvoj inovacija, jer se ovakve organizacije karakterišu manjkom specijalizacije rada, *labavijim* pravilima, kao i većom decentralizacijom. Ovakve organizacije podstiču fleksibilnost i prilagodljivost, što u krajnjoj liniji utiče na olakšano usvajanje inovacija. Potom, dostupnost obilnih resursa predstavlja ključni korak u procesu kreiranja inovacija jer obilje faktora omogućava savremenom menadžmentu da kupuje i/ili stiče inovacije, istovremeno podnoseći troškove njihovog pokretanja, kao i apsorpcije mogućih neuspeha. I naposljetku, permanentna komunikacija između organizacionih jedinica i unakrsna interakcija između organizacionih odeljenja pomažu procesu uklanjanja mogućih prepreka u procesima kreiranja inovacija. U ovom kontekstu treba naglasiti i ulogu top menadžmenta u posvećenosti podsticanju inovacija;
- **Organizacionu kulturu** – inovativne organizacije su obično orijentisane na podsticanje eksperimenata. Za njih je karakteristično da istovremeno nagrađuju kako uspehe, tako i neuspešne pokušaje. U izvesnim okolnostima, ovakve organizacije čak i *slave* svoje greške, imajući u vidu činjenicu da preuzimanje rizika, pre ili kasnije, nužno i neminovno vodi ka uspehu.
- **Inovativna organizaciona kultura** se karakteriše sledećim osobenostima (Robbins & Decenzo 2001, str. 247):
 - prihvatanje dvosmislenosti i kocepta relativnosti – jer preterani naglasak na objektivne okolnosti i specifičnosti dokazano ograničavaju kreativnost,
 - visok stepen tolerancije *nepraktičnosti* – jer pojedinci, koji nude nepraktična, pa čak i *luckasta* rešenja, mogu doprineti podsticanju inventivnih *odgovora* i solucija,

- nizak stepen spoljne kontrole – jer se pravila, propisi i slični kontrolni mehanizmi zadržavaju na minimalnom nivou,
- velika trpeljivost rizičnih poduhvata – u ovakvim okolnostima se zaposleni podstiču na učešće u eksperimentima, pri čemu su istovremeno lišeni straha od mogućih nepovoljnih posledica, jer se greške sagledavaju kroz prizmu mogućnosti za sticanje novih znanja i iskustava,
- tolerisanje sukoba – ohrabruje raznolikost mišljenja, gledišta i individualnih verovanja,
- usmerenje na rezultat, radije nego na način i sredstva – s obzirom na jasno postavljene ciljeve, pojedinci mogu da razmatraju alternativne načine njihovog ostvarivanja. Usmeravanje na rezultat ukazuje na mogućnost postojanja nekoliko pravih odgovora na bilo koji problem i
- usmerenje na otvoreni sistem – skoro svaka savremena organizacija veoma pažljivo prati promene u poslovnom okruženju sa namerom da što brže i što adekvatnije odgovori na njih i

- **Praksu upravljanja ljudskim resursima** – sa aspekta savremenog menadžmenta ljudskih resursa, inovativne organizacije aktivno sprovode procese treninga, obuke i razvoja zaposlenih kako bi se stalno unapređivalo njihovo znanje i iskustvo. Ovakve organizacije obezbeđuju zaposlenima visoku sigurnost zaposlenja kako bi im smanjile strah od potencijalnih otkaza koje bi mogli da dobiju usled nenamerno sačinjenih grešaka. One ohrabruju pojedince da se transformišu u one ključne organizacione resurse koje su autori Stephen Robbins i David Decenzo nazvali *šampionima promena* (Robbins & Decenzo 2001, str. 248). Nakon razvoja nove ideje, *šampioni promena* aktivno i sa velikim zanosom i radnim elanom promovišu konkretnu ideju, obezbeđuju podršku, savlađuju otpore i obezbeđuju primenu inovacija. Pomenuta kategorija ljudi se karakteriše izuzetnim stepenom samopouzdanja, istrajnošću, velikom energijom, kao i sklonošću ka preuzimanju rizika. Oni, putem svojih vizija o potencijalima mogućih inovacija, kao i putem jakih individualnih ubeđenja u svrsishodnost njihove misije, nadahnjuju i ostale članove kolektiva.

Stoga i ne čudi da *šampioni promena* predstavljaju predvodnike procesa dinamičkog rukovođenja. Pored toga što su skloni dobijanju podrške, posvećenosti i poverenja od strane zaposlenih, oni najčešće učestvuju u procesima donošenja odluka.

UPRAVLJANJE RIZIKOM I INOVACIJAMA U MALIM I SREDNJIM PREDUZEĆIMA

Uspešnost inovacija najviše zavisi od identifikacije i kontrole rizika. Pri tome, opstanak manjih organizacija u većoj meri zavisi od efikasnog upravljanja rizikom. Mala i srednja preduzeća (MSP) se nalaze u krajnje nezavidnoj situaciji jer su, s jedne strane,

uslovljena konkurentskim pritiscima od strane zahtevnih potrošača, zahtevima za poštovanjem sve obimnijih i strožijih standarda kvaliteta, rigidnom kontrolom troškova, kao i potrebom za brzim *odgovorima* na zahteve dobavljača. U opisanim uslovima, od vitalnog je značaja za sva MSP da ubrzaju i proizvode inovacije. S druge strane, prateći rizik inovacija jeste daleko veći za mala preduzeća, nego što je slučaj sa velikim organizacijama. Rizik inovacija u malim organizacijama dolazi do izražaja u onim slučajevima u kojima, na primer, jedan od značajnih proizvoda ili razvojnih procesa može da ugrozi opstanak preduzeća, kao i njegovu poslovnu aktivu. U ovakvim okolnostima dolazi do krajnje razumljive i karakteristične averzije prema preuzimanju rizika (Brown 1997). Inovacije treba posmatrati u kontekstu mnogobrojnih faktora poput lanaca snabdevanja, ali i trajne konkurentnosti svih proizvoda i/ili usluga koji zavise od inovativnosti svih obuhvaćenih karika u posmatranom lancu snabdevanja. Na primer, u slučaju industrijskih grana poput inženjeringa ili tehnike, tehnološki razvoj ima poseban primat u lancu manjih dobavljača jer ove organizacije moraju da se dokazuju krajnjim potrošačima ne samo putem proizvodnje konkurentnih i kvalitetnih dobara, već i odanošću konceptu razvoja veština i faktora proizvodnje. Stoga su male organizacije prinuđene na zadržavanje konkurentne pozicije i u budućnosti.

Za razliku od velikih organizacija koje se karakterišu razvojem i delovanjem posebnih sektora za inovacije, procesi inovacija su u većini malih i srednjih preduzeća još uvek slabo prihvaćeni i shvaćeni (Brown 1997). Pomenuto se ponekada ogleda u stavu, odnosno gledištu da je posedovanje adekvatnih informacija sasvim dovoljno za pokretanje inovacija. U tom smislu mala i srednja preduzeća *prihvataju* rizik inovacija jedino ukoliko raspolažu informacijama o naučnim dostignućima, tehnološkom razvoju i trendovima tržišnog razvoja. Međutim, kako je stvarnost daleko kompleksnija, male firme su prinuđene na prikupljanje informacija putem specijalnih veza sa naučnim bazama iz javnog sektora, sa bazama podataka sa univerziteta i tome sl. Sledeća zabluda *leži* u činjenici da je modele inventivnog ponašanja velikih kompanija lako *prekopirati*, odnosno primeniti na mala i srednja preduzeća. Međutim, u praksi metode, koje se koriste za upravljanje procesima istraživanja i razvoja (R&D) i uvođenja novih proizvoda u velikim centralizovanim organizacijama, ne mogu lako da se primene na MSP. Pomenutom ide u prilog i činjenica da sektor MSP nije homogenog karaktera. Dok velike kompanije posluju sa ciljem maksimiziranja vrednosti za svoje akcionare, u malim i srednjim organizacijama postoji širok spektar interesa vlasnika i/ili preduzetnika. Dalje, manjak shvatanja značaja inovacija u malim organizacijama se takođe ogleda i u procesu njihovog finansiranja. Pri tome, mnoge finansijske institucije, uprkos relevantnim statističkim podacima, procenjuju da tehnološke inovacije u sektoru MSP *nose sa sobom* veći stepen finansijskog rizika.

MAKROEKONOMSKI ZNAČAJ INOVACIJA

Aktuelni ekonomski problemi ukazuju na značaj dugoročne konkurentnosti koja se rešava sanacijom kratkoročnih problema. U ovom momentu, u konkurentne privrede spadaju one koje su se usmerile na podsticanje faktora razvoja inovacija i rasta produktivnosti, kao jedinih determinanti koje mogu uticati na njihov trenutni status i mogućnost prosperiteta. Podržavanje konkurentnog ekonomskog okruženja takođe može da pomogne nacionalnim

privredama da se odupru pritiscima recesije, sa ciljem poboljšanja njihovih ekonomskih performansi, privrednog razvoja i dugoročnog napretka (ed. Schwab 2009, str. 3). Od 2005. godine Svetski ekonomski forum zasniva analizu konkurentnosti primenom kompleksnog **Indeksa globalne konkurentnosti** (*Global Competitiveness Index-GCI*) koji obuhvata mikroekonomske i makroekonomske osnove konkurentnosti nacija na globalnom planu. Forum definiše konkurentnost kao set faktora, institucija i politika koji uslovljavaju nivo produktivnosti u posmatranoj zemlji. Nivo produktivnosti zemlje utiče na mnogobrojne privredne aspekte, među kojima se ističu stopa povraćaja ulaganja, rast investicija, podsticanje inovacija, rast BDP-a, pa samim tim i rast dohotka i životnog standarda građana. Konkurentnije privrede imaju veće šanse za brži oporavak i razvoj u srednjoročnom periodu. Ovaj koncept konkurentnosti uključuje statičke i dinamičke elemente. Iako produktivnost zemlje određuje njene mogućnosti za zadržavanjem nacionalnog dohotka na već dostignutom nivou, ona takođe predstavlja i najznačajniju determinantu profita savremenih organizacija, kao ključnog izvora rasta privrednih potencijala posmatrane zemlje.

Konkurentnost se može posmatrati kao:

- 1) uporedivost između stepena konkurentnosti nacionalnih privreda na globalnom nivou,
- 2) na nivou pojedinih sektora ekonomije (sektorska konkurentnost) i
- 3) na nivou pojedinačno posmatranih preduzeća.

Postoji čitav niz faktora koji opredeljuju konkurentnost određene zemlje. Indeks globalne konkurentnosti predstavlja prosek mnogobrojnih komponenti koje su svrstane u takozvanih *12 stubova konkurentnosti*. U najznačajnije faktore, odnosno *stubove* koji utiču na globalnu konkurentnost pojedinačno posmatranih nacija spadaju (Porter & Schwab 2008, str. 3-20):

- 1) institucije,
- 2) infrastruktura,
- 3) makroekonomska politika,
- 4) zdravstveni sistem i kvalitet osnovnog obrazovanja,
- 5) kvalitet višeg i visokog obrazovanja i procesi treninga,
- 6) efikasnost tržišta,
- 7) efikasnost tržišta rada,
- 8) sofisticiranost finansijskog tržišta,
- 9) tehnološka *spremnost* i raspoloživost,
- 10) veličina tržišta,
- 11) kvalitet i priroda poslovne klime i
- 12) inovacije.

Bez obzira na to što se suštinski dobici i društveno blagostanje javljaju kao posledica unapređenja institucija, jačanja infrastrukture, smanjenja makroekonomske nestabilnosti, razvoja ljudskih resursa i drugih činilaca, svi pomenuti faktori postepeno gube na važnosti (Đukić 2008, str. 10). Isti argument važi i za efikasnost svih tržišnih oblika (finansijskog, tržišta rada i proizvoda i usluga). Dugoročno posmatrano, rast životnog standarda može biti podstaknut isključivo inovacijama. Inovacije imaju poseban značaj za privrede koje se *približavaju* granicama znanja i integrisanim tehnologijama koje postepeno gube na aktuelnosti. Iako manje razvijene zemlje još uvek imaju šanse da poboljšaju produktivnost usvajanjem postojećih tehnologija ili inkrementalnim unapređenjima u drugim oblastima, za one razvijene zemlje koje su dostigle fazu podsticanja i razvoja inovacija, faktori obuhvaćeni grupom od prvih 11 *stubova* više nisu dovoljni za rast produktivnosti. Savremene organizacije u razvijenim zemljama moraju da se usmere na primenu najnovijih tehnologija, metoda, sistema i najmodernije opreme, kako bi imale mogućnosti da proizvode sofisticirane proizvode, kao i da zadrže komparativnu prednost. Ovo zahteva napredno okruženje koje može da podstiče inovacije i u javnom i u privatnom sektoru što, konkretnije, podrazumeva povećanje ulaganja u istraživanje i razvoj (posebno u privatnom sektoru), razvoj visokokvalitetnih naučno-istraživačkih centara, ekstenzivnu saradnju (na polju istraživanja) između univerziteta i privrede, kao i zaštitu intelektualne svojine.

ZAKLJUČAK

Novi proizvodi i usluge imaju za cilj da zadovolje sve sofisticiranije zahteve potrošača, kao i one potrebe koje ranije nije bilo moguće zadovoljiti. Međutim, inovacije su po svojoj prirodi riskantne, pri čemu rizik konkretne inovacije u velikoj meri zavisi od načina njene primene. Iz navedenog sledi zaključak da rizik inovacija zavisi od stepena informisanosti, odgovornosti i svesnosti ljudi pri izboru modusa njihove praktične primene. Ukoliko savremene organizacije i vlade uzmu u obzir moguća neželjena dejstva inovacija, utoliko ove institucije moraju da budu svesnije ograničenja modela na osnovu kojih ljudi donose odluke u vezi sa njihovom praktičnom implementacijom (Merton 2013, str. 48). Prevazilaženje rizika inovacija i pomenutih prepreka zahteva primenu raznovrsnih pristupa i instrumenata koji se nalaze u nadležnosti savremenih vlada, organizacija za lobiranje i pojedinačnih preduzeća. Mnogi od pomenutih pristupa se već uveliko primenjuju u uspešnim malim i srednjim preduzećima. Najznačajniji izazov se odnosi na sistematizaciju i usklađivanje *dobre prakse* koja se ogleda u kreiranju adekvatnog organizacionog dizajna, kao i u brzom i produktivnom upošljavanju specifičnih alata i metoda poslovanja MSP.

Razvoj tehnologije jeste jedan od najznačajnijih faktora razvoja privrede i društva u celini. Da bi transfer tehnologije u savremenim organizacijama bio uspešan i da bi doprineo planiranim razvojnim ciljevima preduzeća, neophodno je obezbediti odgovarajući nivo istraživačko-razvojne osnove. U savremenim uslovima privređivanja, tehnološki razvoj prerasta u osnovu razvoja privrednih subjekata i društva. Tehnološki razvoj se ogleda u stvaranju novih ili poboljšanju postojećih proizvoda, usluga i procesa. Njegovi ciljevi su usmereni na obezbeđivanje bržeg, potpunijeg i kvalitetnijeg zadovoljavanja potreba savremenog društva.

REFERENCE

- Brown, D 1997, *Managing Risk and Innovation: the Challenge for Smaller Businesses*,
- Damanpour, F 1991, "Organizational Innovation: A Meta-Analysis of Effects of Determinants and Moderators", *Academy of Management Journal*, vol. 34, no. 3.
- Drucker, PF 1959, *Landmarks of Tomorrow*, Harper & Brothers Publishers, New York.
- Đukić, P 2008, "Konkurencija i razvoj tržišnih struktura u današnjoj Srbiji", u *Tržišne strukture i zaštita konkurencije - iskustva zemalja u tranziciji*, red B Drašković & V Vukotić, Institut ekonomskih nauka, Beograd, str. 1-22.
- Korres, MG 1996, *Technical Change and Economic Growth*, Avebury, Aldershot.
- Kovačević, M 2002, *Međunarodna trgovina*, Ekonomski fakultet, Beograd.
- Merton, RC 2013, "Innovation Risk: How to Make Smarter Decisions", *Harvard Business Review*, vol. 91, no. 4, str. 48-56.
- 8) Porter, ME & Schwab, K (eds) 2008, *The Global Competitiveness Report 2008-2009*, World Economic Forum, Geneva, str. 3-20.
- Robbins, SP & Decenzo DA 2001, *Fundamentals of Management – third edition*, Prentice Hall, New Jersey. Schumpeter, JA 1994, *Capitalism, Socialism and Democracy*, Routledge, London.

ENCLOSURE OF STRATEGIC DEVELOPMENT OF TOURIST DESTINATION STARA PLANINA

Cvetkovic Vidosava

University of Belgrade, Technical Faculty in Bor, Management Department, Serbia

Abstract: Through these paper is given analysis of potential of tourist destination Stara Planina. Stara Planina is the one of the most beautiful Serbian mountain which represents a huge potential for tourism development. In these regard, in these paper is conducted its analysis in terms of biologic world, natural conditions, water resources, communications, roads. By analyzing those aspekts, is made SWOT analysis according to which are defined further strategics for development these tourist destination. In subsequent surveys using multi-criteria method analysis (AHP method) would be defining listed priorities.

Keywords: Stara Planina, tourism, development strategy, SWOT analysis.

1. UVOD

Turizam danas predstavlja jednu od najvećih industrija na svetu. Na osnovu toga stvara se mogućnost za razvoj globalne ekonomije, šanse za otvaranje novih radnih mesta, a isto tako i omogućava očuvanje kulture i prirodnih resursa za buduće generacije. Prema najnovijim podacima Svetktskog Saveta za turizam i putovanje (WTTC, 2014.) koji su prikazani na Globalnom Samitu 2014. godine pokazuju da turizam ima učešće od 9,5% svetskog bruto nacionalnog dohotka. Isto tako je iskazano da je razvoj turizma doveo do otvaranja 4,7 miliona novih radnih mesta, iz čega se može zaključiti da turizam igra veoma važnu ulogu u oblastima gde je nezaposlenost ozbiljna ekonomska prepreka. Vodeći se ovim činjenicama, Evropska komisija je u saradnji sa državama članicama i udruženjima koja predstavljaju sektor turizma, uložila velike napore u sprovođenju niza aktivnosti namenjenih za jačanje evropskog turizma i ostvarivanje njegove veće konkurentnosti. Evropska Unija procenjuje da će do 2020. godine da primi 717 miliona turista, što znači da će se broj turista gotovo udvostručiti u periodu od 2000. do 2020. godine. (UNWTO, 2012.)

U Evropi danas postoje dve najaktivnije planinske destinacije, a to su Alpi i Karpati. Sledeća po svojoj potencijalnosti jeste planinski masiv Stare Planine koji se nalazi na granici između Srbije i Bugarske. Predstavlja jedan prostrani planinski venac Balkanskog poluostrva. U Istočnoj Srbiji se nalazi samo jedan njen manji zapadni deo, dok se ostatak ovog planinskog venca dalje širi ka Bugarskoj. Kao jedna od najlepših planina naše zemlje, predstavlja upravo, ogroman potencijal za razvoj turizma. Samim razvojem turističkog kompleksa Stara planina, došlo bi ostvarenja i samih ciljeva u razvoju turizma koje je odredila Vlada Republike Srbije. Ti ciljevi se odnose pre svega podsticanje privrednog rasta, zapošljavanja i kvaliteta života stanovnika putem razvoja inostranog turizma, zatim na obezbeđenje razvoja sopstvene pozitivne međunarodne slike, obezbeđenje međunarodnih standarda kvaliteta zaštite turističkih potrošača saglasno savremenoj evropskoj praksi (Sl. Glasnik RS, 2006).

1.1. KOMUNIKACIJE

Jedna trećina Stare planine se nalazi u Srbiji, dok su njene dve trećine u Bugarskoj. Midžor sa 2.169 m nadmorske visine je najviši vrh Stare planine, a ujedno i predstavlja i najviši vrh Balkana. Srbija se nalazi na preseku panevropskih saobraćajnih Koridora VII (Dunavski koridor) i X (drumsko-železnički), pa se na osnovu toga smatra raskrslom Jugoistočne evrope. Što se tiče železničke mreže, ona iznosi dužinu od 3.808 km, ali s obzirom na to da su železnička mreža i vozovi zastareli, to otežava komunikaciju. Međutim, jedan od prioriteta Vlade Republike Srbije jeste da obnovi i modernizuje železničku infrastrukturu. Treba napomenuti da Srbija ima dva međunarodna aerodroma. To su Beogradski aerodrom „Nikola Tesla“ i Niški aerodrom. Beogradski aerodrom je svakodnevno povezan sa glavnim aerodromima Evrope, a što se tiče same udaljenosti turističke destinacije Stara planina sa drugim aerodromima je sledeća. Udaljenost od Beograda je 330 km, od Sofije 120 km, i Niša 70 km. Ovde treba istaknuti blizinu Niškog aerodroma koji omogućava lakšu povezanost sa drugim mestima. Na slici 1 prikazana je pozicija resorta Stara planina u odnosu na saobraćajne veze.



Slika 1

1.2. PRIRODNI RESURSI

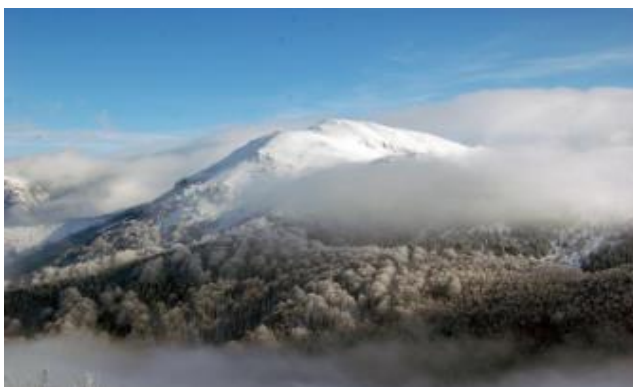
Stara planina je najveći planinski masiv u Evropi. Međutim, to je samo činjenica koja je poznata samo lokalno, ali ne i u Evropskom kontekstu. Upravo zbog toga, ono što je potrebno, jeste raditi na razvoju turističkih kompleksa, kako same Stare planine, tako i ostalih. Razlog za razvoj samog turističkog kompleksa Stara planina je taj da se ona nalazi, kao što je i već napomenuto na graničnom prelazu između Srbije i Bugarske. Na osnovu toga predstavlja pogodan prostor za izgradnju integralnog međunarodnog projekta, i to kako u vidu zimske, tako i u vidu letnje destinacije. Izrada ovakvog projekta bi bila izvan srpskih i bugarskih investicionih interesa. Međutim, ulaganje u sam brend Stare planine kao turističke destinacije, naša zemlja može izvesti jedino u saradnji sa Republikom Bugarskom.

U okviru prirodnih potencijala treba napomenuti da sama regija raspolaže značajnim resursima za proizvodnju energije korišćenjem prirodnih i obnovljivih izvora energije (snaga vetra, vodeni potencijal), a na pojedinim lokacijama postoje neistražena nalazišta mineralnih sirovina i rudnog bogatstva („Strategija prekogranične saradnje“, 2010).

1.3. INFRASTRUKTURA STARE PLANINE

Prostor Stare planine je zaštićeni prirodni rezervat, sa netaknutom prirodom i značajnim potencijalom voda koje su neophodne za razvoj mega turističke destinacije (Horwath, HTL, 2007). Na samom području ove planine se nalaze različite vrste smeštaja (motel, autokamp, konak, planinarski dom, lovački dom, domaćinstva), više od 4,5 km uređenih staza skijanje sa uspinjačima pripremljenih za skijaše svih kategorija, sistem za veštačko osnežavanje, pešačke staze, bičiklističke staze. Na osnovu svega navedenog, Stara planina predstavlja jedan veliki potencijal da postane jedan od najvećih i najznačajnijih skijaških centara u Srbiji, koji bi mogao da parira svetskim skijaškim centrima.

Do sad je Vlada Republike Srbije u okviru Nacionalnog Investicionog Plana izdvojila 50 miliona EUR za investicije u turističku infrastrukturu. Takođe, jedan od bitnijih projekata jeste projekat Edukacije zaposlenih u turizmu (Horwath, HTL, 2007).



2. SWOT ANALIZA STARE PLANINE

U izradi SWOT analize za turističku destinaciju Stara planina, i sagledavajući njene interne jakosti i nedostataka, i eksternih šansi i pretnji, korišćene su radionice sa ključnim stejkholderima, analize tržišta, baze podataka i ekspertize Horwath Consultinga Zagreb (Horwath, HTL, 2007).

- Snage:

Region Stare planine predstavlja područje prirodnih bogatsava i glavni prirodni turistički potencijal u strateškom okviru održivog razvoja Republike Srbije koji još uključuje i Park Prirode i turistički region Stara planina sa ukupnom površinom od 1.540 km² (Milijić S., 2009). Na osnovu toga, treba napomenuti da je Stara planina ozbiljno zakoračila u set planinskog turizma i time prihvatila izazove globalne konkurencije (Sl. Glasnik RS, 2007). U odnosu na okruženje, Stara planina se može izdvojiti po svojim resursima, atrakcijama i prirodnim uslovima, infrastrukturom (saobraćajnom i turističkom), po razvojnoj inicijativi. Iskorišćenjem tih snaga, i primenjujući određene strategije razvoja, celokupan kompleks Stare planine bi mogao da postane jedna od vodećih turističkih atrakcija u Evropi.

- Slabosti:

Na osnovu prethodnih snaga može se uočiti jedan od nedostataka. To je da sam turistički kompleks još uvek ne parira svetksim turističkim destinacijama. Naime, kao glavna slabost jeste da ova destinacija nema prepoznatljivost na internacionalnom nivou. Isto tako, sama turistička ponuda nije prilagođena svetskim trendovima i standardima kvaliteta. Zatim iz domena marketinga, kao slabost uočen je pre svega nedostatak inovativnosti u marketingu i prodaji, a isto tako je uočena i činjenica da postoji orijentisanost ponude jedino ka domaćem tržištu. Kao razlog nedostatka inovativnosti u marketingu može se obrazložiti činjenicom da pre svega postoji nedovoljna edukacija kroz obrazovni sistem (Savić, et.al., 2014; Pavlović, et.al., 2014). U vezi sa tim dolazi do postojanja nekompetentnih kadrova i do nedostatka turističkog iskustva lokalnog stanovništva. Takođe, iako postoje dobre saobraćajne veze ovog turističkog regiona sa drugim opštinama i gradovima, treba napomenuti lošu i nedovoljnu razvijenost magistralnih i regionalnih puteva, staru železničku infrastrukturu, staru infrastrukturu Niškog aerodroma.

Svi ovi nedostaci se mogu svrstati u dve grupe: u grupu nedostataka na lokalnom i nacionalnom nivou. Naime, za ovaj projekat će biti lakše ukloniti barijere koje se tiču same lokacije (infrastruktura, kadrovi i dr.) nego kad je reč o uklanjanju opštih konkurentskih nedostataka Srbije. Tu se kao primer mogu uzeti ograničenja avio saobraćaja, kvaliteta nacionalnog marketinga, što će snažnije delovati na konkurentnost projekta (Horwath, HTL, 2007).

- Šanse:

Prema Lisabonskom ugovoru turizam je postao posebna nadležnost Evropske Unije, čime se omogućava dodatni razvoj zemalja članica Evropske Unije, a isto tako i turistički razvoj drugih država koje su na njenom putu. Isto tako, sama stabilizacija političke situacije u Srbiji i Zapadnom Balkanu, i pregovori za članstvo Srbije u EU, ocenjuje se kao jedna od šansi za razvoj turizma i dolazak stranih turista (Causević and Lynch, 2013). Takođe, kao jednu od šansi treba navesti i definisane prioritete o prekograničnoj saradnji. To se pre svega odnosi na saradnju sa konkurentima iz Bugarske i formiranje internacionalnog resorta.

- Pretnje:

Da bi kompanija bila uspešna u svom poslovanju, ona radi na stalnom zadovoljenju potreba svojih klijenata. Sami klijenti očekuju visok nivo usluga, pa je isto tako i u turističkoj

grani, gde takođe klijenti zahtevaju ispunjenje svojih zahteva na najvišem nivou i u skladu sa zakonima EU. Srbija je zemlja koja kaska za tim. Turističke organizacije nisu dovoljno integrisane u međunarodne institucije i međunarodne turističke destinacije. Sam proces privatizacije je spor, a postoji i veliki udeo sive ekonomije.

Stara planina sa svojim okruženjem ima sve pretpostavke da razvije potreban širi lanac turističkih destinacija, po uzoru na druge planinske destinacije. Druge zemlje iz okruženja se sve više strateški opredeljuje za razvoj turizma, pa na taj način ovu činjenicu treba shvatiti ozbiljno. U tom slučaju dolazi do jačanja konkurencije usled većeg pristupa novim distributivnim kanalima.

3. IZBOR STRATEGIJE IZ SWOT MATRICE

Ljudi danas žive i rade u jednom turbulentom okruženju. Svakodnevno se srećemo sa novim promenama, koje se sve brže dešavaju. Kako za običnog čoveka, tako i za same kompanije kako bi postale upsešne i vodeće, potrebno je stalno pratiti i prilagođavati se tim promenama. U suprotnom, savremeni tržišni uslovi brzo uništavaju one koji nisu sposobni da inoviraju ili da se adaptiraju. Otuda su se, u drugoj polovini XX veka, u menadžmentu preduzeća pojavili vojni termini, kao što su strategija i taktika vođenja operacija preduzeća (Pamučar D., 2008). Na taj način razvijene su mnogobrojne metode i tehnike za savremeno upravljanje organizacijom, gde se kao jedna od njih javlja i SWOT metoda.

SWOT analiza predstavlja skraćenicu engleskih reči: **Strengths** (snage), **Weaknesses** (slabosti), **Opportunities** (šanse) i **Threats** (pretnje). SWOT analiza je metoda koja može da posluži kao pogodan i jednostavan alat za procenu onoga što u organizaciji treba vrednovati, unaprediti, poboljšati ili eliminisati. U vezi sa tim, predstavlja i metodu koja je široko primenljiva. U teoriji, za samu SWOT matricu može se reći da predstavlja mehanizam za olakšani prikaz veza između kompanijskih jakih strana, slabosti, šansi i pretnji. SWOT analiza se koristi za analiziranje unutrašnjeg i spoljašnjeg okruženja koji omogućava sistematski pristup u analizi i predstavlja podršku pri donošenju odluka (Wehrich H., 1982).

Prilikom izrade SWOT analize prikazuju se jasna pitanja menadžmentu koja omogućavaju dalje sagledavanje stanja preduzeća i uvid u to da li će samo preduzeće biti u stanju da realizuje odabranu strategiju. Uobičajena tehnika za izradu SWOT analize je brainstorming koji čini grupa od 10 do 12 članova. Ono što je poželjno u okviru izrade SWOT analize jeste da bi samu analizu trebali da izvrše menadžeri organizacije jer je oni najbolje poznaju, ali u saradnji sa spoljnim konsultantima, jer bi oni dali objektivnu ocenu celokupnog stanja.

Bitno je naglasiti da se SWOT analiza može vršiti na nivou organizacije kao celine, na nivou organizacione jedinice, proizvoda, ali i na nivou geografskog položaja, odnosno tržišnog segmenta gde je poseban interes da se procene šanse i pretnje (Živković Ž, 2004). Kao što je napomenuto, primenom SWOT analize, analiziraju se snage, slabosti, šanse i pretnje koje postoje i mogu uticati na organizaciju. Analiza snaga i slabosti se naziva, naime, interna procena iz razloga što se ovi faktori nalaze unutar organizacije. Ono što je od ključnog značaja, jeste da sama organizacija na njih može itekako da utiče. Isto tako, bitno je da svoje strategije bazira, pre svega na svojim snagama. Sa druge strane nalazi se eksterna procena. Ona obuhvata analizu šansi i pretnji koje se javljaju izvan same organizacije, a mogu da utiču

na njen rad. Za razliku od interne procene, eksterna procena šansi i pretnji je obično izvan kontrole same organizacije. One mogu biti vezane za tržište, tehnologiju, ekonomiju, pravnu regulativu i slično.

Metoda SWOT treba da omogućí sistematsku analizu pretnji i šansi, kao i njihovo usaglašavanje sa jakim i slabim stranama preduzeća, dok SWOT analiza predstavlja „alat“ za planiranje strategije kojim se sučeljavaju interne snage i slabosti organizacije sa eksternim šansama i pretnjama (Pamućar D., 2008). Kao što je napomenuto, u samoj SWOT matrici se analiziraju eksterni i interni faktori, gde se na strani internih nalaze snage i slabosti, a na strani eksternih, šanse i pretnje. Na osnovu toga, SWOT matrica pomaže menadžerima da razviju različite tipove strategija, posmatrajući pomenute faktore. Na taj način, reprezentativno se javljaju četiri moguća tipa strategija, a to su: SO strategija (strengths – opportunities), WO strategija (weaknesses – opportunities), ST strategija (strengths – threats) i WT strategija (weaknesses – threats). To se može i prikazati pomoću slike.

Tabela 1. Prezentacija SWOT matrice

	Eksterni faktori		Interni faktori	
	Šanse (O)		Snage (S)	Slabosti (W)
		S ₁	W ₁	
		S ₂	W ₂	
		
		Lista svih snaga	Lista svih slabosti	
		SO strategija	WO strategija	
O ₁		Iskoristiti interne snage kako bi se iskoristile i eksterne šanse	Premostiti slabosti u organizaciji preuzimajući šanse iz okruženja	
O ₂				
...				
Lista svih šansi				
	Pretnje (T)	ST strategija		WT strategija
T ₁		Iskoristiti interne snage kako bi se izbegle pretnje iz okruženja	Minimizirati slabosti kako bi se otklonile pretnje	
T ₂				
...				
Lista svih pretnji				

4. SWOT MATRICA TURISTIČKE DESTINACIJE STARA PLANINA I MOGUĆE STRATEGIJE

Na osnovu prethodn objektivno sagledane SWOT analize, mogu se definisati kriterijumi u okviru svake od navedenih odrednica za turistički kompleks Stara planina. Sami dobijeni rezultati su prikazani u SWOT matrici, u tabeli 2.

Tabela 2. SWOT matrica za turističku destinaciju Stara planina

Eksterni faktori	Interni faktori	
	Strenghts (S)	Weaknesses (W)
	S ₁ – Ekološko područje	W ₁ – Bez prepoznatljivosti na internacionalnom nivou
	S ₂ – Klimatski uslovi koji dopuštaju razvoj celogodišnjeg turizma	W ₂ – Nedostatak inovativnosti u marketingu i prodaji
	S ₃ – Blizina saobraćajnica (autoputa i aerodroma)	W ₃ – Orijentisanost ponude ka domaćem tržištu
	S ₃ – Ime Stara planina je već prepoznatljivo na regionalnom turističkom tržištu	W ₄ – Nedovoljna razvijenost i loše stanje magistralnih i regionalnih puteva, stara železnica i stara infrastruktura aerodroma Niš
	S ₃ – Blizina međunarodnog tržišta Bugarska – Rumunija	W ₅ – Nedostatak međunarodnog turističkog iskustva lokalnog stanovništva
	S ₄ – Zainteresovanost lokalnog stanovništva za razvoj projekta Stara planina	
	S ₅ – Gostoljubivost i ljubaznost lokalnog stanovništva	
	S ₆ – Blizina međunarodnog tržišta na kome Stara planina nije nepoznata	
Opportunities (O)	SO - Strategy	WO – Strategy
O ₁ – Stabilizacija markoekonomskog okruženja	SO ₁ – Kreiranje brenda Stara planina sa Bugarskim partnerima kao novoj turističkoj destinaciji sa netaknutom prirodom	WO ₁ – Kreirati strategiju razvoja ljudskih resursa kontinuiranim obrazovanjem i uvođenjem obuka za usavršavanje u poslovima turizma i ugostiteljstva
O ₂ – Turizam kao strateško opredeljenje Srbije		
O ₃ – Turisti posećuju udaljene	SO ₂ – Razvijati strategiju	

destinacije za vreme kratkog diferenciranja
odmora

O₄ – Budućnost istočne Evrope
kao potencijalno brzo rastućeg
skijaškog tržišta

O₅ – Saradnja sa konkurentima iz
Bugarske (prekogranična
saradnja)

O₆ – Usvojena Strategija razvoja
turizma republike Srbije, oktobar
2006.

Threats (T)	ST - Strategy	WT – Strategy
T ₁ – Veća očekivanja od strane klijenata za kvalitetom proizvoda i usluga	ST ₁ - Povećati nivo kvaliteta usluga	WT ₁ – Razvijati strategiju profitno orijentisanih privatnih firmi na području turističke destinacije Stara planina
T ₂ – Stalna inovacija turističkih proizvoda i njihove promocije	ST ₂ – Kreirati strategiju penetracije tržišta	
T ₃ – Veliki broj nezaposlenih		
T ₄ – Veliki udeo sive ekonomije		
T ₅ – Zemlje u okruženju se sve više strateški opredeljuju za razvoj turizma		

Uporednom analizom SWOT faktora, prikazanih u tabeli 2., definisane su strategije SO₁ i SO₂ kojima bi se potencijalne snage iskoristile za šanse iz okruženja koje su uočene. Za prevazilaženje unutrašnjih slabosti korišćenjem šansi iz okruženja, takođe su definisane dve moguće strategije WO₁ i WO₂. Strategije ST₁, ST₂ i ST₃ su definisane kao moguće kako bi se izbegle pretnje uz pomoć korišćenja snaga koje postoje. Konačno, definisana strategija WT₁ bi mogla da se iskoristi za smanjenje slabosti kako da bi se izbegle pretnje iz okruženja.

5. ZAKLJUČAK

U primeni SWOT analize, kao alata za generisanje i rangiranje optimalnih strategija u novije vreme razvijeni su mnogobrojni alati višekriterijumskog odlučivanja koji su proširili njenu primenu i otvorili brojne mogućnosti za donošenje objektivnih odluka.

U daljem radu biće nastavljeno istraživanje prioretizacijom strategije za razvoj turističke destinacije Stara planina. Kao što je napomenuto da su u okviru SWOT analize razvijeni drugi mnogobrojni alati za donošenje odluka, tako će u daljem radu biti iskorišćene metode AHP i FAHP, kao neke od metoda za višekriterijumsku analizu, radi konačnog prikaza najoptimalnije strategije i njihovo rangiranje za razvoj ovog turističkog kompleksa.

REFERENCE

- Horwath HTL, Plan razvoja turizma na Staroj planini sa preinvesticionom studijom i fizičko tehničkim karakteristikama skijališta, Zagreb, 2007.
- Dragan Pamučar, Primena SWOT analize na sistem integralnog transporta vojske Srbije, Beograd, 2008.
- Weirich H., The TOWS matrix - a tool for situational analysis, Long Range Plan, 1982.
- Strategija prekogranične saradnje opština Knjaževac i Belogradčik 2010 - 2015, Knjaževac, 2010.
- Rezultati u Turizmu, Tourism highlights, UNWTO, 2012.
- Sl. Glasnik RS, br. 91/2006, Strategija razvoja turizma Republike Srbije
- WTTC (World Travel & Tourism Council), 2014
- Horvath, HTL, Plan razvoja turizma na Staroj planini sa preinvesticionom studijom i fizičko – tehničkim karakteristikama skijališta, Zagreb, 2007.
- Milijić S., Banićević D., Krunić N., Strategic evaluation of economic feasibility of mountain tourism region development, 2009.
- Sl. Glasnik RS, br. 85/2007, Uredba o utvrđivanju programa razvoja plnainskog turizma na području Stare planine.

SCIENTIFIC MODELING – CASE STUDY: DESIGN OF THE OPEN-PLAN OFFICE

Veličkovska Ivana, Dimitrievska Dragana,
Mentor: Dr. Ivan Mihajlović

University of Belgrade, Tehnical Faculty in Bor, Management department, Serbia

Abstract: Modeling has been a useful tool for engineering design and analysis. The definition of modeling may vary depending on the application, but the basic concept remains the same: the process of solving physical problems by appropriate simplification of reality.

The terms of „model“ and „modeling“ may seem equal, however they are concepts that incorporate different meanings. Model refers to a product that comes out as a result of modeling.

We may come across models during our daily lives in situations where reflecting the reality is impossible or where access to reality is limited in that particular moment. For instance, an architect can exemplify the features of a building that he/she wants to sell, by modeling the building that he/she will construct. In this paper we will present model of an open-plan office as example of modeling. Before attempting a design, it is important to understand the issues involved and how they relate to one another. This research summarizes occupants' needs with regard to workstations in the open-plan office, and provides guidance on workstation design for improving occupant comfort and satisfaction.

There is a necessity to develop modeling skills by using mathematical and scientific modeling approaches in education. In this paper will be mentioned the importance, main features and process of modeling.

Keywords: Model, scientific modeling, mathematical modeling, open-plan office

1. UVOD

Modelovanje je najznačajnije konceptualno sredstvo koje čoveku stoji na raspolaganju. To je jedan od osnovnih procesa ljudskog uma kojim se, uz pomoć modela umesto realnih sistema, dolazi do određenih saznanja. Reč „model“ potiče od latinske reči „modus“, čije je značenje mera. Predstavlja uprošćenu sliku realnosti koja omogućava suočavanje sa realnim svetom na pojednostavljen način, izbegavajući njegovu kompleksnost, kao i sve konsekvence koje mogu proisteći iz eksperimenata nad samim realnim sistemom.

Značaj modela ogleda se u tome što inženjeri na osnovu projektovanog modela formiraju zaključke o posmatranoj pojavi, obogaćuju svoja teorijska i praktična znanja. Na osnovu ovih zaključaka planiraju se novi eksperimenti čija je svrha potvrđivanje ili opovrgavanje postavljenih hipoteza.

Model zadržava samo one karakteristike originala koje su značajne za izučavanje. Nivo apstrakcije (uprošćavanja) utiče na validnost modela tj. na uspešnost predstavljanja

sistema. Isuviše složeni modeli su skupi i njihova primena nije adekvatna, dok suviše prosti modeli ne predstavljaju realni sistem sa dovoljnom preciznošću. Zamena se koristi u slučaju kada je korišćenje realnog sistema teško izvodljivo ili nemoguće ili je suviše skupo u smislu novca, resursa, vremena itd. Iz navedenog razloga primena modela u praksi je na neki način postala neophodna.

Modelovanje nije vezano samo za već postojeće sisteme, već može naći primenu i u fazi konstrukcije ili izvođenja, što će u radu biti prikazano na primeru kancelarije otvorenog tipa.

2. NAUČNO MODELOVANJE

Modeli igraju glavnu ulogu u nauci, u smislu da korišćenjem opštih zakona i teorija mogu da predvide ili objasne ponašanje sistema u specifičnim situacijama. Koriste se u mnogim situacijama, ali što je složeniji fenomen čije ponašanje treba objasniti, to je važnija analitičnost i nedvosmislenost modela. Naučno modelovanje je generacija fizičke, konceptualne i matematičke reprezentacije pravih fenomena koje je teško direktno posmatrati. Naučni modeli se koriste da objasne i predvide ponašanje realnih sistema u različitim naučnim disciplinama, od fizike i hemije do ekologije, geografije i geologije. Iako je modelovanje centralna komponenta moderne nauke, naučne modeli su u najboljem slučaju približni objektima i sistemima koje predstavljaju - oni nisu tačne replike. Prema tome, naučnici konstantno rade na poboljšanju modela.

Pojava i razvoj prirodnih nauka koje pokušavaju da objasne ponašanje složenih sistema u uslovima interakcije sa okolinom, povećali su potrebu za računarskim alatima kao pomoćnim sredstvima u izgradnji i korišćenju modela. [1]

Postoji mnoštvo računarskih alata i oni su obično tesno povezani sa oblašću istraživanja za koju su, u krajnjem slučaju, i kreirani. Na primer, MATLAB (The MathWorks, Inc., 1997) programski paket (MATrix LABoratory) je matematičko i simulaciono okruženje koje omogućava matematičke proračune, razvijanje algoritama, simuliranje i analizu procesa, obradu podataka, vizuelizaciju, a sve to kroz interaktivan i programski rad. Ono što je specifično za ovaj računarski program je da osnovni tip podataka predstavljaju matrice. Ovaj programski paket je jedan od najpopularnijih i najčešće korišćenih u inženjerstvu.

Aktuelno modelovanje bavi se primarno formulacijom i simulacijom modela, a ne otkrićem. Međutim, kako podaci postaju sve dostupniji, a složenost modela konstantno raste, naučnici bi mogli imati sve veću korist od ovakvog vida računarske podrške. Jer sa druge strane, postoji mogućnost otkrivanja informacija i novih saznanja iz podataka. Postoje mnoga istraživanja na ovu temu, ali većina njih pokazuje da su znanja dobijena iz izvora tzv "veštačke inteligencije" veoma korisna u poslovnom svetu, a slabije pogodna za određene naučne discipline koje zahtevaju sistematičan pristup, praćenje i modifikovanje koraka do finalnog rezultata. [1]

Neki modeli, prvenstveno oni koji se koriste za vizuelizaciju objekta ili sistema, često se izrađuju od eksperimentalnih podataka. Ostali modeli imaju za cilj da opišu apstraktnu, hipotetičku pojavu ili fenomen. Na primeru vremenske prognoze ili u projektovanju zdravstvenih ishoda epidemija bolesti, modeli su uglavnom zasnovani na znanju i podacima

pojava iz prošlosti i oslanjaju se na matematičkom analiziranju ovih informacija za stanja u budućnosti. Ovi prognostički modeli od značaja su za društvo zbog njihove potencijalne uloge u sistemima upozorenja, kao u slučaju zemljotresa, cunamija, epidemija, i sličnih velikih katastrofa. Međutim, pošto nijedan model ne može da objasni sve varijable koje mogu uticati na ishod, naučnici su primorani da se oslanjaju na pretpostavke ili iskustva koje mogu ugroziti pouzdanost predvidljivog modela i dovesti do pogrešnih zaključaka. Ograničenja naučnih modela opravdana su činjenicom da modeli uglavnom nisu potpune reprezentacije realnih sistema. Da bi se potpunije razumeo sistem u naučnom modelovanju, može se kombinovati više modela, od kojih svaki objašnjava deo tog sistema. Kolektivno posmatrani, modeli mogu obezbediti potpuniju predstavu i razumevanje realnog sistema.

Modelovanje atmosferskih pojava i okeanskih cirkulacija je relevantno ne samo za vremenske prognoze, već i u naučnom razumevanju globalnog zagrevanja. U slučaju globalnog zagrevanja, model koji vredi pomenuti je tzv. model cirkulacije koji se koristi za simuliranje ljudskih i drugih faktora koji izazivaju klimatske promene. Modelovanje geoloških događaja kao što su kretanja Zemljinih ploča unapredilo je znanje naučnika u vezi vulkana i zemljotresa. U ekologiji, modelovanje može da posluži razumevanju životinjske i biljne populacije i dinamiku interakcija između organizama. [2]

2.1. MATEMATIČKO MODELOVANJE

Matematičko modelovanje se definiše kao implementacija matematike u rešavanju nestrukturiranih problema u realnim životnim situacijama. Stvarni problem koji se javlja transformiše se u matematički problem i rešava se upotrebom matematičkih tehnika. [3]

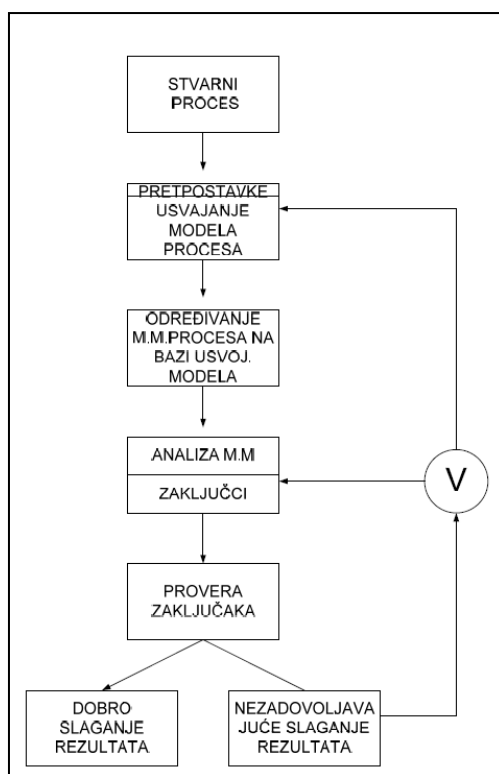
Matematika predstavlja najefikasnije sredstvo koje se koristi za rešavanje ovih problema. Da bi se vršilo matematičko modelovanje polazi se od neke realne situacije (svakodnevne situacije, dostupne i poznate), a potom se ta situacija pomoću matematičkog jezika pretvara u matematičku situaciju, a pomoću odgovarajućeg modela se traži rešenje problema. Znači da je uloga modela (modelovanja) za rešavanje problema od presudnog značaja.

Matematički model obuhvata korišćenje raznih matematičkih obrazaca, formula, jednačina, grafikona ili tabela kojima se reflektuje realna situacija u model. Uspeh matematičkog modelovanja ogleda se u mogućnosti da se realni problem transformiše u matematički problem korišćenjem matematičkog modela.

Proces rešavanja problema matematičkim modelovanjem može se predstaviti na sledeći način:

1. Razumevanje i pojednostavljenje problema, razumevanje tabela i grafikona i izvođenje zaključaka na osnovu njih,
2. Formiranje matematičkog modela identifikovanjem varijabli i veza, postavljanje hipoteza i razvijanje modela,
3. Interpretiranje rešenja, donošenje odluka i analiziranje sistema uz predlaganje novih ideja,
4. Verifikovanje problema, generalizovanje ideja i evaluacija rešenja sa različitih aspekata.

Iz navedenog možemo zaključiti da se prvo vrši interpretiranje rešenja da bi se potom prikazala ispravnost rešenja. Provera tačnosti matematičkog modela vrši se po tzv. iterativnom postupku. Odnosi se na postupak određivanja da li je model precizna reprezentacija realnog sistema. Najčešće, to je jedna iterativna procedura u kojoj se ponašanje modela poredi sa ponašanjem realnog sistema i uočena neslaganja i razlike koriste za dogradnju i ispravku modela. Postupak poboljšanja modela se nastavlja, sve dok se ne odluči da dobijena tačnost modela zadovoljava odgovarajuće kriterijume. Na slici 1 prikazan je navedeni postupak verifikacije matematičkog modela.



Slika 1. Algoritam postupka verifikacije matematičkog modela [4]

Ukoliko se rešenje ne poklapa sa realnošću, odnosno ukoliko dobijeno rešenje nije zadovoljavajuće, određene etape ili celokupni proces modelovanja se ponavlja.

Za probleme za koje su matematički modeli već razvijeni, moguće je pomoću parametara prilagoditi ih novoj situaciji ili drugom srodnom problemu. Modeli, iako opisuju određene fenomene iz stvarnog sveta, ipak su samo modeli, što znači da pojednostavljaju delovanje ili okolnosti u kojima se proces odvija. To svakako treba imati na umu kod kreiranja, upotrebe i tumačanja rezultata dobijenih pojedinim modelima.

2.1.1. Numeričko modelovanje

Numeričko modelovanje temelji se na dva osnovna pristupa: matematički i statistički pristup. Na osnovu toga, razvoj modela može biti zasnovan na teorijskoj osnovi i naučnoj osnovi samoga sistema.

Pre nego što je numerički model korišćen za rešavanje inženjerskih problema, upotrebu je našao u simulaciji problema manjih razmera i jednostavnih slučajeva koji su bili poznati. [5]

Sa napretkom računarske tehnologije, mnogi numerički i softverski programi su razvijeni za potrebe inženjerske prakse. Numeričko modelovanje se koristi za simulaciju leta spejs šatla, tokova podzemnih voda, čvrstoću materijala, zemljotrese i slično.

Potencijalni izvor greške u razvoju numeričkog modela, se odnosi na to da li numeričke simulacije modela daju adekvatnu predstavu uslova na terenu. Simulacije putem numeričkog modela mogu izazvati greške zbog neadekvatnog procesa predstavljanja ili zbog nedostataka u specifikaciji modela simulacije (npr. granični uslovi ili vrednosti parametara). Teškoće predstavljanja uslova na terenu su generalno značajno veće od onih koje se odnose na podudaranje izlaza modela. [6]

Postoje dva vida modelovanja, modelovanje po principu M1 i modelovanje po principu M2.

Prvi vid modelovanja ima oznaku M1, iz razloga što je ovaj vid modelovanja u literaturi poznat kao „prvi princip modelovanja“. Najčešće se u ovakvim slučajevima matematički model zasniva na sistemu diferencijalnih jednačina i struktura sistema je posledica spoznaje teorijske osnove samoga razmatranog sistema [7]. Neophodno je poznavati zakonitosti koje važe u strukturi sistema. Modelovanje se vrši po principu „bele kutije“. Jednačina modela se potpuno razvija u diferencijalnom obliku. O tome da li je model adekvatan govori podatak o upoređivanju rešenja diferencijalnih jednačina sa izlazima realnog sistema.

Stvarni tehnički sistemi imaju tendenciju da budu kompleksni tako da nije moguće obuhvatiti sve detalje o sistemu u modelu. Potrebno je napraviti kompromis između sledećih zahteva:

1. Model treba da bude dovoljno precizan u odnosu na prvobitnu namenu,
2. Model treba da bude dovoljno jednostavan za korišćenje, npr. za analizu sistema i kontrolu dizajna. [8]

Dinamičko ponašanje sistema otežava korišćenje ovog modela pa je zato primena M1 modelovanja vezana za jednostavne i apstraktne sisteme. Takođe, još jedan nedostatak ovog vida modelovanja jeste taj da prilikom formiranja sistema jednačina modela može doći do greške aproksimacije koja je posebno izražena kod kompleksnih sistema.

Drugi vid modelovanja ima oznaku M2 i zasniva se na bazi statističke analize. Ovaj vid modelovanja postao je primenjiv razvojem računarskih sistema. Poznavanje strukture sistema kao i zakonitosti delovanja sistema nije potrebno jer se razvoj modela vrši po principu „crne kutije“. Neophodno je merenje ulaznih i izlaznih veličina u različitim vremenskim intervalima i na osnovu tih merenja formira se baza podataka koja se potom koristi za izradu modela primenom statističke analize.

Model dobijen pomoću M1 vida modelovanja koristi se i za druge srodne procese dok se model M2 koristi samo za određeni proces na kojem se vrše merenja. Ipak, programska rešenja dobijena za postupak M2 se mogu primenjivati za dobijanja modela različitih procesa, dok se za M1 za svaki proces, modelovanje mora vršiti iz početka. [4]

3. MODELOVANJE KANCELARIJE OTVORENOG TIP

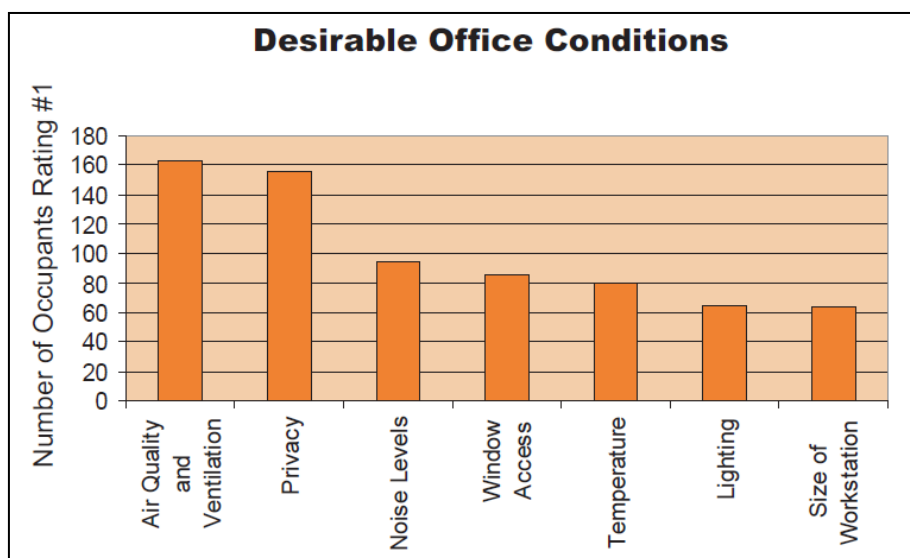
Savremen način poslovanja doneo je promene u načinu rada zaposlenih i dizajnu radnog okruženja. Novi koncept kancelarija pod nazivom „open-plan office“ predstavlja kancelarije bez zidova, kod nas poznat kao kancelarija „otvorenog tipa“.

Termin kancelarija „otvorenog tipa“ se odnosi na poslovni prostor koji je podeljen na relativno mala radna mesta, po particijama. Celokupnu površinu kancelarije razdvajaju paneli, odnosno ploče, koji simuliraju zidove. Raspored radnih mesta je fleksibilan, pa broj particija varirira, što zavisi od konkretnog slučaja. [9] Ovaj način dizajniranja kancelarija uveliko se koristi u mnogim zemljama, pa je trend kancelarija „otvorenog tipa“ sve zastupljeniji i kod nas.

Originalna ideja otvorene kancelarije zamišljena je još davne 1950. od strane tima u Hamburgu, koji su mislili da će to olakšati komunikaciju između zaposlenih. Danas je oko 70% svih radnih prostora usvojilo ovaj trend. Šangajski studio Neri&Hu čak je pretvorio industrijski krovni prostor u Šangaju u kancelarijski za vodeću firmu za globalni i strateški konsalting Flamingo Group.

Dizajn ovih kancelarija je osmišljen sa prvobitnom namenom da se bolje iskoristi prostor i poboljša protok informacija. Promene u poslovnoj praksi se reflektuju kako na dizajn radnog mesta, tako i na način rada zaposlenih. Smanjenje troškova prostora i povećanje fleksibilnosti glavni su faktori koji utiču na sve češću implementaciju ovih kancelarija u organizacije. Težnja za poboljšanom komunikacijom i timskim radom takođe doprinosi rastu ovog trenda. Međutim, neprikladan dizajn kancelarije može stvoriti probleme kao što su narušavanje privatnosti, buka, smanjen kvalitet vazduha, manja efikasnost zaposlenih [9].

U radu, analizirani su faktori od najvećeg uticaja na rad zaposlenih i zadovoljstvo radnim okruženjem u kome je tip „open-plan“ kancelarija implementiran. Kao najvažnije, zaposleni su istakli sledeće faktore. Na slici 1. Predstavljen je uticaj najznačajnijih faktora na kvalitet rada u kancelarijama otvorenog tipa, po mišljenju zaposlenih.



Slika 2. Uticaj najznačajnijih faktora na kvalitet rada u kancelarijama otvorenog tipa [9]

Takođe, na osnovu analize većeg broja radova, mogu se izdvojiti sledeći faktori koji su od uticaja kod poslovanja u okviru prostora definisanog kao “open plan” kancelarije:

Buka

Najčešći izvori buke u kancelarijama otvorenog tipa su telefonski razgovori i diskusije među kolegama. Razgovori su posebno uznemiravajući zbog informacija koje sadrže. Prepoznavanje govora je znatno uznemiravajuće u odnosu na ostale zvukove istog nivoa. Dok akustiku prostorije obično karakteriše vreme reverbalizacije (odnosno, opstajanje zvuka u zatvorenom prostoru i nakon njegovog nastanka) ISO 3382-3 predstavlja drugačije parametre akustike. Oni se odnose na buku govora i razumljivost govora na određenim udaljenostima.

Ovi parametri omogućavaju izračunavanje zone privatnosti i zone ometanja.

Zona privatnosti se odnosi na udaljenost na kojoj govor nije više razumljiv da bi ometao druge i na pozadinsku buku koju proizvodi. U nekim kancelarijama, ta udaljenost je veća od ukupne dužine kancelarije, što znači da u takvim uslovima privatnost nije moguća.

Zona ometanja se odnosi na udaljenost na kojoj je govor delimično razumljiv, ali uglavnom proizvodi pozadinsku buku.

Idealno rešenje je da se raspored uradi tako da se u zoni ometanja koncentrišu ljudi kojima je u interesu posla da dele informacije, ali da ne ometaju druge grupe ljudi. Jedna od mogućnosti je i formiranje kancelarija otvorenog tipa po službama (npr. računovodstvo, marketing) kada su u pitanju velike kompanije.

Rešavanje problema buke u radnim prostorima nije lako. Četiri zida i vrata ne stvaraju nužno dobru akustiku. Ali u bilo kojem okruženju, zvuk može biti apsorbiran ili prigušen. Potrebno je obezbediti privatnost govora, blokirati protok zvuka površinama koje ga apsorbiraju, poput plafona, visokih pregrada. Kontrolisanje zvuka na prihvatljivom nivou tolerancije predstavlja imperativ u dizajniranju prostora i važan parametar u ukupnoj efikasnosti prostora.

Akustika u kancelariji obuhvata sve zvuke koji se pojavljuju. Neki od ovih zvukova mogu biti prijatni, kao što su muzika, neki nose važne informacije poput telefonskih poziva, požarnog alarma. Međutim, nepoželjni zvuci se u radnom okruženju doživljavaju kao buka: neprijatno, zamorno, odvlače pažnju, čak mogu biti i psihološki štetni.

Negativan efekat buke odražava se na koncentraciju, nivo stresa, kvalitetno izvršenje zadataka, potrebno vreme za izvršenje, samim tim i ukupnu produktivnost.

Faktori buke koji ometaju zaposlene u radu, poređani po intenzitetu, jesu sledeći:

- Zvono telefona
- Razgovor među kolegama
- Telefonski razgovori
- Zvuk ventilacionog sistema
- Kucanje na tastaturi
- Zvuci računarske opreme, fotokopir aparata [9]

Dizajner kancelarije otvorenog tipa mora uzeti u obzir ove uticaje i stvoriti prijatno okruženje zaposlenima sledećim strategijama: smanjiti nivo buke na samom izvoru (govor, buku mašina, zvono telefona), redukovati putujući zvuk između radnih mesta, stvoriti neutralnu ambijentalnu buku koja će neutralisati buku koja dolazi sa strane (prijatna muzika).

Dizajn

Dizajn kao faktor od uticaja na rad u "open-plan" kancelarijama podrazumeva visinu panela, veličinu pojedinačnih radnih mesta, raspored i orijentaciju radnih mesta unutar kancelarije, pozicije glavnih particija i održavanje radnog mesta.

Paneli moraju biti dovoljno visoki kako bi blokirali putujuće zvuke između radnih mesta. Preporuka je da visina panela bude između 1.5 i 1.8 metara. [9] Međutim, ne treba zapostaviti uticaj koji visina zidova ima na distribuciju svetla i protok vazduha.

Optimalna veličina radnog mesta iznosi 6 m², što utiče na smanjenje nivoa buke i bolju koncentraciju zaposlenih.

Raspored i orijentacija radnih mesta moraju biti pažljivo projektovani. Radna mesta sa sličnim zadacima trebalo bi da budu koncentrisana na jednom mestu. Na taj način se daje prostor za međusobnu komunikaciju i razmenu ideja, odnosno - timski rad. Nije poželjno da fizički suprotno postavljene particije imaju otvor na istoj strani, kako bi se izbeglo ometanje. Bitno je da se odvoje prostorije za sastanke, prijem stranaka, prometni hodnici, od radnih mesta koja zahtevaju mir i koncentraciju zaposlenih. Zadovoljstvo zaposlenih se povećava ukoliko zaposleni na višim pozicijama imaju particije u centralnom delu radnog prostora. Prema shvatanju zaposlenih, mesto na kome se particije nalaze odražavaju odgovornost i status tih lica u kompaniji. Na sledećoj slici prikazan je klasičan izgled particije u okviru "open-plan" kancelarije.



Slika 3. Izgled particije u okviru kancelarije otvorenog tipa [9]

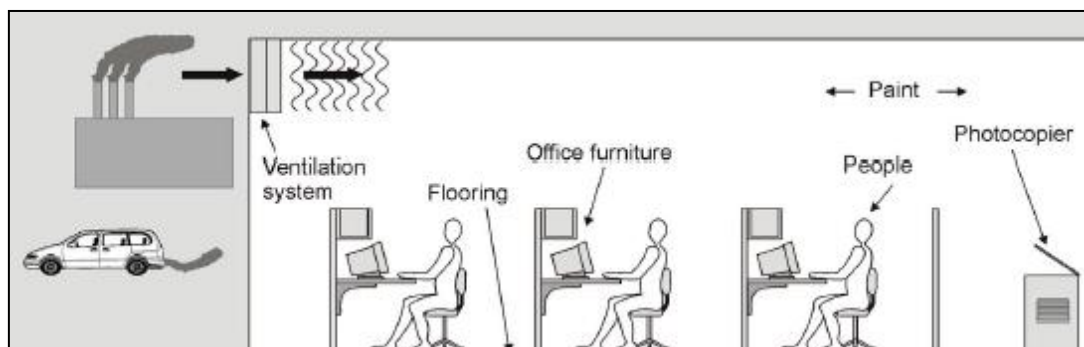
Bitno je napomenuti i značaj održavanja i čišćenja radnog mesta. Redovno održavanje i čišćenje je preduslov za postizanje dobrog izgleda poslovnog prostora jer utiče na estetiku. Takođe, čisto i uredno radno mesto omogućuje brže obavljanje zadataka i pozitivno utiče na zdravlje zaposlenih. Dosadašnja istraživanja su pokazala da se zadovoljstvo zaposlenih radnim mestom povećava ukoliko im se dopusti da oni sami oplemene svoj radni prostor. [10]

Kvalitet vazduha

Što se tiče kvaliteta vazduha potrebno je, pre svega, obezbediti direktan pristup svežem vazduhu gde god je to moguće, adekvatnu temperaturu poslovnog prostora, individualnu kontrolu nad temperaturom, čišćenje i održavanje ventilacionih sistema. [9]

Ventilacioni sistem je veoma važan faktor jer zaposleni, inventar, oprema, stvaraju zagađivače poput bakterija. Sam po sebi, ovaj tip kancelarija ima više zaposlenih, nameštaja, opreme na manjem prostoru od klasičnih kancelarija. Takođe, kroz ventilacioni sistem mogu dospeti prašina i štetni gasovi iz atmosfere koji ostaju u radnom okruženju. Shodno tome, posebnu pažnju treba usmeriti na stanje ventilacionih sistema, njihovo redovno čišćenje i održavanje. Neodgovarajuća temperatura ima uticaja kako na rad, tako i na zdravlje zaposlenih, pa je otežana koncentracija, dolazi do glavobolje, pospanosti, iritacija uha, grla i nosa. Čišćenje ventilacionih sistema je neophodno, kako i sami ne bi postali zagađivači.

Opremu poput fotokopir aparata, štampača i ostalih mašina koje zajedno koriste zaposleni poželjno je izolovati u zaseban deo kako zagađivači ne bi kružili kroz celokupan radni prostor, takođe u isto vreme se smanjuje buka koju proizvodi ova oprema. Spoljašni i unutrašnji izvori zagađenja koji negativno utiču na rad zaposlenih prikazani su na slici 4.



Slika 4. Spoljašni i unutrašnji izvori zagađenja koji utiču na rad zaposlenih [9]

Temperatura na radnom mestu zavisi od spoljašne temperature, brzine vazduha i relativne vlažnosti. Subjektivni osećaj temperature vazduha zavisi od nivoa aktivnosti zaposlenog, propisanog načina odevanja. Ovi faktori utiču na fiziološke procese tela kao što su znojenje i drhtanje, koji nam ukazuju na adekvatnost temperature. Ukoliko nije moguće postići željenu temperaturu na prirodan način, pribegava se kontrolisanju temperature putem klima uređaja, što pruža mogućnost svakom zaposlenom da sebi prilagodi temperaturu na radnom mestu.

Osvetljenje

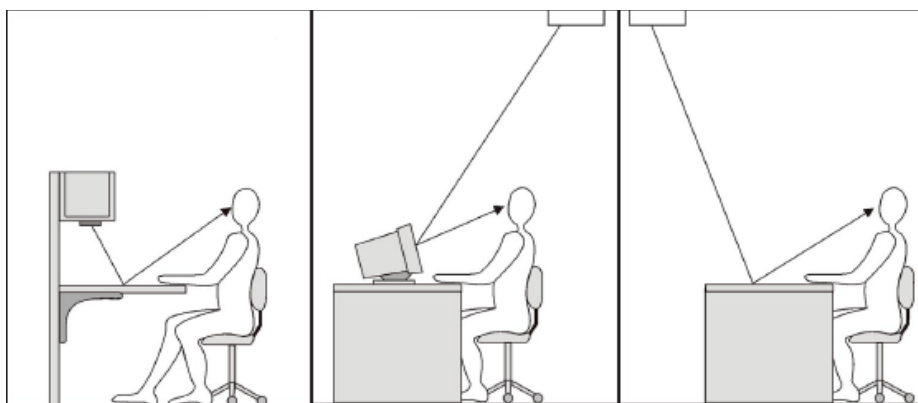
Prilikom planiranja osvetljenja "open-plan" kancelarija potrebno je obezbediti pristup dnevne svetlosti. Zaposleni, zbog savremenog načina poslovanja provode najviše vremena u zatvorenom prostoru. Kako bi se nadomestio ovaj nedostatak kancelarije su projektovane tako da imaju maksimalni pristup dnevnoj svetlosti, jer se veruje da to utiče na produktivnost zaposlenih i zadovoljstvo radnim okruženjem. Paneli particija koje se nalaze blizu prozora treba da budu niži kako bi i ostali delovi kancelarije bili osvetljeni. Zaposleni čiji zadaci podrazumevaju povećani nivo stresa i odgovornosti, po pravilu treba da budu blizu dnevnog svetla tj. prozora, jer se smatra da dnevno svetlo utiče na smanjenje stresa i poboljšanje raspoloženja, a time i koncentracije.

Kako nije moguće obezbediti dnevnu svetlost za svako radno mesto, koristi se veštačko osvetljenje. Posebni aspekti veštačkog osvetljavanja su ujednačenost svetlosti na radnim površinama, ugao i reflektovanje svetlosti od površina. [9]

Dobro organizovano osvetljenje u radnoj sredini omogućava zaposlenom obavljanje svih radnih funkcija. Ako obezbedimo radnom okruženju dovoljnu količinu veštačke svetlosti, osvetljenje mora biti čisto i neutralno, bez žutog odsjaja. Na to mogu uticati i boje u kancelarijama.

Konstantna upotreba računara uslovljava nivo osvetljenja i kontrolisanje bljeska.

Zaslepljujući bljesak je velika količina raspršenog svetla unutar oka koja dovodi do privremenog zaslepljivanja. Bljesak utiče na ljude tako što ih „zaslepljuje“ ili izaziva neprijatnost. Mogući izvori bljeska predstavljeni su na slici 5.



Slika 5. Stvaranje bljeska reflektovanjem svetla [9]

Neophodno je podjednako osvetliti sve delove radnog mesta zbog potrebne produktivnosti i koncentracije. Neravnomerna distribucija svetlosti može izazvati kontraproduktivnost.

Ciljevi osvetljenja treba da odgovaraju godinama, sklonostima i sposobnostima zaposlenih. Kancelarija osvetljena na pravilan način olakšava rad i komunikaciju.

Privatnost

Regulisanje privatnosti podrazumeva kontrolu interakcije između zaposlenih i stimulansa iz okruženja, koje je izrazito dinamično. U kancelarijama otvorenog tipa, zaposleni obično ne vidi osobu u susednoj particiji, osim ako ustane, što govori o postojanju relativne privatnosti, za početak. Osim toga, verovatnoća kontakta sa osobama van grupe dramatično opada kada se radi o klasičnim kancelarijama, a zaposlenima je prijatnije kada su svesni da su okruženi kolegama.

Trostrani dizajn predstavlja rešenje koje obezbeđuje privatnost zaposlenima, kako bi mogli da obavljaju svoje zadatke bez grešaka i kašnjenja, ali i komunikaciju i saradnju sa ostalima u kancelariji. Međutim, to u velikoj meri može zavisi od tipa posla koji se obavlja.[11] Opravdano je mišljenje da je u kancelarijama „otvorenog tipa“ nivo stresa povišen, ali se za poslove koji zahtevaju konstantnu komunikaciju, saradnju među zaposlenima i razmenu ideja smatra da se nivo stresa redukuje i pod ovim uslovima. Osim toga, bitna karakteristika timskog rada je i neformalno učenje, što indirektno povećava performanse.

Privatnost se povećava i na taj način što u zavisnosti od složenosti zadataka koji se obavljaju na pojedinim radnim mestima dizajneri postavljaju panele različitih visina, prilagođavaju raspored particija zaposlenima kojima je potrebna veća koncentracija i tišina, formiraju poseban prostor za zajednički rad, bez panela.

Međutim, nije moguće nadomestiti dizajnom kancelarije sve faktore koji ometaju privatnost. U kompaniji mora postojati neki vid politike privatnosti u kancelarijama koja će podrazumevati pravila ponašanja i obzir zaposlenih prema kolegama i saradnicima. Pravila poput umerenog razgovora telefonom (ne previše glasno), korišćenja slušalica, posebnih prostorija za sastanke i razgovore, evidentiranja primedbi zaposlenih (na sve vrste ometanja u radu sa sistemom odgovora, u smislu poboljšanja uslova na radu). [11]

Konsultovanje i sastanci sa kolegama su neophodni za većinu poslova, osim toga društvena interakcija gradi socijalnu podršku. Ona dalje doprinosi zdravom radnom okruženju, manjem odsustvovanju sa posla i boljem snalaženju u stresnim uslovima. [9]

Da bi zadovoljili uslove privatnosti i relativne gustine, broj ljudi u prostoru treba da bude ograničen i zasnovan na veličini prostora. Od ljudi u kancelariji, grupe koje rade na istim ciljevima treba da se nalaze zajedno, smanjujući vreme provedeno u potrazi za zajedničkim resursima i organizovanju diskusija. Grupisanje kolega takođe olakšava neformalnu komunikaciju, posebno ako postoje zajednički prostor za društvene interakcije. Pravilo za grupne aranžmane navodi da članovi grupe ne bi trebalo da hodaju više od 10 m do zajedničkih resursa, uključujući i kolege i supervizore.

Prisustvo drugih ljudi može predstavljati izvor stresa. Kako se broj ljudi po prostoriji (socijalna gustina) povećava, zadovoljstvo okruženjem opada. Više ljudi znači veće izvore ometanja, kao i više poslovnih odnosa koje treba održavati. Produktivnost je najbolja sa 5-9 zaposlenih u prostoriji. Druga istraživanja su pokazala da sa porastom broja ljudi, opadaju i performanse.

Na osnovu navedenih faktora, od uticaja na kvalitet rada u kancelarijama otvorenog tipa, definišu se osnove za izradu modela ovakvih radnih prostora. Model će prvenstveno biti predstavljen kvalitativno, definisanjem najznačajnijih uticajnih faktora. Potom će, u daljem istraživanju, na osnovu kvalitativnog modela biti definisan upitnik, koji će se iskoristiti za definisanje kvantitativnog – numeričkog modela.

Preporuke pri izradi modela:

1. Granica modela mora biti odabrana tako da model obuhvata samo fenomene od interesa, ali istovremeno ne sme suviše da pojednostavi problem;
2. Model ne sme biti suviše složen niti detaljan;
3. Model je razumno rastaviti na više modula radi lakše izgradnje i provere;
4. Korišćenje neke od proverenih metoda za razvoj algoritama i programa i
5. Provera logičke i kvantitativne ispravnosti i modela i modula.

4. KVALITATIVNI MODEL KANCELARIJE OTVORENOG TIPRA

Razvoj modela podrazumeva analizu ulaznih faktora. Ulazni faktori obuhvataju sve elemente od uticaja na modelovanje "open- plan" kancelarije. Kao najvažniji izdvojeni su sledeći: broj zaposlenih, njihova stručna sprema, starost, pol i prisustvo predpostavljenih. U skladu sa veličinom raspoloživog radnog prostora planira se izgradnja ovih kancelarija. Potrebno je imati u vidu da preveliki broj zaposlenih na malom prostoru ne može da funkcioniše. Ali isto tako i da je jedan od ciljeva implementacije kancelarije otvorenog tipa i ušteda prostora, pa je potrebno pronaći optimalan broj zaposlenih u ovakvim kancelarijama. Optimalan broj zaposlenih se određuje na osnovu radnog prostora, njegove konstrukcije i mogućnosti zadovoljenja prethodno navedenih faktora rada u kancelarijama.

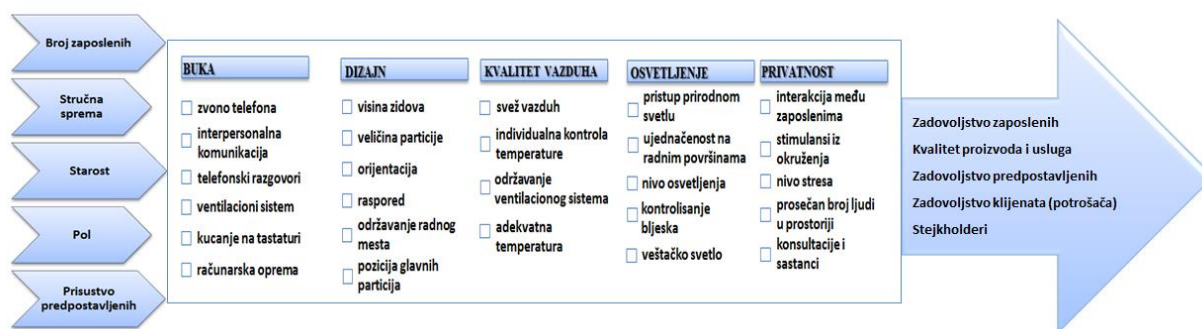
Što se tiče stručne spreme, podrazumeva se da zaposleni imaju četvrti ili viši stepen stručne spreme, s obzirom da se implementacija vrši na mestima gde se obavljaju kancelarijski poslovi.

Demografske karakteristike, starost i pol takođe utiču na implementaciju, jer starijim ljudima ne odgovara moderni način poslovanja, pružaju otpor promenama. Prisustvo predpostavljenih utiče na zaposlene na taj način što radeći u okruženju sa svojim predpostavljenima imaju konstantni nadzor, što može uticati pozitivno na njihovu produktivnost i želju za dokazivanjem ali isto tako, uticaj može biti i negativan. Zaposleni u nekim slučajevima osećaju pritisak dok obavljaju zadatke.

Najvažniji izlazni faktori su: zadovoljstvo samih zaposlenih implementacijom "open-plan" kancelarije na prvom mestu, jer oni stvaraju vrednost kompaniji; kvalitet proizvoda i usluga je sledeći faktor koji određuje poziciju kompanije na tržištu, ukoliko su zaposleni zadovoljni svojim radnim mestom njihova produktivnost i kvalitet rada poboljšaće kvalitet proizvoda i usluga; zadovoljstvo klijenata/ potrošača koje je u direktnoj vezi sa kvalitetom proizvoda i usluga i stejkholderi, zainteresovani za rad kompanije.

Kompanije koje ne rade ništa povodom stvaranja prijatnog, zdravog i bezbednog radnog okruženja, što je sinonim za kvalitetno obavljanje zadataka, neće ostvariti maksimalnu motivaciju, performanse i zadovoljstvo svojih zaposlenih. U suprotnom, ukoliko se pažnja posveti, pored ostalih faktora i fizičkom radnom okruženju poboljšaće se produktivnost, fizičko i mentalno zdravlje zaposlenih. [12]

Na osnovu prethodno navedenog, definisan je sledeći kvalitativni model kancelarije otvorenog tipa, prikazan na slici 6.



Slika 6. Kvalitativni model kancelarije otvorenog tipa

Na kraju, uzimajući u obzir relevantne faktore i praksu kompanija gde je ovaj tip kancelarija implementiran, na slici 7, dat je prikaz preporučenog modela kancelarije otvorenog tipa, na osnovu analize obuhvaćene ovim radom.



Slika 7. Preporučeni model "open- plan" kancelarije

5. ZAKLJUČAK

Mnoge teorije o ponašanju zaposlenih na radnom mestu ne uzimaju u obzir uticaj fizičkog okruženja na njihovo ponašanje i stav prema poslu. Često se u obzir uzimaju karakteristike posla ili zahtevani način ponašanja na radnom mestu. Naučno je dokazano da promena odnosa menadžmenta prema zaposlenima i njihovom radu utiče na rezultate zaposlenih. Stoga je potrebno pratiti zahteve zaposlenih kako bi se to pozitivno odrazilo na njihove autpute.

Najveća prednost open plan kancelarije je što se kod zaposlenih stvara osećaj zajedništva, okruženje kojim vlada timski duh i gde je sinergija znatno izraženija u odnosu na radni kolektiv tipičnih kancelarija. Brz je protok informacija, pa su zaposleni uvek u toku sa aktuelnim dešavanjima u organizaciji. Ideja postojanja zidova oko zaposlenih, kao preventiva skretanju pažnje sa posla na druge, manje važne stvari, tradicionalni je koncept poslovanja i polako, u određenim sektorima ostaje iza nas.

Vreme i trud koji se potroše u poboljšanju izgleda kancelarije predstavljaju mali procenat ulaganja jedne kompanije u odnosu na rezultate koji se time postižu. Jer, najveća prednost jedne organizacije jesu upravo njeni zaposleni.

U ovom radu razmotreni su najznačajniji faktori koji utiču na efikasnost rada u kancelarijama otvorenog tipa. Navedeni faktori su selektovani na osnovu analize velikog broja literaturnih podataka. Na osnovu navedenih razmatranja, formiran je kvalitativni model koji predstavlja segmentaciju navedenih faktora na unutrašnje i faktore okruženja.

Na osnovu kvalitativnog modela, u daljem istraživanju, biće formirana merna skala koja će poslužiti za merenje svakog od navedenih uticajnih faktora. Potom, na osnovu tako dobijenih podataka, biće razvijen kvantitativni model kancelarije otvorenog tipa.

REFERENCE

- [1] Will Bridewell, Javier Nicolas Sanchez, Pat Langley, Dorrit Billman: *An interactive environment for the modeling and discovery of scientific knowledge*, USA, 2006., p. 1099-1114
- [2] *Encyclopedia Britannica*:
<http://www.britannica.com/EBchecked/topic/387006/scientific-modeling>
- [3] Sefa Dundar, Burcin Gokkurt, Yasin Soylu: *Mathematical modelling at a glance: a theoretical study*, Turkey, 2012., p. 3465- 3470
- [4] Ivan Mihajlović, Đorđe Nikolić, Dr Aca Jovanović: *Osnove teorije sistema- Inženjerski menadžmet pristup*, Tehnički fakultet u Boru, 2009., Bor, Srbija, str. 93
- [5] Central Federal Lands Highway Division:
http://www.cflhd.gov/programs/techDevelopment/geotech/velocity/documents/05_chapter_3_numerical_modeling.pdf
- [6] G. Parkin, S.J. Birkinshaw, P.L. Younger, Z. Rao, S. Kirk, *Journal of Hidrology*, UK, 2007., p. 15- 28
- [7] Ivan Mihajlović: *Razvoj algoritma za selekciju adekvatnog modela procesa na osnovu strukture ulaznih podataka*, Doktorska disertacija, Bor, 2014
- [8] Kurt-Erik Häggblom, *Process Dynamics and control*, Process control laboratory, Abo AkademiUniversity, 2014.
- [9] Kate E. Charles, Alison J. Danforth et al, : *Workstation Design for Organizational Productivity*, Canada, 2006., p. 56- 82
- [10] J.A. Veitch, K.E. Charles, G.R. Newsham: *Workstation Design for the Open-Plan Office*, Canada, 2004., p.3-5
- [11] Virginia W. Kupritz: *The Impact of Architectural Privacy Features on Performance, Stress and Informal Learning: Phase III Study*
- [12] James R. Carlopio: *Journal of Occupational Health Psychology* 1996., Vol. 1, No. 3, p. 330-344

ASSESSMENT OF PRODUCT LIFE CYCLE (LCA) IN THE INTEGRATED WASTE MANAGEMENT - ENVIRONMENTALLY ARTIFACT

Neda Domanović¹, Stefan Lukić², Mladen Stanković¹

*¹Fakultet zaštite na radu, Univerzitet u Nišu; ²Prirodno-matematički fakultet, Univerzitet u
Novom Sadu, ³Fakultet zaštite na radu, Univerzitet u Nišu, Serbia*

Abstract: This paper presents the evaluation of the product life cycle as a function of integrated waste management. Waste is a serious environmental, social and economic issue for all modern development economics. The application of LCA in the waste management sector, where waste is treated as a "product" shall be selecting the best options for treatment through the comparison of the environmental impact of various waste treatment and / or to identify the key areas in which systems can be implemented to improve and mitigate the impact of on the environment. Environmental management, in terms of environmental management is the sustainable management of resources, which means consideration the problems posed by the waste. Therefore, the integrated waste management system requires a modern system of waste management including the use of different scientific, social, engineering and economic principles, making a sort of ecological artifact.

Keywords: waste + integrated waste management, LCA, environment, resource

COMPETENCES ACQUIRED DURING STUDIES AND NEEDS OF MARKET ECONOMY

Marija Kostić

*University in Belgrade, Technical faculty in Bor, Engineering Management Department,
Serbia*

Abstract: In the most general sense competence is the standardized requirements of the individual to do a specific job in the right way. Today the top management faces with dynamic environment and with increasing quantum of knowledge. In these circumstances, in the process of making strategic decisions is necessary to include the management of organizational knowledge. Managers are faced with new demands in the form of increasing individual competences and also with total of managerial competence of the organization in a way that enables successful managed the different types of knowledge. In fact, the process of knowledge management within the organization and the process of developing the managerial competencies are complementary and are carried out simultaneously. The reform of the current education system, especially professional, is one of the prerequisites for the overall sustainable development of Serbia, which makes investment in education an essential for the Republic of Serbia. One of the tasks of the process of modernization and reform of vocational education and training is to harmonize the needs of the market economy. Career guidance helps individuals to recognize their ambitions, interests, qualifications and opportunities to gain inside the labor market and the education system and to connect that with their potential. In paper are presented the results of research carried out among students of the Technical Faculty in Bor and the Technical University of Munich and is related to their opinions about acquired competence during their studies.

Keywords: competence, knowledge management, management of competences, career guidance.

1. UVOD

U samom pristupu ovoj problematici, značajno je uočiti da se razvoj zaposlenih razlikuje od njihove obuke, obzirom da razvoj nastaje kao rezultat iskustva i zrelosti u čemu je obuka svakako značajan činilac. Postoje određeni poslovi (pretežno rutinskog karaktera) u kojima se nivo obučenosti može identifikovati sa nivoom razvoja u karijeri. Međutim, u oblastima gde dominira prosuđivanje, donošenje odluke, komunikacije, umetnost, to nije slučaj jer se, s jedne strane, ovi elementi mogu ali ne moraju razviti sa vremenom, dok, sa druge, razvoj takvih profila se može ostvarivati kroz određena životna iskustva ili kao deo nekih planiranih programa. Tako se dolazi na teren *kompetentnosti* koja u najopštijem smislu predstavlja standardizovani zahtev za pojedinca da obavi specifičan posao na ispravan način. Iz ugla organizacije to je spoj znanja, veštine i ponašanja koji se koristi za unapređenje

učinka, a iz ugla pojedinca to je stanje u kome je on adekvatno kvalifikovan odnosno ima sposobnost da obavi jednu specifičnu ulogu[1].

Da bi mogla da prati razvoj kompetentnosti svojih zaposlenih, organizacija treba da uspostavi merljivost kompetentnosti svojih zaposlenih. Ova merljivost je vrlo svojstvena prirodi određene kompetentnosti, ali su činjeni pokušaji da se uspostave opšti nivoi razvoja kompetentnosti zaposlenih. Vredan pomena, makar zbog svoje široke mogućnosti primene, jeste poredak koji je uspostavio Drajfus (Dreyfus) [2], koji vidi razvoj kompetentnosti u sedam nivoa:

1. Novajlija: Ponašanje strogo prema pravilima, potpuno nefleksibilno
2. Početnik sa iskustvom: Uočava situacione aspekte
3. Prakticionista“ (Practitioner – eng.): Deluje znajući dugoročne ciljeve i planove
4. Prakticionista sa znanjem“: Sagledava situaciju u celini i deluje iz ličnog uverenja
5. Ekspert: Ima intuitivno razumevanje situacije i usredsređuje se na glavne aspekte
6. Virtuoz: Ima visok nivo kompetentnosti, unapređuje standarde, ima lakoću i kreativan put
7. Promene u oblasti kroz pronalaska i uvođenje radikalnih inovacija.

1.1 ULAGANJE U RAZVOJ

Uspeh savremene kompanije ne može se postići bez odgovarajućih ljudskih resursa koji raspolažu znanjima, sposobnostima i ličnim osobinama primerenim delatnosti kompanije, poslovnim ciljevima i zahtevima tržišta. 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[3].

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[3].

Pretpostavke za uspešno planiranje ljudskih resursa su[3]:

- 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.

2. UPRAVLJANJE ZNANJEM I MENADŽERSKE KOMPETENCIJE

Kraj prošlog i početak ovog veka obeležile su značajne promene u pretpostavkama planiranja i delokrugu delovanja strategijskog menadžmenta. Top menadžment se najpre

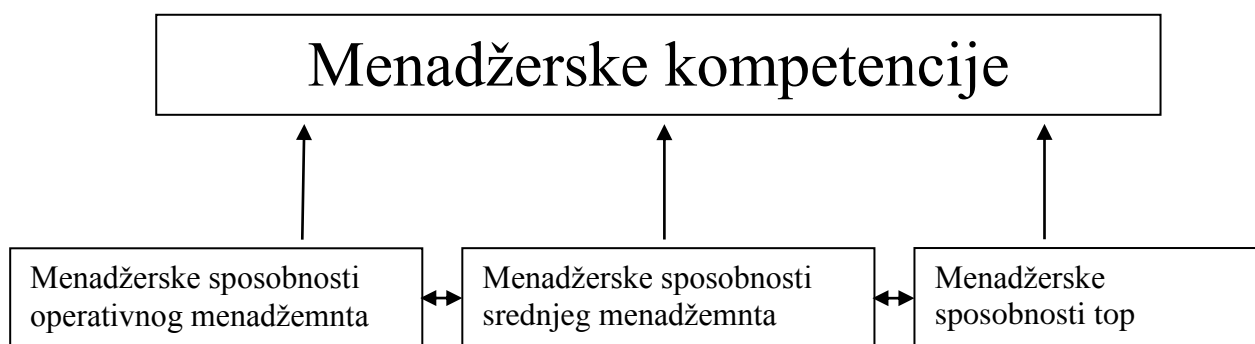
suočio sa intenziviranjem dinamičnosti okruženja, a onda i sa sve većim kvantom znanja koje je potrebno i raspoloživo, kako samoj organizaciji, tako i njenim konkurentima. U ovakvim okolnostima u proces donošenja strateških odluka bilo je neophodno uključiti i svrsishodno upravljanje organizacionim znanjem[4].

Imajući u vidu činjenicu da upravljanje znanjem zahteva ljude koji će biti nosioci čitavog koncepta, pred menadžere su postavljeni novi zahtevi. Oni se ogledaju u povećanju individualnih kompetencija svakog menadžera lično, a zatim i ukupnih menadžerskih kompetencija organizacije na način koji omogućava uspešno upravljanje različitim tipovima znanja. Zapravo proces upravljanja znanjem u okviru organizacije i proces razvoja menadžerskih kompetencija su komplementarni i odvijaju se simultano. Era znanja donosi nove rapidne promene u društvu, tehnologiji i nauci što je za posledicu imalo ogroman uticaj na konkurentski položaj preduzeća i njihovu sposobnost da na pravi način odgovore izazovima okruženja[4].

2.3. RAZVOJ MENADŽERSKIH KOMPETENCIJA ZA UPRAVLJANJE ZNANJEM

Menadžerske kompetencije se mogu definisati kao kolektivna sposobnost menadžera da vode izgradnju organizacione kompetentnosti putem sopstvenog koordiniranog razvoja menadžerskih resursa, menadžerskog znanja i menadžerskih sposobnosti na način koji pomaže organizaciji ostvarivanje kratkoročnih i dugoročnih ciljeva[15].

Imajući u vidu trenutne tendencije u razvoju organizacione strukture kao i imperativ fleksibilnosti koji nameće okruženje, može se konstatovati da sve veći broj organizacija ima "plitku" organizacionu strukturu odnosno da teži smanjivanju broja organizacionih nivoa. U skladu sa tim, uspešna izgradnja menadžerskih kompetencija podrazumeva intenzivniju saradnju svih nivoa menadžmenta. Integracijom napora jačaju se sposobnosti svakog nivoa posebno, a zatim se putem interakcije vrši prenošenje stečenih sposobnosti između različitih menadžerskih nivoa[5].



Grafik 1 Menadžerske kompetencije [5]

Menadžersko znanje obuhvata dve glavne kategorije: znanje o ljudskom ponašanju u organizaciji i znanje o tome kako organizacije funkcionišu, s jedne strane, i znanje o sadržaju

organizacionog posla, s druge strane. Bez obzira na organizacioni nivo kome pripadaju, svi menadžeri moraju da imaju zadovoljavajući nivo menadžerskog znanja.

Menadžersko znanje može biti klasifikovano u četiti domena [5]:

1. menadžersko funkcionalno znanje – forma znanja koja uključuje poznavanje uloga koje menadžeri treba da odigraju u planiranju, vođenju, kontrolisanju i komuniciranju sa ostalim ljudima, kao i znanje o funkcionalnim područjima firme kao što su proizvodnja, marketing, ljudski resursi, istraživanje i razvoj i slično,
2. menadžersko tehničko znanje – znanje o metodima, procesima, procedurama i tehnikama specifičnim za svako funkcionalno područje,
3. menadžersko kompanijsko znanje – znanje o razlozima postojanja organizacije i znanje o tome za koje stejkholdere organizacija stvara vrednost,
4. menadžersko znanje o okruženju – znanje o provajderima eksternih resursa, kao i znanje o potrošačkim preferencijama, konkurenciji i makroekonomskom razvoju.

Menadžersko funkcionalno znanje	Menadžersko tehničko znanje	Menadžersko kompanijsko znanje	Menadžersko znanje o okruženju	DOMEN ZNANJA
---------------------------------	-----------------------------	--------------------------------	--------------------------------	--------------

Slika 1. Domen znanja kod menadžera [5]

Operativni menadžment poseban akcenat treba da stavi na funkcionalno znanje i tehničko znanje, dok su kompanijsko i znanje o okruženju manje bitni zbog činjenice da odluke koje donose uglavnom ne zahtevaju predhodno znanje o dešavanjima u okruženju i potrebama stejkholdera. Sa srednji nivo menadžmenta, tehničko znanje gubi na značaju ali se ne može u potpunosti zanemariti, kao ni kompanijsko znanje. Međutim kod menadžera srednje linije do pravog izražaja treba da dođe funkcionalno i znanje o okruženju. Kompanijsko znanje i znanje o okruženju su od presudnog značaja za top menadžment. S obzirom da donose odluke sa dugoročnim implikacijama na budućnost organizacije njihova odgovornost za ova dva domena znanja se pojačava[5].

2.4 GLOBALNO KOMPETENTAN MENADŽER

Nužnost prilagođavanja globalnim tokovima i potreba za razvojem vođa sa globalnom orijentacijom i globalnim kompetencijama prepoznata je u savremenoj literaturi. Naime, s obzirom na to da istraživanja pokazuju kako su ljudski potencijali isključivi nositelji održivih konkurentskih prednosti te oni od kojih zavisi konačni uspeh organizacija, organizacije koje žele biti uspešne na globalnom tržištu moraju imati kvalitetne globalne menadžere. Potreba za kvalitetnim menadžerima javlja se i zbog toga što su ljudi ozbiljna prepreka u uključivanju globalnih strategija[6].

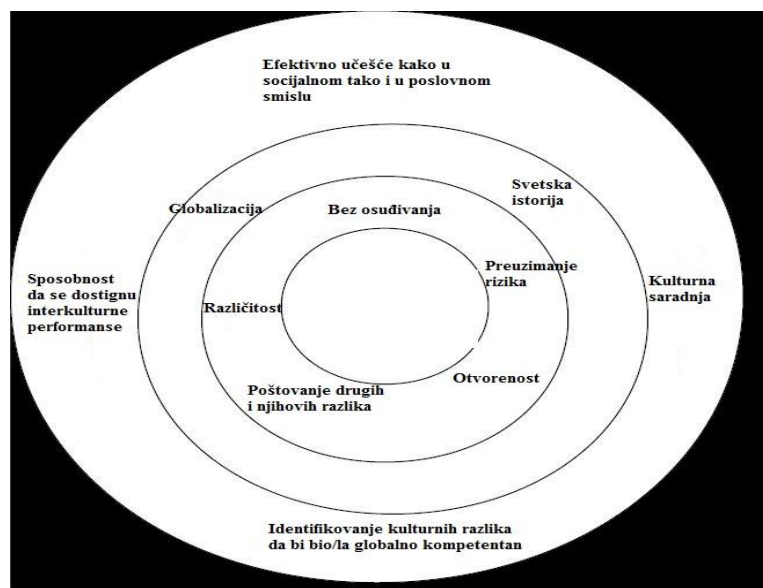
Problematiku dodatno usložnjuje činjeica da se menadžerske prakse i pristupi, koji su se pokazali uspešnim na domaćem tržištu, ne mogu preslikati i na globalno tržište. Načini upravljanja kompanijama i modeli vođenja produktivnosti u jednom delu sveta često ne donose željene rezultate i nisu primenjivi u drugim delovima sveta, pri čemu su ograničenja za primenu istovetnih modela širom sveta različite kulturne norme i vrednosti, različiti

zakonodavni okviru poslovanja te različite norme odnosa sa zaposlenima, potrošačima i društvom uopšte.

Upravo zbog toga kompanije koje žele uspešno poslovati u 21 veku trebaju razviti globalne menadžere, odnosno novu vrstu menadžera kosmopolita, koji su bogati znanjem iz oblasti koncepata, sposobnosti i veza.

Neki naučnici smatraju da su veštine koje bi trebalo biti tražene od ove vrste menadžera[6]:

1. pogled na svetsko poslovno okruženje iz globalne perspektive
2. stručnost za mnoge kulture
3. simultano saradivanje i učenje od ljudi različitih kultura
4. kreiranje organizacijske kulture koja je kulturološko sinergijska
5. jednostavno prilagođavanje životu u stranim zemljama
6. svakodnevno korišćenje unakrsnih kulturnih veština interakcije sa drugima
7. gledanje na kolege drugih nacionalnosti kao na sebi ravne
8. odlučivanje za rad na međunarodnim zadacima u svrhu razvoja karijere i dodatne vrednosti za vlastitu organizaciju



Slika 2 Model globalnih kompetencija[7]

3. KARIJERNO VOĐENJE NA UNIVERZITETIMA U SRBIJI

Karijerno vođenje pomaže pojedincima da prepoznaju i svoje ambicije, interesovanja, kvalifikacije i mogućnosti da dobiju uvid u tržište rada i obrazovni sistem i da to na neki način povežu sa svojim potencijalima. Cilj karijernog vođenja je pružanje podrške pojedincu

da odabere opciju unutar brojnih raspoloživih karijernih mogućnosti kako bi optimalno razvio i upotrebio vlastite potencijale u skladu sa vlastitim interesovanjima i vrednostima i tako se ostvario i postigao zadovoljstvo u profesionalnom i privatnom životu [8].

Karijerno vođenje u oblasti visokog obrazovanja u Srbiji oblast je koja je svakako u ekspanziji i koja sve više dobija na značaju. Spremnost države da se aktivnije uključi u bavljenje sistemom karijernog vođenja u Srbiji, usvajanje Nacionalne strategije karijernog vođenja i savetovanja republike Srbije, prepoznavanje strateškog značaja postojanja centara od strane univerziteta, kao i podrška evropskih fondova namenjenih visokom obrazovanju svakako omogućavaju dobar osnov za građenje sistema karijernog vođenja i savetovanja na visokoškolskom nivou u Srbiji i razvoj ove oblasti u godinama koje su pred nama [8].

Postojeći trendovi za razvoj različitih studentskih servisa koji vode unapređenju studija i predstavljaju sistem podrške različitim studentskim potrebama, potreba za intenzivnijom saradnjom sa privredom, alarmantni procenti odustajanja od studija, prekomerna dužina studiranja, visoka stopa nezaposlenosti neki su od razloga što su državni i privatni univerziteti u Srbiji osnovali centre za razvoj karijere studenata. Osnivanje i razvoj centara u nekim slučajevima predstavljao je i deo strategije univerziteta da podstaknu razvoj veština koje omogućavaju održivu zapošljivost [8].

4. KARIJERNO VOĐENJE NA TEHNIČKOM UNIVERZITETU U MINHENU U NEMAČKOJ

Tehnički univerzitet u Minhenu je 2006. godine bio jedan od prvih elitnih univerziteta u Nemačkoj. Fokus istraživanja je na predmetima iz oblasti prirodnih i tehničkih nauka, ali i ekonomije, medicine i sporta. Današnji Tehnički univerzitet u Minhenu, osnovao je kralj Ludvig II od Bavarske davne 1868. godine, kao Politehničku školu. Reč je o jedinom univerzitetu za tehničke nauke u Bavarskoj, ali i jednom od najvećih univerziteta u Nemačkoj[9]. Tehnički univerzitet u Minhenu ima u ponudi veliki broj smerova – čak 130, na 13 fakulteta. Osim glavnih, tehničkih i prirodnih smerova, na ovom univerzitetu mogu da se studiraju i inženjerstvo, medicina, hemija, biologija, bio-tehnika, psihologija, ali i ekonomija i sport. Gotovo 50 posto studenata studira na jednom od smerova za inženjere[9].

Karijerni centar na Tehničkom univerzitetu u Minhenu nudi dosta sličan nivo usluga studentima kao i karijerni centri u našoj zemlji, s tom razlikom što budžet ovog univerziteta iznosi gotovo više od milijardu evra pa samim tim i mogućnosti sa takvim sredstvima su ogromne. Pored standardnih usluga savetovanja, informisanja i obrazovanja, neke od aktivnosti karijernog centra ovog univerziteta su [10]:

1. Jezički kursevi i internacionalna komunikacija
2. Softverski kursevi
3. Serfitikati za profesionalnog tutora
4. Online kursevi
5. Pristup literaturi namenjenoj za istraživače
6. Letnji i Zimski univerzitet
7. Radno mesto studenta asistenta

8. Predavanja na temu biznisa i inovacija
9. Poboljšanje znanja stranog jezika
10. Kursevi filozofije, psihologije i druge oblasti
11. Različiti treninzi i obuke

Na ovom univerzitetu česta su online istraživanja vezana za kompetencije studenata. Svi studenti imaju korisničku šifru Karijernog centra i tu mogu pristupiti anketama vezanim za različita pitanja, počev od zadovoljstva nastavom do želja vezanih za određenu oblast i sam način odvijanja pojedinih aktivnosti na univerzitetu. Tako da se svakodnevno vrši merenje kvaliteta usluga na univerzitetu.

Može se izvesti zaključak da karijerno vođenje kako u Nemačkoj tako i u Srbiji funkcioniše po gotovo sličnom principu, sa tom razlikom što kod u Nemačkoj univerziteti imaju veći novčani fond odakle mogu izdvajati za svoje karijerne centre. Prednost je i tu tome što je Nemačka privreda veoma razvijena, pa je samim tim veća potražnja na tržištu rada u Nemačkoj, nego u Srbiji. Karijerni centri u Srbiji, kao i sam sistem obrazovanja se trudi da ide u korak sa razvijenim zemljama. Prepreka je nedostatak novca i sporost u donošenju zakona i odluka od strane Vlade i nadležnih institucija, koje su značajne u pogledu birokratije da bi se neka akcija spovala do kraja ili da bi se otpočelo sa njenom implikacijom.

6. VREDNOVANJE KVALITETA DIPLOMIRANIH STUDENATA NA TEHNIČKOM FAKULTETU U BORU UNIVERZITETA U BEOGRADU

Osnovni cilj vrednovanja kvaliteta i kompetencija diplomiranih studenata od strane poslodavaca je evauacija kvaliteta obrazovnog rada na Fakultetu od strane tržišta odnosno poslodavaca gde diplomirani studenti rade. Vrednovanje diplomiranih studenata se kontinuirano vrši i to jednom u tri godine radi kontrole kvaliteta obrazovnog procesa na studijskim programima koji se realizuju na fakultetu, kao deo opšte politike obezbeđivanja kvaliteta na fakultetu[11].

Postupak vrednovanja kvaliteta diplomiranih studenata na fakultetu sprovodi Komisija za obezbeđivanje i unapređenje kvaliteta na taj način što formira radnu grupu u okviru Komisije kojom rukovodi Prodekan zanastavu kao njen član[11].

Ocenjivanje je rađeno na bazi upitnika koji se sastoji od sledećih pitanja[12]:

Pitanje	Ocena				
	1	2	3	4	5
Stručna znanja	1	2	3	4	5
Njihova znanja iz struke koju su studirali mogu se oceniti sa	1	2	3	4	5
Sposobnosti i veštine komuniciranja sa ljudima mogu se oceniti sa	1	2	3	4	5
Sposobnosti za timski rad mogu se oceniti sa	1	2	3	4	5
Sposobnosti za prihvatanje novih ideja i prilagođavanje promenama mogu se oceniti sa	1	2	3	4	5
Sposobnosti i spremnost za organizaciono učenje (učenje u organizaciji) i sticanje novih znanja i veština	1	2	3	4	5
Lojalnost Vašoj firmi može se oceniti sa	1	2	3	4	5

Ocenjivanje je vršeno u rasponu od 1 (najniža ocena) do 5 (najviša ocena).
Nakon izvršene evaluacije dobijeni su sledeći rezultati za sledeće smerove:

Pitanje	Pročne ocene po smerovima			
	*RI	*MI	*TI	*IM
Stručna znanja	4,25	4,50	5,0	4,60
Njihova znanja iz struke koju su studirali mogu se oceniti sa	4,50	4,25	5,0	4,89
Sposobnosti i veštine komuniciranja sa ljudima mogu se oceniti sa	4,50	4,25	5,0	4,71
Sposobnosti za timski rad mogu se oceniti sa	4,00	4,25	5,0	4,50
Sposobnosti za prihvatanje novih ideja i prilagođavanje promenama mogu se oceniti sa	4,50	4,50	5,0	4,68
Sposobnosti i spremnost za organizaciono učenje (učenje u organizaciji) i sticanje novih znanja i veština	4,50	4,50	5,0	4,76
Lojalnost Vašoj firmi može se oceniti sa	4,50	4,50	5,0	4,78

*Rudarsko inženjerstvo *Metalurško inženjerstvo *Tehnološko inženjerstvo *Inženjerski menadžment

1. RUDARSKO INŽENJERSTVO

Rezultati: Na osnovu napred iznetih rezultata vrednovanja kvaliteta diplomiranih inženjera rudarstva sa Tehničkog fakulteta u Boru od strane njihovih poslodavaca mogu se izvući sledeći opšti zaključci da stručna znanja potrebna za obavljanje inženjerskih poslova su

na zavidnom nivou, opšte sposobnosti za rad u savremenim kompanijama su takodje na zavidnom nivou i da za malu pokrivenost kompanija u ovom vrednovanju uzrok može biti relativno mali broj diplomiranih na ovom studijskom programu kao i neadekvatna povezanost ovog odseka sa kompanijama u kojima rade naši studenti.

Predlozi za poboljšanje: Kvalitet diplomiranih studenata na ovom studijskom programu može se oceniti vrlo pozitivno, s obzirom da ovi inženjeri rade u mnogim kompanijama od kojih su mnogi na odgovornim rukovodećim mestima. Kurikulum programa treba stalno poboljšavati i prilagodjavati zahtevima najbolje svetske prakse u rudarstvu. U narednom periodu potrebno je da rukovodstvo odseka za Rudarsko inženjerstvo uspostavi bolje kontakte sa rudarskim kompanijama u cilju praćenja primene stečenih znanja u toku studija na Fakultetu radi poboljšanja kurikuluma na svim nivoima studija[12].

2. METALURŠKO INŽENJERSTVO

Rezultati: Na osnovu napred iznetih rezultata vrednovanja kvaliteta diplomiranih inženjera metalurgije sa Tehničkog fakulteta u Boru od strane njihovih poslodavaca mogu se izvući sledeći opšti zaključci: Stručna znanja potrebna za obavljanje inženjerskih poslova u praksi mogu se oceniti da su na zavidnom nivou. Opšte sposobnosti za rad u savremenim kompanijama su takodje na zavidnom nivou. Za malu pokrivenost kompanija u ovom vrednovanju uzrok može biti relativno mali broj diplomiranih na ovom studijskom programu kao i neadekvatna povezanost ovog odseka sa kompanijama u kojima rade naši studenti.

Predlozi za poboljšanje: Kvalitet diplomiranih studenata na ovom studijskom programu može se oceniti vrlo pozitivno, s obzirom da ovi inženjeri rade u mnogim kompanijama od kojih su mnogi na odgovornim rukovodećim mestima. Kurikulum programa treba stalno poboljšavati i prilagodjavati zahtevima najbolje svetske prakse u metalurgiji, uvećanjem znanja iz engleskog jezika i preduzetništva koji su već zastupljeni u kurikulumu na adekvatan način. U narednom periodu potrebno je da rukovodstvo Odseka za metalurško inženjerstvo uspostavi bolje kontakte sa metalurškim kompanijama u cilju praćenja primene stečenih znanja u toku studija na Fakultetu što će doprineti poboljšanju kurikuluma na svim nivoima studija[12].

3. TEHNOLOŠKO INŽENJERSTVO

Rezultati: Na osnovu napred iznetih rezultata vrednovanja kvaliteta diplomiranih inženjera tehnologije sa Tehničkog fakulteta u Boru od strane njihovih poslodavaca mogu se izvući sledeći opšti zaključci: Stručna znanja potrebna za obavljanje inženjerskih poslova u praksi mogu se oceniti da su na zavidnom nivou. Opšte sposobnosti za rad u savremenim kompanijama su takodje na zavidnom nivou. Za malu pokrivenost kompanija u ovom vrednovanju uzrok može biti relativno mali broj diplomiranih na ovom studijskom programu kao i neadekvatna povezanost ovog odseka sa kompanijama u kojima rade naši studenti.

Predlozi za poboljšanje: Kvalitet diplomiranih studenata na ovom studijskom programu može se oceniti vrlo pozitivno, s obzirom da ovi inženjeri rade u mnogim kompanijama od kojih su mnogi na odgovornim rukovodećim mestima. Kurikulum programa treba stalno poboljšavati i prilagođavati zahtevima najbolje svetske prakse u tehnologiji. U narednom periodu potrebno je da rukovodstvo Odseka za Tehnološko inženjerstvo uspostavi bolje kontakte sa tehnološkim kompanijama u cilju praćenja primene stečenih znanja u toku studija na Fakultetu radi poboljšanja kurikuluma na svim nivoima studija[12].

4. INŽENJERSKI MENADŽMENT

Rezultati: Na osnovu napred iznetih rezultata vrednovanja kvaliteta diplomiranih inženjera inženjerskog menadžmenta sa Tehničkog fakulteta u Boru od strane njihovih poslodavaca mogu se izvući sledeći opšti zaključci: Stručna znanja potrebna za obavljanje inženjerskih poslova u praksi mogu se oceniti da su na zavidnom nivou, naročito ako se uporede sa konkurentima sa drugih fakulteta. Opšte sposobnosti za rad u savremenim kompanijama su takodje na zavidnom nivou, posebno u primeni alata i tehnik upravljanja. U današnjim uslovima teškog zapošljavanja, relativno veliki broj zaposlenih u odnosu na diplomirane (više od 70% od preko 300 diplomiranih) u toku zadnje tri godine pokazuje, da je interesovanje za inženjerima ovog profila sa našeg Fakulteta na zavidnom nivou. Uvidom u evidenciju Zavoda za zapošljavanje u gradovima odakle najveći broj studenata dolazi na naš Fakultet, vidi se da se ove brojke ne povećavaju uprkos stalnom uvećanju broja diplomiranih. Uglavnom ostaju na čekanju oni koji imaju nisku prosečnu ocenu u toku studiranja i duže vreme studiranja. Povezanost Fakulteta sa svojim diplomiranim studentima i njihovim poslodavcima kao i praćenje njihove karijere (samo u ovom testiranju izveden je obilazak preko 50 kompanija) je rezultat vredan pažnje. Zainteresovanost diplomiranih studenata za nastavak studija na master i doktorskom nivou studija o trošku svojih poslodavaca je sve veća i to iz svih krajeva Srbije.

Predlozi za poboljšanje: Kvalitet diplomiranih studenata na ovom studijskom programu može se oceniti pozitivno, s obzirom da ovi inženjeri rade u mnogim kompanijama od kojih su mnogi na odgovornim rukovodećim mestima. Takodje, diplomirani master studenti, magistri i tri doktora nauka (toliko je doktoriralo na ovom studijskom programu u poslednjih tri godine) pokazali su vredne rezultate u svojim profesionalnim karijerama. Kurikulum programa treba poboljšati uvodjenjem nastavnog sadržaja iz oblasti Upravljanja rizikom i sadržajima kojima bi se strah od preuzimanja odgovornosti na početku karijere smanjio (uvodjenjem sadržaja studije slučaja iz prakse). U narednom periodu potrebno je da rukovodstvo Odseka za inženjerski menadžment dalje širi mrežu kontinuirane saradnje sa svojim diplomiranim studentima i njihovim poslodavcima na svim nivoima studija, u cilju aktivnog praćenja razvoja njihovih karijera[12].

7. ZAKLJUČAK

Zaključujemo da je kompetentnost standardizovani zahtev za pojedinca da obavi specifičan posao na ispravan način. Organizacije smatraju da je to spoj znanja, veštine i ponašanja koji se koristi za unapređenje učinka, a što se tiče pojedinca, to je stanje u kome je on adekvatno kvalifikovan odnosno ima sposobnost da obavi jednu specifičnu ulogu. Uspeh savremene kompanije ne može se postići bez odgovarajućih ljudskih resursa koji raspoložuju znanjima, sposobnostima i ličnim osobinama primerenim delatnosti kompanije, poslovnim ciljevima i zahtevima tržišta i za to je potrebno adekvatno planiranje ljudskih resursa i jasno isticanje u pogledu kompetentnosti i zahteva za kompetentnošću u svim segmentima. Kraj prošlog i početak ovog veka obeležile su značajne promene u pretpostavkama planiranja i delokrugu delovanja strategijskog menadžmenta i top menadžment se morao suočiti sa novim aktivnostima vezanim za upravljanja znanjem i praćenje kompetentnosti zaposlenih i poboljšavanje istih. Takođe, menadžeri su se počeli nositi i sa uspešnom izgradnjom sopstvenih menadžerskih kompetencija, što podrazumeva intenzivniju saradnju svih nivoa menadžmenta. Međutim, kompanije koje žele uspešno poslovati u 21 veku trebaju razviti globalne menadžere, odnosno novu vrstu menadžera kosmopolita, koji su bogati znanjem iz oblasti konceptata, sposobnosti i veza. Kompetentnost se razvija još tokom studija. U Srbiji su osnovani centari kao deo strategije univerziteta da podstaknu razvoj veština koje omogućavaju održivu zapošljivost. Može se izvesti zaključak da karijerno vođenje kako u Nemačkoj tako i u Srbiji funkcioniše po gotovo sličnom principu, sa tom razlikom što kod u Nemačkoj univerziteti imaju veći novčani fond odakle mogu izdvajati za svoje karijerne centre. Prednost je i tu tome što je Nemačka privreda veoma razvijena, pa je samim tim veća potražnja na tržištu rada u Nemačkoj, nego u Srbiji. Karijerni centri u Srbiji, kao i sam sistem obrazovanja se trudi da ide u korak sa razvijenim zemljama. Prepreka je nedostatak novca i sporost u donošenju zakona i odluka od strane Vlade i nadležnih institucija, koje su značajne u pogledu birokratije da bi se neka akcija spovala do kraja ili da bi se otpočelo sa njenom implikacijom.

REFERENCE

- [1] Jančićević N., „Organizaciono ponašanje“ Data Status, 2008
- [2] Dreyfus H, Dreyfus, From Socrates to Experts Systems: The Limits and Dangers of Calculative Rationality, Regents of University of California, 2004
- [3] Dr Ana Aksentijević Jelić, Dr Čedomir Avakumović, Dr Miloš Jelić „Kompetentnost i razvoj karijere u proizvodno-poslovnom sistemu”, Međunarodna naučna konferencija MENADŽMENT 2010
- [4] Andrews, K. 2003, Capabilities for the Knowledge Era, Discussion Paper 1
- [5] Sanchez, R. (ed.) 2003, Knowledge Management and Organizational Competences, Oxford University Press, New York, , str. 172

- [6] Pološkić Vokić N., 2006, Marić I., Hernaus T., Globalna orijentacija i globalne kompetencije vrhovnih menadžera u Hrvatskoj, Ekonomski fakultet Zagreb, str 533-555
- [7] Hunter, W. (2004). "Knowledge, Skills, Attitudes, and Experiences Necessary to Become Globally Competent."
- [8] Strategija karijernog vođenja i savetovanja u republici Srbiji, Ministarstvo omladine i sporta Republike Srbije, 2010
- [9] <http://www.dw.de/tehniki-univerzitet-u-minhenu/a-5972195>
- [10] <https://www.together.tum.de/career/>
- [11] Pravilnik o vrednovanju kvaliteta diplomiranih studenata, Tehnički fakultet u Boru, Univerziteta u Beogradu, 2008
- [12] Izveštaj o vrednovanju kvaliteta diplomiranih studenata, Tehnički fakultet u Boru, Univerziteta u Beogradu, 2012

STRESS AND ITS CONSEQUENCES

Sladana Đurić

Univerzitet u Kragujevcu, Pravni fakultet, Serbia

Abstract: The paper discusses the concept of the term "stress", appearing forms and its consequences on people and society as a whole. This paper focuses on the analysis of stress by the side of cybernetics and systems theory, and it is only marginally mentioned in popular political-medical interpretation of the term.

Emphasis is on the quantum, seasonal and periodic nature of the universe in which we live and the consequences of violating these natural cycles. Briefly this paper treats the history of human civilization, with an emphasis on the industrial revolution of the 18th and 19th centuries and its relationship with the pandemic of stress related illnesses. In the end it gives one of the possible solutions enabled by recent advances in science and technology.

Keywords: stress, ecosphere, universal natural cycles, the industrial revolution, cybernetics.

1. UVOD

Postoji bezbroj naučnih i manje naučnih definicija i objašnjenja pojave koja se zove Stres. Toliko je puta zloupotrebljena od medija, političara, ekonomista, kao i dokonih analitičara da se potpuno izgubio pravi smisao pojave stresa i njegovi pojavni vidovi. Najpopularnije korišćenje ovog pojma je u Medicini i Psihologiji. Ovde ćemo dodati jedan noviji pristup ovom pojmu, koji je postao jedan od glavnih problema modernih ljudskih društava. Originalni izvor pojma Stres dolazi iz Mehanike, deformacijom (Strain) bilo kog fizičkog predmeta (gasa, tečnosti, itd.), dolazi do pojačanih interakcija između elemenata i atoma dolazi do pojava reakcije i sila koje se suprotstavljaju deformaciji i teže povratku u stabilno stanje, te unutrašnje reakcije i sile se uslovno mogu nazvati Stres. Ukoliko se pređu određene granice izdržljivosti materijala dolazi do nepovratnih deformacija ili jednostavno sloma sistema.

Ovaj opis najbolje objašnjava društveni kontekst u kome sa danas skoro isključivo govori o Stresu. Tako da imamo stres kod ljudi kao izvor raznih bolesti, stres testove kod poslovanja banaka, stres u slučaju državnih sistema i institucija itd.

Ono što nas u ovom slučaju zanima je stres kod ljudi, uticaj na društvo i moguća rešenja.

2. OKOLNOSTI U KOJIMA JE NASTAO STRES

Ljudska vrsta živi na planeti Zemlji, koja ima svoj položaj u svemiru, mehanički sistem, jezgro, površinu, atmosferu, elektromagnetsko polje i možda još neke osobine koje

nam danas nisu pojmovno poznate. Svi ovi elementi postoje i funkcionišu u jakoj međusobnoj zavisnosti, zemlja funkcionise u cikličnim režimima zavisnim od obrtanja oko svoje ose, okretanja oko sunca, magnetnih oluja iz periodičnih sunčevih oluja, cikličnih procesa unutar samih atoma koji čine Zemlju i tako dalje.

Zbir ovih elemenata je na Zemlji rezultirao pojavom Ekosfere, tankim slojem na kome se pojavio i milionima godina, održao život. Čovek je za sada vrhovni rezultat tog procesa razvoja i održanja života unutar te Ekosfere. Cela ekosfera je milionima godina živela u skladu sa svim tim ritmovima i ciklusima Majke zemlje. Dugo po postanku i čovek je poštovao te cikluse i živio u skladu sa njima. Sve dok čovek svojim znanjem i mentalnim sposobnostima nije došao u situaciju da zavlada, u manjoj meri, nekim silama prirode, ti ciklusi su bili osnov života.

Sa povećanjem moći čoveka da koristi i modifikuje prirodu došla je i do skupljanja ljudi u sve veće grupe, a sa time je tekao i proces stvaranja mentalnog odnosa ljudi prema prirodi i njenim pojavnim oblicima. Način na koji se čovek odnosio prema prirodi i kako je shvatao prirodu je proizveo prva osmišljena opšte prihvaćena pravila ponašanja čoveka, koja uslovno možemo nazvati religijom.

Apsolutno sve prvobitne religije, o kojima su sačuvani podaci, insistiraju o povezanosti i jedinstvu čoveka sa univerzumom, zvezdama, živom ili neživom prirodom, prošlošću i budućnošću. Celokupna prošlost i budućnost su posmatrane u svetlu periodičnih promena i ciklusa. Razumni čovek je bio samo sićušni deo tog velikog Univerzuma i sam je sebi dozvoljavao promene u prirodnom stanju stvari, samo u meri u kojoj mu je potrebno za opstanak.

Sa porastom znanja i moći čoveka da ovlada prirodnim silama, išla je i tendencija povećanja ljudskih naseobina i još većeg povećanja ljudskih moći u nezadrživoj spirali.

U tom procesu, stvaranja velikih ljudskih zajednica sa svojom sve komplikovanijom organizacijom i hijerarhijom, došlo je do procesa stvaranja antropomorfnih i monoteističkih religioznih sistema, kao opravdanja i objašnjenja čovekovih napora da podrede prirodu sebi.

U tom dugačkom procesu koji traje i danas, ljudi su sami sebe primorali da krše prirodne ritmove svoje planete Zemlje, bez dovoljno znanja o posledicama. Prvobitne lovačke i skupljačke zajednice su pratile cikluse seoba životinja koje su lovile kao i cikluse vegetacije, jednako kao i njihov plen. Poljoprivredna društva su u povoljnim vremenskim periodima radile u poljima, a u nepovoljnim se sakrivala i trošila sačuvanu hranu, današnji čovek samo u katastrofalnim nepogodama može da napusti redovan monotoni radni ciklus.

3. STRES U DANAŠNJEM TRENUTKU

Sa industrijskom revolucijom je došlo do vrhunca ovog procesa, kada su desetine i stotine miliona ljudi prinuđeni da se uklope u industrijske radne procese, koji moraju biti identični, bez obzira na cikluse dana i noći, godišnjih doba itd. Svi ostali procesi industrijskog društva su podređeni ovom osnovnom novostvorenom ciklusu i školovanje kao edukativna i psihološka priprema za rad u industriji i rad svih zajedničkih državnih i društvenih sistema. Ovaj poslednji proces je trajao nepunih 200 godina, za razliku od nekoliko hiljada godina

nastajanja ljudskih naseobina ili čak pretpostavljenih 700 000 godina nastanka razumnog čoveka.

Pritom čovek nije još uvek uspeo da stekne dovoljno znanja da koriguje ili možda i promeni pravu prirodu zemlje i univerzuma, za sada je stekao samo znanje i moć da možda može da uništi ekosferu na Zemlji. Sva energija koju je čovek proizveo u svojoj Istoriji i sva energija u napravljenim atomskim bombama u skladištima je još uvek manja od energije koja se oslobodi u nekoliko tropskih oluja.

Ovaj napor da se čovekovi urođeni prirodni ciklusi suzbiju i čovek prilagodi novim nametnutim ciklusima su osnovni uzrok pojave Stresa kod modernog čoveka. Nemogućnost da uvek pruže iste mentalne i fizičke performanse, a koje su osnov za ostvarivanje svoje uloge u društvu, izazivaju fizičke promene u organizmu, koje se manifestuju kao različite sistemske bolesti ili manje više kao Stres.

Naravno da je povratak na vremena apsolutne slobode i ljudske samovolje nemoguć, brojnost čovečanstva i ograničenost površine na kojoj čovek može živeti, primorava ljude na međusobno prilagođavanje. Apsolutna sloboda za pojedinca, znači apsolutno ropstvo za sve ostale. Koristi od adekvatnog međusobnog prilagođavanja ljudi u zajednici su veća od gubitaka zbog odricanja od dela sloboda u delovanju. Postepenim generacijskim privikavanjima na nove uslove i ljudski organizam kao i njegova psiha su se prilagođavale novim uslovima. Tokom ove industrijske revolucije prosto nije bilo dovoljno vremena, glad najmoćnijih slojeva ljudskih društava za povećavanjem svoje moći, je dovela da sve većeg pritiska na one koji su stvarali preduslove za tu moć, a to je rezultiralo pojavama slabljenja ljudskih organizama i bolesti koje pre nikada nisu postojale. Nemogućnost da se svi jednako, emotivno ili fizički prilagode mehanizovanim pravilima ponašanja, kao i strogim vremenskim ciklusima buđenja, rada, ishrane, učenja ili odmora je izazivalo osećaje nezadovoljstva, ljutnje, pa i gneva i besa, zajedno sa poremećajima fizičkog i psihičkog zdravlja, sve što danas nazivamo stresom. Kumulirani efekti tog procesa su povremeno doveli do trajne fizičke ili mentalne nesposobnosti za dalje učešće u radnom procesu, gubitku potencijalne radne snage, kao i eruptivnih izliva nezadovoljstva, štrajkova, pobuna i revolucija. Prva reakcija na efekte koje proizvodi produženi stres, je bila povećanje represije i kontrole nad stanovništvom, što je u spirali izazivalo još veći kumulirani stres i tako u nedogled. U devetnaestom veku su se sa pojavom moderne nauke pojavila prva istraživanja potreba ljudskog organizma. Prvi podaci o minimumu standarda ishrane koji garantuju očuvanje radne sposobnosti u dužem vremenu, kao i prvi podaci o neophodnim ciklusima rada i odmora su nastali u kolevci industrijske revolucije Engleskoj. U Nemačkoj u kojoj je Proletantizam dao ideološku podlogu industrijskoj revoluciji je standardizovan pojam godišnjih odmora, kao neophodnog za dogoročnu obnovu radne sposobnosti radne snage i oporavka od kumuliranog stresa. Sa shvatanjem posledica koji je stres proizvodio, i pre formalizovanja pojma Stres, vršeni su pokušaji da se njegovi efekti smanje. U Nemačkoj i danas postoji u neglobalizovanom delu od 80% firmi, stari običaj redovnih „BetriebsFest“, periodičnih zabava gde svi zaposleni bez obzira na status u firmi, ravnopravno učestvuju u zabavama, izletima u prirodu, često sa svojim porodicama. Starija i mnogo efikasnija varijanta današnjih, besmislenih „Team building“-a.

Jedini ispravan postupak, vraćanja na prirodne ritmove i cikluse Majke Zemlje, ni tada kao ni danas nije moguć u potpunosti zbog nedostatka naučno tehnoloških, kao ni

organizacionih znanja, a ne treba zanemariti ni energetske potrebe takvog, izvesno veoma komplikovanog sistema.

Ono što je vidljivo danas je da u ovoj eri široko propagirane Deindustrijalizacije u takozvanom, razvijenom svetu Evroatlantskog regiona, stres dobija alarmantne razmere, sistemske i funkcionalne bolesti uz profesionalna obolenja dobijaju razmere Pandemije.

Za sada je nejasan pravi cilj procesa deindustrijalizacije ovog regiona, koju prati ubrzano uništenje nekada moćne i procentualno velike Srednje klase. Takozvana Srednja klasa, koju su od praistorije sačinjavali pripadnici državne i korporativne administracije, kao i obrazovani pojedinci zaposleni u zajedničkim sistemima države, zdravstvo, prosveta, vojska i policija, mali preduzetnici, tehničko-tehnološki stručnjaci, visokokvalifikovani radnici i slično su bili neophodna tampon zona između pravih gospodara i vlasnika kapitala i velikog rezervoara radne snage na dnu društvene hijerarhije. Ta uloga prenosioca svih pa i najgorih naređenja nadole, a sa druge strane svih dobara i bogatstava nagore, uz nikada ispunjena obećanja o vertikalnoj pokretljivosti nagore, i uvek prisutne pretnje o vertikalnoj pokretljivosti na dole, je danas među najvećim uzrocima stresamodernog čoveka.

Pravi gospodari kapitala su u stanju da više ili manje svesno sebe prilagode potrebama svog organizma, hijerarhijski najniža klasa zaposlenih je u borbi sa stresovima vezanim za goli opstanak uglavnom potisnula u stranu manje važne stresove vezane za ciklične promene u prirodi. Ta hijerarhijski najniža i najbrojnija grupacija stanovništva je pod stalnim pritiskom borbe za opstanak kao najjačim stresogenim faktorom, izgradila svoje mehanizme borbe protiv stresa svih vrsta, često efikasnije od svih mehanizama smišljenih od strane stručnjaka. Od čuvanja tradicija iz predindustrijskih vremena do učešća u masovnim manifestacijama međusobne povezanosti, sportski događaji, koncerti, mitinzi itd, pa do alkohola i drugih tradicionalnih sredstava bekstva od stvarnosti. Njihovi problemi sa stresom nikada i nisu bili ispitni uzorci za modernu nauku.

Ostala je takozvana Srednja klasa čiji značaj se smanjio razvojem nauke, naročito informatike i prateće kompjuterizacije. Ta sve manje neophodna klasa je i bila najveća žrtva manifestacija stresa na čoveku. A, kao izazivač svih pobuna i revolucija u istoriji čovečanstva sada je na izgleda neizbežnom putu, skoro potpunog nestanka. Broj ljudi pogođenih stresom se neće smanjiti, on će samo promeniti svoju pogođenu populaciju, zato što osnovni uzroci stresa nisu ni jasno određeni ni tretirani.

4. ŠTA SE MOŽE URADITI

Današnji napredak tehnologije i nauke uz kolosalni napredak informatike doneli su svim ljudima na planeti skoro potpuno besplatan pristup znanjima i iskustvima ljudskog mozga u poznatoj istoriji. Sve prisutni kompjuteri su demokratizovanjem programiranja, to znanje učinili aktivnim pomagačima ljudi umesto zamrznutog znanja u knjigama. Dugo ignorisana u javnosti postignuća kibernetike u organizovanju i kontroli, ne samo mehaničkih nego i društvenih sistema bi trebalo da doprinesu, novoj pametnijoj industrijalizaciji. Novi talas industrijalizacije se može sada izvesti efikasno i ekonomično sa malim proizvodnim pogonima, koji se mogu postaviti tamo gde su i kada su potrebni, da proizvode ono što je

trenutno potrebno, eliminišući potrebu za selidbama stanovništva, poštujući prirodne cikluse i seleći proizvodnju po potrebi.

Takav talas industrijalizacije, bi podržan od države smanjio potrebu organizovanja ogromnih industrijskih kompleksa koji su i bili najveći uzrok naglih migracija stanovništva. Samim time bi se uklonio negativan uticaj njihove veličine na države i ekonomske procese, kao glavni uzrok svih ekonomskih kriza i modernih ratova. Pored prilagođavanja proizvodnih procesa prirodnim procesima, smanjila bi se i pojava ratova i ekonomskih kriza kao grupni generatori stresa zajednički za sve jedinice ljudskih zajednica.

Nemoguće je vratiti se u preindustrijsko doba, samo izbegavanje najvažnijeg uzroka stresa nije dovoljan motiv, mnogo snažniji motivi nas teraju da nastavimo u ovom pravcu razvoja čovečanstva. Pa čak ni sveprisutni stres nije u stanju da svojim posledicama uspori sadašnji trend razvoja ljudskih društava, a posebno je pitanje i dali je to svrsishodno. Veća je verovatnoća da će balansirani, multidisciplinarni pristup ovoj temi učiniti mnogo više na smanjenju pojave ovog fenomena.

ZAKLJUČAK

Jedna od najstarijih svetski poznatih poslovice glasi: „Ne možeš svima udovoljiti“. Po dosadašnjim iskustvima, u borbi protiv stresa prihvatanje isključivo medicinske prirode ovog problema, traženje farmakoloških rešenja se pokazalo najmanje efikasno, iako na početku jeftino, kasnije donosi enormni račun za saniranje odloženih i skrivenih efekata na društveno tkivo i pojedince.

Neophodan je veliki edukativni, politički i ekonomski napor u povratku svesti o međusobnoj povezanosti svih elemenata poznatog univerzuma. Svemir, sunce, planete, sastavni delovi zemlje, ekosfera, biljke, životinje i na kraju ljudi svih klasa, rasa, materijalnog statusa, obrazovanja, mesta boravka predstavljaju jednu neraskidivu celinu i svaki poremećaj te krhke ravnoteže će izazvati poremećaj ili stres u pojedinim delovima ili u celom sistemu. Kvantna priroda univerzuma nas uči da je stalni dotok energije, mentalne, materijalne ili bilo koje druge neophodan da se ta krhka ravnoteža održi.

REFERENCE

- 1) Seligman, M.E.P. (1975). Helplessness: On Depression, Development, and Death. San Francisco: W.H. Freeman. ISBN 0-7167-2328-X
- 2) Carlson, N.R. & Heth, C.D. (2007). Psychology the science of behaviour. 4th ed. Upper Saddle River, New Jersey: Pearson Education, Inc., 527.
- 3) Chou, Pei Chi; Pagano, N.J. (1992). Elasticity: tensor, dyadic, and engineering approaches. Dover books on engineering. Dover Publications. pp. 1–33. ISBN 0-486-66958-0.

- 4) Timoshenko, Stephen P. (1983). History of strength of materials: with a brief account of the history of theory of elasticity and theory of structures. Dover Books on Physics. Dover Publications. ISBN 0-486-61187-6.
- 5) O'Neill, D. L.; Deangelis, D. L.; Waide, J. B.; Allen, T. F. H. (1986). A Hierarchical Concept of Ecosystems. Princeton University Press. p. 253. ISBN 0-691-08436-X.
- 6) Holling, C. S. (2004). „Understanding the complexity of economic, ecological, and social systems“. Ecosystems 4 (5): 390–405. doi:10.1007/s10021-001-0101-5
- 7) Kirsch, Jonathan. God Against The Gods: The History of the War Between Monotheism and Polytheism. Penguin Books. 2005

CIVIL SOCIETY AND DEMOCRATIC POLITICAL CULTURE

Sladana Đurić

Univerzitet u Kragujevcu, Pravni fakultet, Serbia

Abstract: The basic values of civil society, which makes it the widest social base of modern democracy are tolerance, dialogue, compromise, avoidance of violence, rationality and humanity. Opposite them are strict collectivism, authoritarianism, political apathy, cynicism, extremism, as well as the orientation regressive re-traditionalise general. It joins the lack of trust in the institutions of the existing political system and with it the crisis of their legitimacy. In addition to the significant differences in interests, goals and views, every democratic political culture, therefore, necessarily contains certain "common platform" wide enough to brutal struggle turns into open conflict and the resulting disintegration of the entire political system. The prerequisite for this is mutual tolerance, the tendency to compromise, dialogue and civilized resolution of conflicts of interest. Democratic political culture is a kind of "social charter" for civilized inter-party competition in the struggle for power, which is, by definition, far from any kind of idyllic situation. The modern democratic society is characterized by pluralism of different values and interests, but also institutional procedures that he profiled and channel. As a result, it has no direct danger from my own decay, and eventual seduction dictatorship.

Keywords: democracy, political culture, civil society

1. UVOD

Čuvenu Linkolnovu definiciju demokratije kao "vladavini naroda, od naroda i za narod", jedan od najpoznatijih zastupnika ove teorije Jozef Šumpeter, dopunjuje idejom o demokratiji kao "vladavini podržavanoj od naroda". Shvaćena kao politički metod, kako ističe J. Šumpeter, demokratija nije prikladna da bude nekakav "cilj po sebi", nezavisno od odluka koje donosi; ona je možda najbolji način da se zapravo postigne cilj.

Iz pomenutih razloga, demokratska politička kultura podrazumeva, pre svega, povoljno - "socijalno tle i obuhvata konsenzus oko jednog kruga temeljnih vrednosti i pravila igre; demokratiji privrženu vlast i lojalnu opoziciju; samostalno javno mnjenje."⁹¹

"Zajednička platforma"- demokratske političke kulture sadrži kako saglasnost o (legitimnim) ciljevima politike, tako i saglasnost o pravilima (izborne) procedure, jer joj je upravo nenasilna promena vlasti centralno obeležje. Ove dve vrste konsenzusa moraju da se

⁹¹ Stanovčić Vojislav: *Politička kultura i politički život*, u: *Enciklopedija političke kulture*, Savremena administracija, Beograd, 1993.

baziraju na širokoj osnovi političke tradicije, tj. na kulturnim vrednostima koje deli ogromna većina stanovništva, nezavisno od toga koja partija trenutno dominira političkom arenom i društvenim životom.

2. POJAM POLITIČKE KULTURE

Pojam demokratske političke kulture utemeljen je u opštem određenju političke kulture i, naravno, kulture uopšte. Definicije političke kulture usmerene su ka pitanju u kojoj se meri postojeća politička kultura javlja kao faktor (katalizator) političkog preobražaja, a u kojoj meri, nasuprot tome, deluje kao instrument rezistencije. Politička kultura se posmatra i kao određena mreža subjektivnih orijentacija pripadnika društva u odnosu na bazične elemente političkog sistema, političke institucije, procese i vrednosti. U tom smislu, uspostavlja se suštinska veza između razvoja demokratske političke kulture i demokratskog političkog preobražaja.

Milan Podunavac ukazuje na to da pojam političke kulture u sebi ukršta elemente svih relevantnih strategija u savremenoj političkoj teoriji – od liberalizma, komunitarizma, republikanizma, pa do različitih tradicionalnih polja (povezivanja tradicionalno shvaćenih ideja političke filozofije i empirijski utemeljenog polja političke sociologije). Ovaj tip sinteze prisutan je kod Rawlsa u *Političkom liberalizmu*, gde objašnjenje pojmovna kreće od rasprave o principima pravde, a dovršava se idejama konsenzusa i političke kulture, s time što u ovoj novoj sintezi središnje mesto pripada političkoj kulturi.⁹²

Postoje različite definicije političke kulture. Zagorka Golubović⁹³ daje kompleksnu definiciju, koja pored oblika artipacije, odnosno učešća individua u društvenoj praksi ili »kulture ponašanja«, uključuje i norme i uslove njihovog participiranja, a to znači i tipove društvenih/političkih akcija, kao i procese u kojima se individue pripremaju za društvenu participaciju (socijalizacija, a posebno politička socijalizacija, formiranje »društvenog karaktera«, procesi simbolizacije, prihvaćeni tipovi verovanja i ideologije, dominantni mentalitet, takozvani nacionalni karakter).

Almond i Verba nude subjektivističko tumačenje sa stanovišta građanske kulture (»civic culture approach«): »U okviru ovog pristupa politička kultura određuje se kao subjektivna dimenzija političkog sistema, a središnje polje istraživanja označeno je istraživanjem znanja, vrednosti, osećanja i mišljenja u tumačenju političkog ponašanja i političkih procesa u okviru jedne zajednice. Teorijski status političke kulture u okviru ove 'škole' izvodi se na sledećim premisama: 1. Politička kultura odnosi se na model subjektivnih političkih orijentacija u okviru čitave nacije ili njenih pojedinih dijelova; 2. sastavne delove političke kulture čine kognitivni, afektivni i vrednosni elementi; ona uključuje spoznaju i mnjenje o političkoj stvarnosti, osećanja vezana za politiku i političke vrednosne stavove; 3.

⁹² Dragica Vujadinović i dr., *Između autoritarizma i demokratije: Srbija, Crna Gora, Hrvatska – Civilno društvo i politička kultura*, str. 233–247.

⁹³ Zagorka Golubović, Bora Kuzmanović, Mirjana Vasović, *Društveni karakter i društvene promene u svetlu nacionalnih sukoba*, Institut za filozofiju i društvenu teoriju i »Filip Višnjić«, Beograd 1995

sadržaj političke kulture rezultat je socijalizacije u detinjstvu, vaspitanja, uticaja medija, doživljaja iz života odraslih osoba i onih učinaka koje stvaraju vlast i politika na njihove rezultate; ona ih ograničava ali ih, u svakom slučaju, ne određuje potpuno. Uzročne veze između političke kulture, strukture i učinaka vlasti idu u oba pravca.«⁹⁴

Relevantna je, po Podunavcu, i koncepcija političke kulture koja dolazi iz graničnog polja socijalne i kulturne antropologije. Ona kao prednost u odnosu na »civic culture approach« ima to što naglašava oblik vladavine kao samostalni deo političke kulture.

Poseban kvalitet jeste to što je u ovom tumačenju politička kultura »smisaona celina«, odnosno to je relativno stabilni sklop personalnog, privatnog i kolektivnog javnog iskustva, proizvod istorijske memorije određenog društva.

Politička kultura daje strukturu i značenje političkoj sferi. Tek tako shvaćena politička kultura – kao »smisaona celina«, kao ono što politici daje značenje – uključuje centralne teme u poretku politike:⁹⁵

- pitanje lojalnosti i legitimnosti,
- problem unifikacije zajednice,
- odnos političkog poverenja i nepoverenja,
- pitanja jednakosti i hijarhije,
- slobode i prinude,
- autoriteta i poretka.

U navedenom kontekstu bitno je i tumačenje političke kulture kao forme samorazumevanja poretka, koje je od konstitutivnog značaja za jednu zajednicu. Dakle, u ovom značenju politička kultura ima središnju ulogu za razumevanje i analizu političkog identiteta. Politička kultura se definiše i shvata kao skup stavova, gledišta i sentimenata koji daju smisao i značenje političkim procesima i čine osnovne pretpostavke i pravila koja determiniraju ponašanje u političkom sistemu. Politička kultura obuhvata istovremeno i političke ideale i norme politike. Politička kultura – tako definisana – ima šire značenje u odnosu na klasično shvatanje po kome predstavlja »subjektivnu i psihološku dimenziju političkog sistema«.

U ovom tumačenju političke kulture naglašen je:

- 1) Nad-individualni karakter.
- 2) Naglasak je na osnovnim principima za procenu datog poretka i politike (na tome da se politička kultura sastoji od skupa načelnih stavova o politici i poretku, od principa iz kojih se procenjuje poredak. Ovo polazište je znatno čvršće nego u okviru klasičnog shvatanja uspostavlja veza između političke kulture, političkih identiteta i legitimnosti političke vlasti.

⁹⁴ Citirano prema: Milan Podunavac: "Politička kultura i politički odnosi", Izdavač: ČIGOJA STAMPA, godina izdanja: 2008, ISBN: 978-86-7558-85-5, str.23

⁹⁵ Podunavac, M. , Isto, str.28

3) Naglasak je na snazi normativnog (zakonskog) uređenja političke kulture.

Politička kultura je idealna konstrukcija političkog života određene zajednice, ona je ispunjena određenim smislom. Taj smisao se izražava kroz dominantne političke tradicije mišljenja, kroz politički diskurs u javnom prostoru, kroz uticaje nasleđenih kulturnih obrazaca, ali i kroz uticaje individualnih vrednosnih i političkih opredeljenja i motivacija.

Polje moderne, demokratske političke kulture sadrži »slobodni i otvoreni komunikacijski proctor promena i modernizacije u kojem se prepliću utjecaji iz spoljašnjeg okruženja, javni događaji i vladajuće norme, duh javnih ustanova i privatno iskustvo aktera«.

Vrednosti i vrednosne orijentacije sastavni su deo političke kulture, pri čemu se u uzajamnom odnosu vrednosti i političke kulture ukrštaju na dijalektički način uzajamni uticaji pojedinca i zajednice, usvojenih kulturnih obrazaca i zahteva za promenama, prošlosti i budućnosti, socijalizacije i autonomne akcije.

Dragomir Pantić⁹⁶ govori o uticaju vrednosti na političku kulturu u smislu vrednosti kao dispozicija ličnosti i elemenata društvene svesti stanovništva, na jednoj strani, i integrativnog karaktera i motivacione snage vrednosti, na drugoj strani. On takođe govori o tome da su za političku kulturu posebno važne vrednosti koje potiču od institucija, ali da su važne i one koje potiču od individua. Vrednosti imaju različite funkcije u životu pojedinaca, od kojih su za političku kulturu posebno važne funkcije prilagođavanja jedinice socijalnoj sredini i protektivna (zaštitna) funkcija (ego-odbrana, odnosno samoodbrana): politička kultura pojedincu osigurava određene preporuke, zaheve, vodiče, »zgusnuta iskustva predaka i savremenika«.

Međutim, s druge strane, participativna i građanska politička kultura u modernim demokratskim zemljama ostavljaju pojedincu prostor za samostalno stecanje političkih znanja i iskustava i autonomno kreiranje vlastitih opredeljenja, inicijativa i odluka.

3. PODELA I VRSTE POLITIČKE KULTURE

Postoje različite podele političke kulture na osnovama različitih kriterijuma vrednosnih orijentacija, tipova društvenih odnosa i tipova socijalizacije ličnosti koje obuhvataju. Klasična podela je na parohijalnu/tradicionalnu, podaničku, participativnu, građansku.

Postoje i podele na tradicionalne, moderne i postmoderne političke kulture; na konvencionalnu i protestnu; na elitnu, subelitnu i kontraelitnu; na građanske i revolucionarne; na materijalističke i postmaterijalističke; na kooperativno-pragmatičnu, apatičnu i otuđenu političku kulturu.

Česta je i podela na demokratske nasuprot autokratskih ili autoritarnih političkih kultura.⁹⁷ Podela političkih kultura na osnovu vrednosne orijentacije za modernost, budućnost, razvoj i napredak nasuprot orijentacije ka očuvanju tradicije, nasleđa prošlosti,

⁹⁶ Dragomir Pantić, »Politička kultura I vrednosti«, *Fragmenti*, str. 39–56..

⁹⁷ Dragomir Pantić, »Politička kultura I vrijednosti«, *Fragment*, str. 56-57.

postojećeg stanja stvari u državi i društvu, a u kombinaciji s tipom odnosa – demokratskih/egalitarnih ili hijerarhijskih/autoritarnih – kao analitički produktivna linija razgraničenja tipova političkih kultura.

Polje političke kulture, kao i svih modernih društvenih procesa i pojava, je dijalektičko, da uvek teži ka promenama, da predstavlja polje sukoba tendencija tradicionalizma i modernih procesa, sukoba tradicionalne i demokratske političke kulture; da je kompleksan prostor ukrštanja pluralizma kulturnih, normativnih i političkih obrazaca, kvantitativnih i kvalitativnih promena unutar svakog ispoljavanja političke kulture, kao i u međuodnosu – odnosu prevaga, dominacije, borbe za prevlast različitih modaliteta i civilizacijskih tendencija na polju političke kulture.

4. CIVILNO DRUŠTVO I DEMOKRATSKA POLITIČKA KULTURA

Vrednosna definicija civilnog društva u suštinskoj je vezi s pojmom »demokratske političke kulture«. Razvoj demokratske političke kulture od bitnog je značaja za razvoj civilnog društva. I obratno, prisustvo autoritarne ili nedemokratske političke kulture predstavlja jednu od najznačajnijih prepreka za razvoj civilnog društva. Veza je uzajamna, ali ne isključivo uzajamno zavisna.

Na razvoj demokratske političke kulture utiču sledeći procesi:

- unapređenje civilnog društva na osnovu ekonomskog razvoja,
- delovanje političkih elita,
- unapređenje zakonodavstva,
- uticaj međunarodnog okruženja.

Pored ovih činilaca koji imaju snagu spoljašnjih odnosno, objektivnih faktora, na razvoj demokratske političke culture utiču unutrašnji faktori i kapacitet samog civilnog društva, kao što su :

- promovisanje kulture ljudskih prava,
- progresivne inicijative pojedincaca i organizacija,
- podsticaj društvene samorefleksije,
- pritisak na medije i prosvetavanje javnog mnjenja,
- edukacija mladih, sudija, policije, itd.,
- sve ostalo što na bilo koji način utiče na promenu vrednosnih orijentacija stanovništva, na kvalitet subjektivnih stavova prema poretku, na kvalitet istorijskog pamćenja, na samorefleksiju o prošlosti, sadašnjosti i budućnosti, na kvalitet i kvantitet demokratske političke paricipacije.

Unapređenje razvoja demokratske političke culture (pod uticajem medija, obrazovanja, promena u porodici i u tipu vaspitanja, kulture uopšte, javne reči, delovanja

političkih, ekonomskih, medijskih, religijskih elita, otvorenosti za uticaje iz međunarodnog okruženja), predstavlja plodno tlo za razvoj autonomnog tipa ličnosti, građanskog identiteta i time za razvoj civilnog društva.

Generalno uzevši, ključni uticaj na manji ili veći razvoj civilnog društva imaju:

- kvalitet političke kulture,
- kvalitet političkih institucija,
- kvalitet zakonodavstva,
- način na koji se tumači kulturno-istorijsko nasleđe date sredine,
- način na koji deluju društvene elite
- način na koji se formira javno mnjenje,
- način na koji su strukturirani porodica, vaspitni i obrazovni sistem.

Prevladavajući tip ličnosti, prevladavajući tip vrednosnih orijentacija i normativnih obrazaca, tip prevladavajućeg društvenog mentaliteta predstavlja sponu između polja civilnog društva i polja političke kulture; sponu u smislu uzročnog delovanja na kvalitet i razvoj i civilnog društva i političke kulture.

Politička kultura može biti posmatrana kao polje susretanja individualnog, kolektivnog i javnog iskustva. Takođe, civilno društvo predstavlja polje susretanja individualnog, kolektivnog i javnog iskustva. Zajedničko im je ovo polje u okvirima politike u širem smislu. S druge strane, politička kultura ne djeluje samo u polju politike u širem smislu već i u polju politike u užem smislu – u okvirima delovanja političkih stranaka, političkih elita, kao i vezano uz pitanja lojalnosti, legitimnosti poretka, odnosno za pitanja odnosa stanovništva naspram datog poretka politike.

Direktno polje susreta individualne i kolektivne kulture jeste sistem vrednosti, normativni obrasci, osnovni principi na kojima se zasniva process emancipacije u civilnom društvu, kao i demokratska politička kultura.

Principijelno uzevši, značajna pretpostavka za razvoj civilnog društva jeste afirmacija univerzalnih ljudskih prava, vrednosti slobode, jednakosti, pravde, solidarnosti, kao i principa na kojima se zasniva demokratska politička kultura, tj. principa tolerancije, nenasilja, poštovanja autonomije i različitosti, tj. nesegregacijskog odnosa prema drugom ljudskom biću – u smislu rase, nacije, pola, manjina.

Kada civilno društvo, isto kao i pravna država, ne postupa po kriterijima i modelu demokratske političke kulture, dolazi do narušavanja procesa demokratizacije samog civilnog društva, isto onako kao i u slučaju samog liberalnog poretka. Unutar samog civilnog društva, dakle, dolazi do ispoljavanja elemenata autoritarne političke kulture.

Razvoj civilnog društva zahteva:

- demokratsku političku kulturu,
- demokratsku socijalizaciju individue/građanina,
- kritičku javnost,
- afirmaciju univerzalnih ljudskih vrednosti u porodici, obrazovanju, na radnom

mestu, u kulturi, medijima, politici.

Osim toga, najbitniji podsticaji za razvoj demokratske političke kulture dolaze iz polja civilnog društva.

Civilno društvo ima funkciju da mobiliše građane za odbranu vlastitih, političkih i socijalnih prava. Ova funkcija se zasniva na vrednostima slobode, jednakosti, pravde, i u vezi je sa razvojem demokratske političke kulture solidarnosti, kosmopolitizma, pluralizma, tolerancije, nenasilja, humanitarizma.

Najvažnije pretpostavke za postojanje civilnog društva jesu:

1. pravna država;
2. zagarantovana osnovna građanska, politička i socio-ekonomska prava i slobode;
3. proceduralna demokratska pravila i institucije;
4. tržišna ekonomija i privatno vlasništvo;
5. demokratska politička kultura;
6. participacija građana, aktivizam u kreiranju kritičke javnosti i samoorganizovanje za odbranu ugroženih prava (a ugrožavanje se uvek i iznova dogodi i u najdemokratskijem poretku).

Odnos države i civilnog društva podrazumeva da bez dobro uređene države nema garancija prava koja omogućavaju funkcionisanje civilnog društva. S druge strane, civilno društvo je stalna potencijalna kritika svakog pokušaja države da se (u skladu s logikom ekspanzije, koja je svojstvena svakoj vlasti) pretvori u dominantnu silu.

ZAKLJUČAK

Na kraju, može se istaći i to da ne treba očekivati da će u toku daljeg političkog razvoja, sadržaji političke kulture biti proporcionalno raspoređeni među svim pripadnicima jednog društva ili naroda na nekom regionu, niti se to uzima kao nekakav *conditio sine qua non* demokratije.

Saglasnost o vrednostima svakako pomaže stabilnosti demokratije, ali ni heterogena politička kultura nije nepremostiva prepreka za nju: činjenično stanje u najrazvijenijim demokratijama danas, govori da se komponente političke kulture znatno razlikuju između veoma izdiferenciranih slojeva, klasa, generacija, profesija, regija, unutar jednog te istog društva, a da to, ukoliko su ostale institucije društva demokratski uređene, ne dovodi samu demokratiju u pitanje. S obzirom na to što demokratija ne računa na jednoobraznost političke kulture, ne može imati za cilj ni nekakvo anarhično "gomilanje" političkih (pot)kultura, niti njihovu preoštru polarizaciju. U stvari, koliko je demokratija uslov izjednačavanja političkih kultura, toliko je i njihovo ujednačavanje uslov demokratije, pa se mora raditi i na smanjivanju njihovih razlika, kako unutar jedne države, tako i između samih država i nacija. Demokratske privredne i društvene reforme pospešuju građansku inicijativu, tolerantnost, solidarnost i odgovornost, stvarajući od građanske kulture sigurnu branu od nekog totalitarizma.

REFERENCE

1. Vujadinović Dragica, i dr., “*Između autoritarizma i demokratije: Srbija, Crna Gora, Hrvatska*” – Civilno društvo i politička kultura, str. 233–247.
2. Golubović Zagorka, Bora Kuzmanović, Mirjana Vasović, “*Društveni karakter i društvene promene u svetlu nacionalnih sukoba*”, Institut za filozofiju i društvenu teoriju i »Filip Višnjić«, Beograd 1995
3. Pantić Dragomir, “*Politička kultura i vrednosti*”, Fragmenti, str. 39–56.
4. Podunavac Milan: “*Politička kultura i politički odnosi*”, Izdavač: ČIGOJA, godina izdanja: 2008, ISBN: 978-86-7558-85-5
5. Stanovčić Vojislav: *Politička kultura i politički život*, u: *Enciklopedija političke kulture*, Savremena administracija, Beograd, 1993.

FINANCIAL BROKERS

Aleksandra Đurić

Univerzitet u Kragujevcu, Ekonomski fakultet, Serbia

Abstract: The financial system, an integral part of the socio-economic system. The level of development of the financial system depends directly on the development of productive forces and relations of production conditions in a particular social system of the country's economic. The basis of the financial system with the regulations governing the financial system. However, financial institutions and bodies are the basic carriers of financial practices and their experience is also an extremely important factor in the financial system. Accordingly, it follows that the foundations of the financial system consists of: on the one hand, financial law as a set of financial standards, codes of conduct, financial institutions, instruments and procedures, acting for the successful implementation of financial activity and on the other hand, financial practices, which became part of the financial system continent.

On that basis, the financial system is a set of financial institutions, instruments and mechanisms to determine and make monetary and financial authorities, and the regulates the overall issue of the country's finances. Therefore, it can be conditionally divided into the financial system in a broader and narrower sense. The financial system in a broader sense generally covers the fiscal system, and monetary and credit, banking, foreign exchange, business and financial system and financial security. However, the financial system in the narrow sense includes only public finances and their instruments and institutions.

Keywords: financial system, financial intermediaries

1. UVOD

U savremenim uslovima privređivanja finansijski sistem pokazuje svu svojusloženost, pre svega, zbog obima usmerenja njegove delatnosti, kao i stepena obuhvatnosti finansija irazličitosti finansijskih odnosa.

Finansijska tržišta prevazilaze granicu između likvidnih i nelikvidnih sredstava, predstavljaju medijum za imovinsko finansijsko restrukturiranje privrede i menjanje različitih oblika imovine prema prinosima. Kroz efikasnu alokaciju finansijskih sredstava savremena tržišta obezbeđuju dezinvestiranje, odnosno prelazak iz određenih nerentabilnih plasmana. Najzad, finansijsko tržište služi za procenu vrednosti faktora proizvodnje i različitih učesnika na tržištu.

2. FINANSIJSKI SISTEM

Finansijski sistem je sastavni deo privrednog sistema svake ekonomije. Finansijski sistem u zavisnosti od stepena privrednog i društvenog razvoja, usmerava novčana sredstva izmedju različitih grupa privrednih subjekata. Krajnji smisao finansijskog sistema je dostizanje poslovnih i finansijskih ciljeva, s tim što svaki segment finansijskog sistema mora biti organizovan tako da pruži maksimalni doprinos njihovoj realizaciji. Ključni elementi finansijskog sistema treba da obezbede nesmetan tok finansijskih sredstava od jednih ekonomskih subjekata ka drugim ekonomskim subjektima. Finansijski sistem se sastoji iz tri elementa: finansijsko tržište, finansijski instrumenti i finansijske institucije. Finansijski sistem kao i privredni sistem poseduje više karakteristika, od kojih treba istaći:⁹⁸

- Dinamičnost,
- Otvorenost,
- Kompleksnost.

Dinamičnost znači da se u privrednom i finansijskom sistemu stalno dešavaju promene i pojavljuju novi događaji koji sistem dovode u privremena stanja ravnoteže i neravnoteže. Savremeni finansijski sistemi funkcionišu 24 časa, 7 dana u nedelji i 365 dana u godini

Karakteristika otvorenosti znači da privreda jedne zemlje mora biti otvorena prema inostranstvu, tj da privredni subjekti moraju ulaziti u različite oblike saradnje sa subjektima izvan nacionalne ekonomije. Kod finansijskog sistema ta karakteristika je još više izražena, pa se stoga i govori o globalnom karakteru finansijskog sistema. To je stoga što međunarodni tokovi finansijskih sredstava i kapitala uzimaju takve razmere da je gotovo nezamislivo živeti i raditi izolovano od međunarodne zajednice.

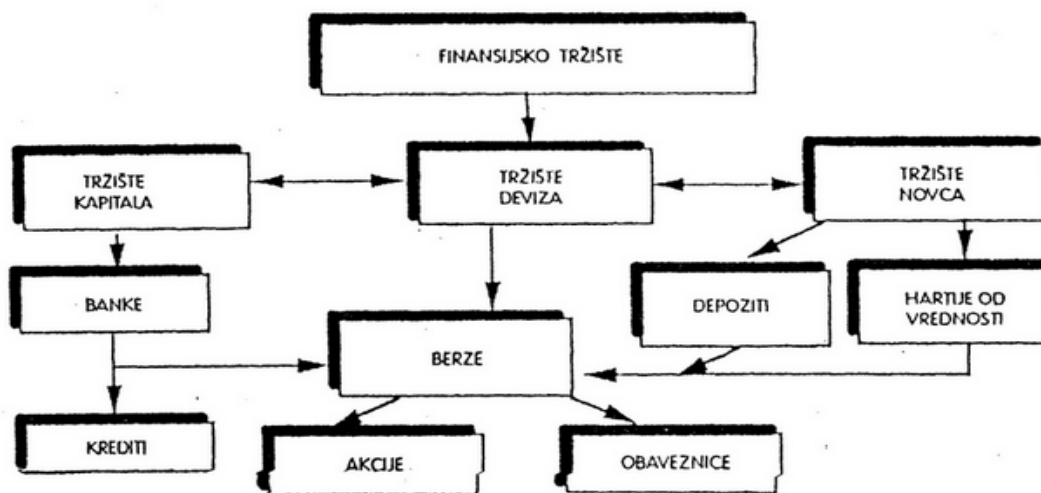
Karakteristika kompleksnosti nam govori da je i sam finansijski sistem sastavljen iz većeg broja podsistema. Finansijski sistem se sastoji iz kombinacije većeg broja institucija i učesnika:

- centralna banka,
- poslovne banke,
- štedionice,
- štedno kreditne asocijacije,
- penzioni fondovi,
- investicioni fondovi,
- osiguravajuća društva,
- posredničke organizacije.

⁹⁸Erić dr Dejan, "Finansijska tržišta i instrumenti", II izmenjeno i dopunjeno izdanje, Beograd, 2003, strana 8

Finansijski sistem omogućava funkciju povezivanja dve značajne makroekonomske kategorije- štednje i investicija, što može imati ogromni značaj za vođenje ekonomske politike i celokupni privredni razvoj nacionalne privrede. Finansijski sistem ne samo da omogućava povezivanje štednih i investicionih jedinica, već njegovo funkcionisanje omogućava formiranje stope prinosa, kao specifične cene po kojoj će investicione jedinice plaćati sredstva štednim jedinicama.

Kulminacija finansijske krize na svetskom tržištu u prvoj polovini oktobra 2008. Godine, tema je o kojoj raspravljaju ne samo ekonomisti već i političari, sociolozi i filozofi. Ova kriza je veoma složena i nastala je kao posledica velikog broja grešaka za koje su odgovorne centralne banke međunarodne finansijske institucije i državne politike. U ovom radu ukazujemo na osnovne uzroke koji su rasplamsali krizu na međunarodnom finansijskom tržištu, mere koje su vlade i centralne banke u mnogim zemljama preduzele da bi se efekti krize ublažili, kao i na uticaj krize na domaći finansijski sistem.⁹⁹



Izvor: Živković Boško, Mishkin S. Frederic, Erić Dejan, „Monetarna ekonomija, bankarstvo i finansijska tržišta“, Beograd, 2006, strana 54

Slika 1. Struktura finansijskog tržišta

Finansijski sistem igra jednu od ključnih uloga u odvajanju i regulisanju tokova reprodukcije. Finansijski sistem to potpunije ostvaruje ukoliko ima razvijenije finansijske institucije, instrumente, tokove i finansijske mehanizme u procesu finansiranja nacionalne ekonomije. Finansijski sistem se sastoji od određenih podsistema, institucija i instrumenata, ali i specifične njihove povezanosti, kao i tokova novca i štednje u njihovoj stalnoj međusobnoj izmeni oblika. Razvijenost finansijskog sistema može se pratiti preko razvijenosti njegovih najvažnijih elemenata:

⁹⁹ <http://scindeks.ceon.rs/article.aspx?query=ISSID%26and%268216&page=5&sort=8&stype=0&backurl=%2fissue.aspx%3fissue%3d8216>

1. Finansijska tržišta
2. Finansijski instrumenti
3. Finansijske institucije

Finansijski sistem obuhvata i pravne norme i regule, kao i finansijske tehnike koje omogućavaju trgovanje finansijskim potraživanjem i ujedno određuju kamatne stope. U zavisnosti od broja i vrsta finansijskih institucija koje u njemu rade, za finansijski sistem kažemo da je nerazvijen ili razvijen. Nerazvijen je kada u njemu od finansijskih institucija egzistiraju samo banke, a od finansijskih instrumenata samo depoziti i krediti. Sa druge strane, razvijen je kada u njemu deluje mnoštvo finansijskih institucija (kreditne unije, penzioni fondovi, osiguravaoci), a u upotrebi je i mnogo finansijskih instrumenata (sertifikati o depozitima, različite vrste računa).

Zadaci finansijskog sistema su: transferi novčanih sredstava od suficitarnih ka deficitarnim sektorima, usmeravanje novčanih sredstava u određene projekte i sektore, određivanje kamatnih stopa, osiguravanje dovoljne količine kredita, podsticanje štednje, održavanje likvidnosti, realizacija sistema masovnih plaćanja, ostvarivanje privrednih i političkih ciljeva, čuvanje kupovne moći stanovništva i čuvanje od rizika krađe i gubitka. Pojave koje obeležavaju savremene finansije su: smanjivanje uloge finansijskih posrednika, internacionalizacija finansija, kontrola nad poslovanjem banaka, tehnološka revolucija i finansije, uloga države na finansijskom tržištu, sistem osiguranja depozita i finansijske inovacije.

3. POJAM FINANSIJSKIH TRŽIŠTA

Finansijska tržišta su mesta fizička ili virtuelna na kojima se finansijska sredstva prenose od ljudi koji imaju višak raspoloživih sredstava ljudima koji imaju manjak sredstava. Finansijska tržišta obveznica i akcija su bitna kod usmeravanja finansijskih sredstava od onih koji ne znaju produktivno da ih uposle ka onima koji to znaju, što dovodi do veće ekonomske efikasnosti. Aktivnosti na ovim tržištima takođe imaju direktan učinak na bogatstvo pojedinaca, preduzeća i ponašanje potrošača kao i na ukupan rezultat cele privrede.

Pored tržišta robe i drugih faktora proizvodnje finansijska tržišta predstavljaju vitalni preduslov za uspešno funkcionisanje razvijene, otvorene tržišne privrede i optimalnu alokaciju resursa. „Ključna uloga finansijskog tržišta je da obezbedi disperziju rizika kroz strukturiranje portfelja (krediti stanovništvu, državi, preduzećima) i prilagođavanje ročnosti izvora i plasmana (mora postojati ročna usklađenost između kratkoročne aktive i pasive i dugoročne aktive i pasive).“¹⁰⁰

Finansijsko tržište predstavlja organizovano mesto na kome se susreću ponuda i tražnja finansijskih instrumenata, gde se povezuju različiti učesnici privrednog i društvenog

¹⁰⁰ Vemić dr Milan, "Nauka o finansijskom menadžmentu", CEKOM-books, Novi Sad, 2008., str. 267

života i ostvaruje kupoprodaju različitih finansijskih instrumenata.¹⁰¹ Na finansijskom tržištu se finansijska sredstva prenose od suficitarnog sektora, odnosno od onih koji imaju višak finansijskih sredstava, na one koji imaju manjak tih sredstava, deficitarni sektor. Finansijska tržišta se prema obimu prometa mogu podeliti na:

- tržište novca
- tržište kapitala i
- devizno tržište.

3.1. TRŽIŠTE NOVCA, TRŽIŠTE KAPITALA I DEVIZNO TRŽIŠTE

Tržište novca obuhvata sve one finansijske transakcije sa finansijskim instrumentima čiji je rok dospeća do jedne godine. Ovaj značajan segment finansijskog tržišta obezbeđuje privrednim subjektima pribavljanje kratkoročnih finansijskih sredstava koja su im neophodna za održavanje likvidnosti, zadovoljenje tražnje, ostvarivanje dopunskih prihoda i uravnoteženje ponude i tražnje novčanih sredstava.

Na tržištu kapitala trguje se finansijskim instrumentima sa rokom dospeća dužim od godinu dana. To su: vlasničke hartije od vrednosti, zatim dužničke hartije od vrednosti, i izvedene hartije od vrednosti. Ono predstavlja najefikasniji mehanizam alokacije dugoročnih finansijskih sredstava. Tržište kapitala je organizovani prostor na kojem se traže inude dugoročna finansijska sredstva i na kojem se formira cena.

Devizno tržište takodje ima veliki značaj za finansijski sistem jedne zemlje. Na deviznom tržištu se izražavaju relativne vrednosti različitih nacionalnih novčanih jedinica-valuta. Devizno tržište omogućava uspostavljanje veza između pojedinih nacionalnih finansijskih tržišta. Na deviznom tržištu se postiže transformacija jedne valute u drugu. Da bi se sredstva sa jednog finansijskog tržišta mogla pojaviti na drugom tržištu neophodno je da se ta sredstva transformišu u neku drugu valutu.

3.2. PRIMARNO I SEKUNDARNO FINANSIJSKO TRŽIŠTE

Druga značajna podela tržišta je prema tome da li se finansijski instrumenti koji su predmet finansijskih transakcija u prometu nalaze prvi put ili ne. Tako da se tržište deli na primarno i sekundarno tržište.

Primarno finansijsko tržište obuhvata promet finansijskih instrumenata između originalnog emitenta i prvog investitora. Na primarnim finansijskim tržištima hartija od vrednosti ključnu ulogu imaju investicione banke. Na primarnom tržištu emitenti prodaju dodatna finansijska sredstva.

Sekundarno finansijsko tržište obuhvata sve kasnije kupoprodaje već emitovanog finansijskog instrumenta. Primer sekundarnog tržišta je Njujorška berza NYSE ili NASDAQ vanberzanski elektronski trgovački sistem. Brokери i dileri igraju ključnu ulogu u funkcionisanju sekundarnog finansijskog tržišta. Sekundarno tržište ne obezbeđuje direktno

¹⁰¹Jakšić dr. Milena, „Finansijsko tržište, instrumenti i institucije“, Kragujevac, 2011, strana 1

finansijska sredstva emitentu, ona obavljaju dve važne uloge: formiraju cenu i obezbeđuju likvidnost već emitovanim finansijskim instrumentima.¹⁰²

Finansijska tržišta se mogu podeliti sa aspekta organizacije na berze i vanberzanska tržišta, sa aspekta vremena izvršenja ugovornih obaveza na promptna i termenska, a sa aspekta porekla finansijskih instrumenata i transaktora na domaća i međunarodna finansijska tržišta. Polazeći od mesta na kome se transakcije obavljaju i područja koje pokrivaju finansijska tržišta se mogu podeliti na:

- lokalna tržišta
- nacionalna tržišta
- međunarodna tržišta.

Lokalna tržišta se odnose na uže područje jedne zemlje, a nacionalna na celu zemlju. Međunarodna tržišta se odnose na više zemalja, pa se i emitovanje hartija od vrednosti vrši istovremeno u više zemalja.

Sa aspekta prirode prava koja se nalaze u osnovi finansijskih instrumenata kojima se trguje razlikuju se:

- tržišta osnovnih hartija od vrednosti
- tržišta izvedenih hartija od vrednosti.

4. INANSIJSKI INSTRUMENTI

Finansijski instrumenti predstavljaju predmet trgovanja na finansijskom tržištu. Njihova brojnost i diverzifikovanost najbolji su indikatori stepena razvijenosti finansijskog sistema jedne ekonomije. Kada se govori o finansijskim instrumentima, često se u finansijskoj literaturi koristi sinonim- *finansijska aktiva*. Reč je o neopipljivoj aktivi čija vrednost direktno ne zavisi od fizičkih odbara, već predstavlja prava na buduće koristi. Poznato je da svaka aktiva ima svoju pasivu. Otuda, postoji i kategorija subjekata za koje finansijski instrumenti predstavljaju *finansijsku pasivu*. Finansijska pasiva se vezuje za emitente finansijskih instrumenata, koji za njih impliciraju postojanje odredjenih obaveza u budućnosti. Finansijske instrumente emituju investicioni subjekti, tj. oni koji, u datom trenutku, imaju manjak finansijskih sredstava.

Najznačajniji finansijski instrumenti na finansijskom tržištu su:

1. Hartije od vrednosti,
2. Depoziti,
3. Potraživanja,
4. Finansijska prava,
5. Devize i devizni kursevi,
6. Zlato i plemeniti metali.¹⁰³

¹⁰²ŽivkovićBoško, Mishkin S. Frederic, ErićDejan, „Monetarna ekonomija, bankarstvo i finansijska tržišta“, Beograd, 2006, strana 43

4.1. HARTIJE OD VREDNOSTI

Hartije od vrednosti predstavljaju dokumente koji dokazuju neki dug ili vlasništvo, tj. daju prava na određena potraživanja. Potraživanja iz hartija od vrednosti mogu biti na prihod i/ili na određeni kapital.

Hartije od vrednosti predstavljaju osnovu i najznačajniju vrstu finansijskih instrumenata. Međutim, danas se sve više gubi razlika između hartija od vrednosti i finansijskih instrumenata. Razloge tome treba tražiti:

- u činjenici da su drugi finansijski uspostavili viši stepen likvidnosti,
- u procesu dematerijalizacije tj. u činjenici da hartije od vrednosti danas po pravilu i nemaju formu hartije već elektronskog zapisa
- u procesu sekjuritizacije, tj. mogućnosti emitovanja likvidnih finansijskih instrumenata na bazi grupe drugih manje likvidnih, nestandardnih ili raznorodnih formi finansijskih instrumenata
- za potrebe izučavanja materije finansijskih tržišta i finansijskih institucija i mi uslovno možemo staviti jednakost između ova dva pojma.¹⁰⁴

U svetu postoji izuzetno veliki broj ovih instrumenata, pa se javlja problem oko njihove klasifikacije. Najčešći kriterijmi koji se koriste za podelu su:

- rok dospeća,
- emitent,
- mesto emitovanja.¹⁰⁵

Hartije od vrednosti se mogu podeliti u dve grupe: osnovne i izvedene hartije od vrednosti. U osnovne hartije od vrednosti spadaju: kreditne (dužničke) hartije od vrednosti i vlasničke hartije od vrednosti.

Kreditne hartije od vrednosti su kratkoročne hartije od vrednosti kojima se trguje na tržištu novca (note, blagajnički zapisi, depozitni sertifikati, komercijalni papiri) i dugoročne hartije od vrednostikojima se trguje na tržištu kapitala (obveznice).

Vlasničke hartije od vrednosti čine: obične i preferencijalne akcije. Akcije su dugoročne hartije od vrednosti koje odražavaju deo vlasništva nad određenom kompanijom. investitor, suvlasnik kompanije deli rizik i prednosti koje proizilaze iz njenog poslovanja.

Izvedene hartije od vrednosti čine: opcije, fjučersi i svopovi.

¹⁰³Jakšić dr. Milena, „Finansijskotržište, instrumenti i institucije“, Kragujevac, 2011, strana 5

¹⁰⁴Živković Boško, Mishkin S. Frederic, Erić Dejan, „Monetarna ekonomija, bankarstvo i finansijskatržišta“, Beograd, 2006, strana 36

¹⁰⁵Erić dr Dejan, “Finansijskatržišta I instrumenti”, II izmenjeno I dopunjenoizdanje, Beograd, 2003, strana 17

- Fjučers ugovori su kupoprodajni ugovori, tj sporazum, koji zahtevaju od ugovornih strana da izvrše određenu kupovinu ili prodaju naznačenog datuma u budućnosti, po unapred utvrdjenoj ceni.
- Opcijskim ugovorom prodavac opcije priznaje kupcu pravo, ali ne i obavezu da kupi ili proda određeni broj osnovnih hartija od vrednosti po određenoj ceni, utvrdjenoj u momentu zakljućivanja ugovora, na dan isteka ugovorenog roka ili pre tog roka. Opcijski ugovori omogućavaju zaštitu od rizika u slučaju neočekivanih kretanja na tržištu.
- Svop ugovori se mogu definisati kao inovativne hartije od vrednosti kojima se vrši razmena plaćanja kamata na finansijske instrumente koje investitori poseduju.

Derivati ili izvedene hartije od vrednosti grade svoju vrednost iz finansijskih instrumenata na osnovu kojih su izvedene. Po previlu, ne ubrajaju se niti u kratkoročne niti dugoročne hartije od vrednosti već se, zbog njegove specifičnosti, izučavaju posebno. Osnovne vrste derivatnih hartija od vrednosti su opcije, fjučersi i varanti.

Derivati su podstakli finansijske investicije, razvoj i usavršavanje tržišne infrastrukture. Njihova pojava je donela i značajne makroekonomske prednosti u smislu stabilnijih odnosa ponude i tražnje, manjih inflatornih pritisaka i manjih oscilacija cena.

4.2. DEVIZE I DEVIZNI KURSEVI

Devize i devizni kursevi su takodje finansijski instrumenti i aktivakojom se može trgovati na posebnom segmentu finansijskog tržišta-deviznom tržištu. *Devizni kurs* ili kurs valuta ima značajnu ulogu u međunarodnom platnom prometu jer se plaćanja obavljaju između rezidenata dvaju zemalja, što je prirodan tok događaja ako se zna da se po pravilu plaćanja vrše u valuti prodavca, a da kupac za svoju valutu treba da kupi valutu prodavca kako bi mogao da plati robu koju je od njega kupio. Naravno, pre nego što se pristupi izvršenju ekonomsko-finansijske transakcije, potrebno je da se zna odnos po kome će se obaviti pretvaranje jedne nacionalne valute u drugu. Devizni kurs se formira na više načina:

- Sistem fiksnih deviznih kurseva gde fiksni iznos odgovara odnosu datih valuta prema jednom konvencijalnom zajedničkom imenitelju;
- Sistem pariteta kupovnih snaga gde relativno fiksni iznos odgovara odnosima kupovnih snaga stranog i domaćeg novca;
- Sistem fluktuirajući kursevi valuta gde varijabilni iznos odgovara odnosu ponude i tražnje strane valute¹⁰⁶

Rizik deviznih kurseva se najčešće definiše kao „rizik od promene u imovini, prihodima i konkurentskoj poziciji banke, zbog oscilacija u visini kurseva.“¹⁰⁷

¹⁰⁶ http://www.fxlider.com/edukacija/asr_devizni-kurs datum 06.12.2014.

¹⁰⁷ Vasiljević dr Branko, „Rizici u bankarskom poslovanju“, Fokus, Beograd, 1990., str.197

4.3. ZLATO I PLEMENITI METALI

Zlato i plemenite metale samo uslovno treba prihvatiti kao finansijske instrumente. Njima se trguje na robnim berzama i danas se njihova uloga značajno promenila. Zlato i plemeniti metali su se u prošlosti koristili za kovanje novca i održavanje stabilnosti papirnog novca.

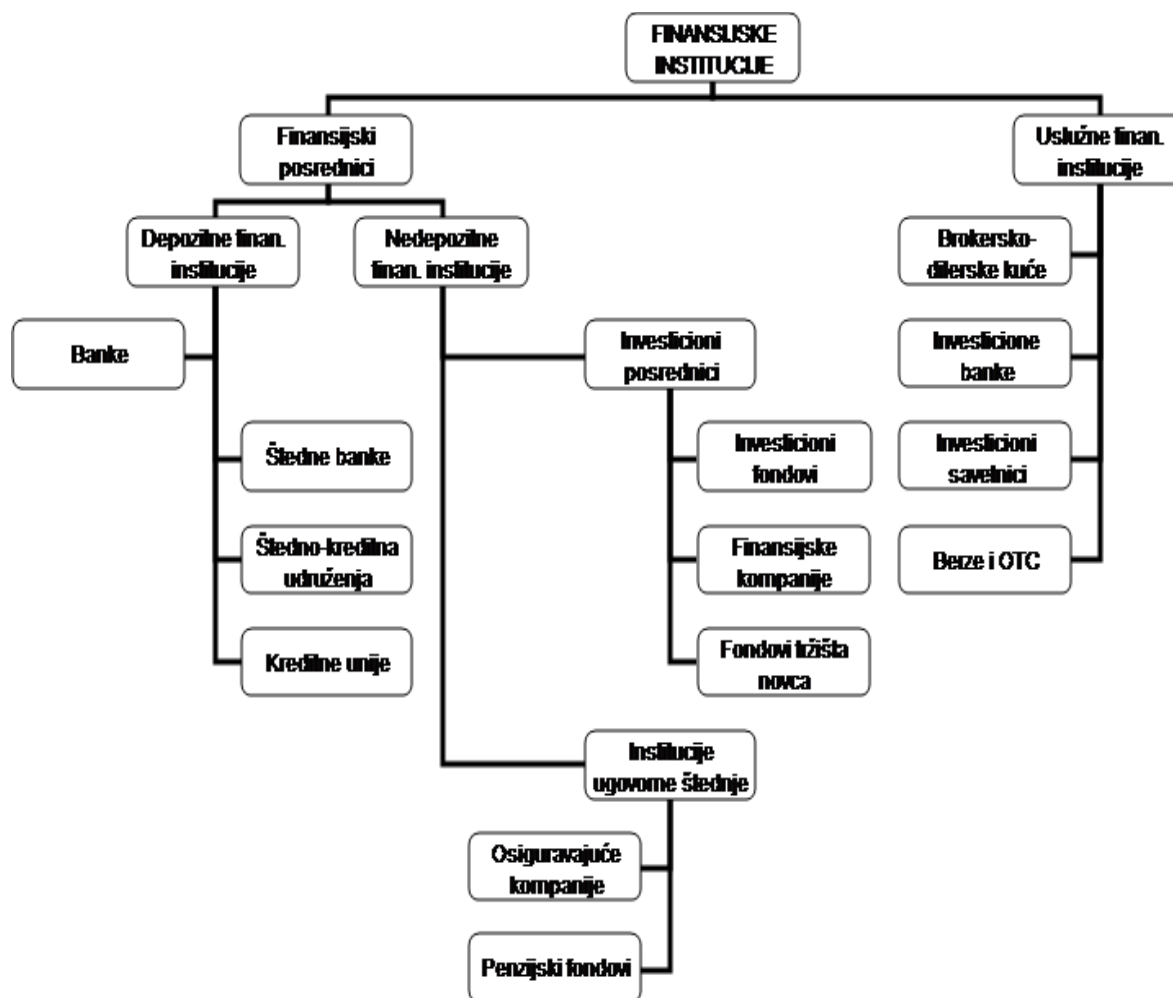
Osim zlata, tokom istorije za izradu novca te za investiranje ljudi su kupovali i trezaurisali još jedan metal – srebro. Srebro je uvijek bilo dostupnije od zlata, lakše za distribuciju pa samim tim, kao plemeniti metal i pogodnije za kovanje manjih apoeni. Za razliku od zlata srebro se više smatra špekulativnim metalom jer njegova cijena, po pravilu pravi veće oscilacije u kratkom vremenskom periodu.

5. FINANSIJSKE INSTITUCIJE

Finansijsko tržište predstavlja poseban institucionalni mehanizam u čijoj osnovi se nalaze finansijske institucije koje povezuju suficitarne i deficitarne finansijske sektore. Najbrojnija grupa finansijskih institucija su finansijski posrednici, oji su po pravilu uključeni u proces indirektnog finansiranja. Pored njih, značajnu ulogu imaju i finansijske institucije za pružanje finansijskih usluga (investicione banke, brokersko-dilerske kuće, investicioni savetnici i organizovana tržišta (berze i vanberzanska tržišta- OTC)).

U Srbiji postoje sledeće finansijske institucije:

- Banke - Osnovne funkcija **banaka** je da primaju depozite fizičkih i pravnih lica i da daju kredite.
- Društva za osiguranje - nude osiguranje života ili imovine od određenih rizika.
- Brokersko-dilerska društva - su posrednici u prometu hartija od vrednosti - preko njih možete kupiti ili prodati akcije ili obveznice.
- Privatni penzijski fondovi - služe za štednju za privatnu penziju i ulažu penzijske doprinose u hartije od vrednosti.
- Investicioni fondovi - omogućavaju malim investitorima da investiraju u hartije od vrednosti.
- Lizing kompanije - omogućavaju kupovinu vozila, opreme, mašina putem lizinga što je specifičan način finansiranja gde korisnik stiče pravo korišćenja, a lizing kompanija vlasništva nad predmetom do isteka lizinga.



Izvor: Jakšić dr. Milena; „Finansijsko tržište, instrumenti i institucije“, Kragujevac, 2011, strana 6

Slika 2. Struktura finansijskih institucija

Nadzor nad svim finansijskim institucijama koje posluju u Srbiji vrši država kroz svoje institucije. Ključna institucija finansijskog tržišta, bez koje se ne može zamisliti savremeni privredni život je, svakako, berza. „Pod ovim terminom je već klasična finansijska teorija sa početka dvadesetog veka podrazumevala prostor u kome se berza nalazi, sam berzanski sastanak, različite berzanske poslove, ljude i ustanove koje se bave berzanskim poslovima.“¹⁰⁸

Finansijski posrednici obezbeđuju kretanje finansijskih sredstava od zajmodavca ka zajmoprimcu. Njihova osnovna uloga jeste posredovanje izmenju nosioca i korisnika štednje,

¹⁰⁸ Zebić Milorad, „O bezama I posebno o Beogradskoj berzi“, Mladost, Beograd, str.15

ukoliko su oni funkcionalno odvojeni. Finansijski posrednici obavljaju navedenu funkciju tako što prikupljaju finansijska sredstva putem kreditnih i vlasničkih hartija od vrednosti i vrše njihovo usmeravanje kreditiranjem ili kupovinom hartija od vrednosti zajmoprimca.

Finansijski posrednici se mogu grupisati u depozitne i nedepozitne finansijske institucije. Depozitne finansijske institucije obuhvataju klasične, odnosno tradicionalne posrednike kao što su: banke, štedno-kreditna udruženja, štedne banke i kreditne unije. Nedepozitne finansijske institucije obuhvataju: institucije ugovorne štednje (osiguravajuće kompanije i penzijske fondove) i investicione posrednike (investicione fondove, finansijske kompanije i fondove tržišta novca). Razlog za datu podelu finansijskih institucija je stroža kontrola pasive depozitnih finansijskih institucija od pasive nedepozitnih finansijskih institucija.¹⁰⁹

Banke su najprezintivniji predstavnici depozitnih finansijskih institucija na finansijskom tržištu. Njihova uloga je evoluirala od klasičnog depozitnog ka univerzalnom bankarstvu. Univerzalne banke imaju depozitnu i kreditnu funkciju, obezbeđuju platni promet i obavljaju kupoprodaju hartija od vrednosti.

Štedionice su u odnosu na banke manje zastupljene depozitne finansijske institucije na finansijskim tržištima kako razvijenih tako i nerazvijenih ekonomija. One se razlikuju od banaka po osnovu ograničenja plasmana sredstava, kao i određenim specifičnostima u strukturi izvora sredstava.

Osiguravajuće kompanije na razvijenim finansijskim tržištima spadaju u rad veoma aktivnih i velikih nedepozitnih finansijskih institucija. Mogu biti organizovane kao: osiguravajuće kompanije za osiguranje života i osiguravajuće kompanije za osiguranje imovine.

Osiguravajuće kompanije za osiguranje život pored osiguranja obezbeđuju i element štednje. Životno osiguranje se u osnovi deli na terminsko i osiguranje tokom života.

Osiguravajuće kompanije za osiguranje imovine su manje po obimu finansijske aktive i pružaju pojedincima i kompanijama samo klasično osiguranje koje isključuje element štednje.

Penzijski sistem većine zemalja u svetu se zasniva na sistemu tekućeg finansiranja. Kod ovih sistema iz tekućih priliva po osnovu uplate doprinosa iz zarada zaposlenih i preduzetnika isplaćuju se penzije tekućim penzionerima.

Investicioni fondovi su prisutni na svim bitnim sektorima finansijskog tržišta. Razlozi koji su doveli do rasta investicionih fondova su visoki prinosi, uz relativnu sigurnost i visok stepen likvidnosti.

Finansijske kompanije prikupljaju sredstva emitovanjem, kratkoročnih hartija od vrednosti i pozajmljivanjem finansijskih sredstava na kreditnoj osnovi. Sredstva investiraju u kratkoročne i srednjoročne zajmove pojedincima i kompanijama. Fondovi tržišta novca su vrsta investicionih fondova koji prikupljaju sredstva ulažu u kratkoročne hartije od vrednosti na tržištu novca.

Uslužne finansijske institucije se specijalizovano bave uslugama u vezi sa hartijama od vrednosti. Brokerske i dilerske kuće posreduju u procesu direktnog finansiranja na primarnom

¹⁰⁹Erić dr Dejan, "Finansijska tržišta I instrumenti", II izmenjeno I dopunjeno izdanje, Beograd, 2003, strana 171.

i sekundarnom tržištu. Uloga brokera često nije samo izvršavanje naloga, već obavljanje i niza drugih usluga poput: finansijske analize, čuvanja hartija od vrednosti, pozajmljivanja hartija od vrednosti, davanja investicionih saveta i slično.

Investicione banke su angažovane na poslovima emisije hartija od vrednosti. Uz to se bave davanjem saveta kompanijama koje prvi put izlaze na primarno tržište kapitala u vezi sa: emisijom hartija od vrednosti, pripremom neophodne dokumentacije u procesu emisije hartija od vrednosti, podnošenjem dokumentacije nadležnim organima.

Investicioni savetnici se bave kvalifikovanim finansijskim istraživanjima i analizama radi pružanja saveta u procesu investiranja, kao i upravljanjem finansijske aktive po ovlašćenju klijenata. Za svoje usluge naplaćuju provizije koje mogu biti vezane za promet i/ili ostvarene investicione performanse projekta u koji su sredstva uložena. Investicioni savetnici mogu biti nezavisne firme ili vezani za brokerske kuće ili investicione banke.

Berza je savremeno tržište i postoji saglasnost autora¹¹⁰ da postoje berze hartija od vrednosti i valuta sa jedne strane i robne ili produktne berze sa druge strane. Berze i organizovana vanberzanska tržišta predstavljaju finansijske institucije specijalizovane u pružanju usluga organizovanja tržišta na kojima se mogu odvijati finansijske transakcije. Najstarija berza na svetu postoji još od XII veka, prema nekim autorima, „najstarija berza postoji od 1141. godine, i to je Pariska berza.“¹¹¹ Prema profesoru Kukoleči, ova berza je službeno otvorena 1724. godine.¹¹² Neke od najpoznatijih svetskih berzi su sledeće: New York Stock Exchange, Inc; London Stock Exchange; Tokyo Stock Exchange, Inc; Deutsche Börse AG; Beogradska berza omogućava trgovinu hartijama od vrednosti i devizama dok se na produktnoj berzi u Novom Sadu trguje poljoprivrednim proizvodima.

6. ULOGA FINANSIJSKOG TRŽIŠTA U FINANSIJSKOM SISTEMU

Osnovna uloga finansijskog tržišta je preusmeravanje finansijskih sredstava od onih koji imaju višak (suficitarni sektor) prema onima koji imaju manjak finansijskih sredstava (deficitarni sektor). Ovu funkciju ono realizuje direktno ili indirektno.

U direktnom finansiranju dužnici pozajmljuju novčana sredstva direktno od kreditora, tako što im na finansijskom tržištu prodaju hartije od vrednosti. Osnovni problem koji se pojavljuje kod direktnog finansiranja je povezivanje suficitarnih i deficitarnih subjekata. Postoje i drugi problemi: visoki troškovi tražnje, visoki transakcioni troškovi, visoki informacioni troškovi, troškovi kontrole i slično. Da bi se rešili problemi i smanjili troškovi prilikom obavljanja transakcija, potrebno je indirektno finansiranje.

U indirektnom finansiranju finansijski posrednici se nalaze između kreditora i dužnika. Njihov motiv je da ostvare zaradu na osnovu razlike u ceni po kojoj dolaze do sredstava i cene po kojoj ista plasiraju. Postojanje finansijskih posrednika dovodi do smanjenja

¹¹⁰ Stošić dr Ljiljana, „Tržište, troškovi i cene“, VŠPSS, Vranje, 2013., str. 81

¹¹¹ Jovanovski dr T., „Finansijski pazar“, Ekonomski centar, Skoplje, 1994., str.282

¹¹² Kukoleča dr Stevan, „Organizaciono poslovni leksikon“, Rad, Beograd, 1986., str. 991

transakcionih i informacionih troškova i povećanja efikasnosti funkcionisanja finansijskog tržišta.¹¹³

Finansijska tržišta predstavljaju onajznačajniji i najosetljiviji deo ukupnog ekonomskog i finansijskog sistema svake zemlje. Ona omogućavaju normalno i nesmetano funkcionisanje nacionalne ekonomije. Finansijska tržišta imaju veliki značaj za razvoj proizvodnje, povećanje društvenog proizvoda i ostvarivanje akumulacije. Osnovne funkcije finansijskih tržišta u kojima se ogleda sam njihov značaj su funkcija povezivanja, alokativna funkcija, funkcija razvoja, funkcija efikasnosti, funkcija pouzdanosti i funkcija smanjivanja troškova.

7. ZAKLJUČAK

Razvijeno i efikasno finansijsko tržište je osnova ekonomskog rasta, razvoja i blagostanja tržišne privrede. Osnovna uloga finansijskog tržišta je preusmeravanje finansijskih sredstava od onih koji su uštedeli novčane viškove trošeći manje od dohotka do onih kojima nedostaju novčana sredstva, jer žele da troše više od dohotka. Finansijsko tržište treba da omogući lakše susretanje suficitarnih i deficitarnih subjekata i brže obavljanje finansijskih transakcija. Ovu funkciju ono realizuje direktno ili indirektno. Pored funkcije povezivanja suficitarnih i deficitarnih subjekata finansijsko tržište u finansijskom sistemu svake ekonomije obavlja i druge, ne manje važne funkcije. Jedna od njih odnosi se na efikasnu mobilizaciju i optimalnu alokaciju finansijskih sredstava. Takođe jedna od važnijih funkcija finansijskog tržišta je povećanje profitabilnosti i efikasnosti poslovanja.

Finansijsko tržište stvara brzu i transparentnu informacionu osnovu za praćenje poslovanja registrovanih kompanija. Ukoliko je potencijalni kupac bolje informisan i ukoliko očekuje dobar novčani tok, on će biti spreman da plati višu cenu za hartije od vrednosti od potencijalnih kupaca koji su loše informisani. Zahvaljujući funkcionisanju finansijskog tržišta postiže se kvantite, kvalitet i kontinuitet u obavljanju finansijskih transakcija.

Razvijeno finansijsko tržište obezbeđuje lakši ulazak stranog kapitala, što je posebno značajno za zemlje koje imaju deficit finansijskih sredstava. Može se zaključiti da razvijeno finansijsko tržište dovodi do povećanja broja emitovanih kvalitetnih hartija od vrednosti, povećanja broja finansijskih transakcija i ukupnog kapitala.

REFERENCE

1. Vasiljević dr Branko, „Rizici u bankarskom poslovanju“, Fokus, Beograd, 1990.
2. Vemić dr Milan, „Nauka o finansijskom menadžmentu“, CEKOM-books, Novi Sad, 2008., str. 267

¹¹³Jakšić dr. Milena, „Finansijsko tržište, instrumenti i institucije“, Kragujevac, 2011, strana 18

3. Erić dr Dejan, "Finansijska tržišta I instrumenti", II izmenjemo I dopunjeno izdanje, Beograd, 2003
4. ŽivkovićBoško, Mishkin S. Frederic, ErićDejan, „Monetarnaekonomija, bankarstvo i finansijskatržišta“, Beograd, 2006
5. Zebić Milorad, "O bezama i posebno o Beogradskoj berzi", Mladost, Beograd, str.15
6. Jakšić dr. Milena, „Finansijskotržište, instrumenti i institucije“, Kragujevac, 2011
7. Jovanovski dr T., "Finansijski pazar", Ekonomski centar , Skoplje, 1994., str.282
8. Kukoleča dr Stevan, „Organizaciono poslovni leksikon“, Rad, Beograd, 1986., str. 991
9. <http://www.fxlider.com/edukacija/asrdevizni-kurs>(datum 06.12.2014.)
10. Sajt Srpski citatni indeks: <http://scindeks.ceon.rs>

GLOBAL COMPETITIVENESS AND FISCAL POLICY

Aleksandra Đurić

Univerzitet u Kragujevcu, Ekonomski fakultet, Serbia

Abstract: Modern world globalism is characterized by a network linking countries, capital, institutions and people in an interdependent economy with a liberalized world trade, and growing direct foreign investments and a global outlook on market competitiveness. In formalizing alternative global strategies, the strategic management starts with an analysis of the global environment and information from the global market in order to assess global trends in the fields of economy, politics, culture, technology and risk, in order to determine global corporate goals related to areas such as profitability, marketing, finance, production, research and development [1].

In this constellation, the so called multifocal strategic alternative is relevant, which works on identifying advantages of world-wide integration and forging strategic alliances which represent the quickest manners to implement a global strategy. Global strategic alliances are, in fact, partnerships of two or more enterprises across national borders, with a goal to avoid export-import barriers, fair division of expenses and development costs, improving competitive position, joint venturing and licensed arrangements, as well as joining forces in order to reach economy of scale in the area of components production, installation of products, and marketing. Strategic alliances can readily represent completely novel global partnerships, such as FORD (USA) and MAZDA (Japan) who are aiming to become first-class world leaders. This is the “Novel” road to developing “novel” sources of competitive advantages [2].

Keywords: global competitiveness, strategic alliances, fiscal policy, tax competitiveness, tax restructuring.

1. UVOD

Bela knjiga Ekonomske komisije EU pokrenula je pitanje održivosti rasta evropskih privreda uz očuvanje međunarodne konkurentnosti i otklanjanje rigidnosti na strukturnom planu, radi povećanja globalne konkurencije. Eksperti EU ukazali su na prednosti i slabosti konkurentskog položaja globalizacije privrede. Radi stvaranja bazičnih uslova za očekivano delovanje politike globalne konkurentnosti Evropski savet je akceptirao sledeće ciljeve:

- (1) vladine intervencije u privredi moraju se usredsrediti na rast tržišta i na razvoj grana sa snažnim konkurentskim potencijalima,
- (2) vladine intervencije moraju da otklone konfliktnosti između konkurentnosti i otvaranja novih radnih mesta,
- (3) poreska opterećenja moraju se redistribuirati tako da se smanje opterećenja radne snage kako bi se povećali konkurentnost i poreska opterećenja u korišćenju prirodnih resursa,

- (4) vlade moraju da unaprede ljudski kapital, tj. investicije u znanja, koje moraju biti vrhunski prioritet generalne politike konkurentnosti,
- (5) oživeti potrošnju i ojačati interakciju između promena u ponudi i tražnji na međunarodnom nivou,
- (6) stimulisati one oblike rasta koji proizvode veću konkurentnost i kratkoročnim merama jačanja konkurentnosti promovisati brži privredni rast, i
- (7) jačati fundamentalne sposobnosti sticanja novih znanja i veština u funkciji širenja novih tehnologija i novih oblika konkurentnosti[3].

2. KONTROLA JAVIH RASHODA

Evropski savet uticao je na brojne vlade zemalja EU da smanje poreze i doprinose u odnosu na društveni proizvod i da pojačaju kontrolu javnih rashoda. Visina i struktura poreza na zarade i doprinose za socijalno osiguranje imaju direktan uticaj na rast konkurentnosti i zaposlenosti. „Porezi i doprinosi koji direktno terete rad iznose 23,5% društvenog pro-izvoda EU, što je više od polovine ukupnih poreza i doprinosa (40%).“ Visoki troškovi rada zbog poreza i doprinosa, primoravaju firme na otpuštanje radnika ili njihovo prealociranje u sivu ekonomiju, uz obaranje nivoa konkurentnosti [4]. Reformisana poreska politika trebalo bi da utiče na promenu dosadašnjeg modela razvoja, koji je vodio suboptimalnoj kombi-naciji radne snage i prirodnih resursa. Sadašnji model razvoja karakteriše se preleranim korišćenjem prirodnih resursa i nedovoljnim korišćenjem ljudskih resursa, uglavnom zbog rdave poreske politike. Iz tih razloga Ekonomski savet je ukazao na potrebu za jednom strateškom makroekonomskom poreskom politikom koja će svojim instrumentima stimulisati snažnije korišćenje ljudskih resursa. Među zamišljenim instrumentima posebno se ističu indirektni porezi na zagađivanje okoline (zbog eksternih društvenih troškova), smanjenje poreza kao moćno sredstvo za stimulisavanje ekonomskih aktivnosti i razvoja internog tržišta koje respektuje međunarodne konkurentske sile. Tranzicija ka novom modelu „održivog“ razvoja implicira i razvoj tržišnih motivacija i preispitivanje mikroekonomske politike u funkciji jačanja globalne konkurentnosti. Kako živimo u istom megaselu – tehnička, komunikaciona i kompjuterska revolucija omogućavaju munjevito prebacivanje firmi, fabrika i kapitala (u cilju zgrtanja profita) na nove konkurentske osnove. „Sledi i investiraj“ i „bogati se i množi se“ jesu novi izazovi i za konkurentsku globalnu i strukturnu politiku, koja treba da nauči azijsku lekciju: Kina koja ima 1,2 mlrd. stanovnika ubrala je tokom 1995. godine manje poreza na imovinu od Mađarske. Azijska kompetencija državnih struktura, preko redukcije socijalnih davanja iz javne kase, baca rukavice konkurentskih izazova [5].

Današnje države konkurišu jedna drugoj u borbi za uvećavanje konkurentnosti nacionalnih firmi. Firme stoje sada iza nacionalnih država, a države iza firmi. Zbog toga se makromenadžment više ne odnosi samo na makroekonomsku politiku već na čitavu paletu aktivnosti države, kao što su savetodavne, regulatorne, podsticajne i infrastrukturne aktivnosti, posredstvom kojih vlada pomaže domaće firme. I pošto se vlade poistovećuju sa svojim firmama (u nastojanjima da osvoje veći udeo na svetskom tržištu), to i makromenadžment sve više postaje konkurentski. U multifunkcionalnim procesima tržište rada ostaje nacionalno, tržište roba i usluga postaje regionalno, tržište kapitala postaje

globalno. To pak reflektuje izmene u makromenadžment funkcijama. Sposobnosti individualnih transnacionalnih kompanija (TNK) sada bivaju upotpunjene strateškim alijansama čiji je cilj osvajanje tržišta i novih tehnologija, kao i stvaranje neraskidive veze između firme i države. Dobro državno upravljanje treba da pomogne firmama u krizi – putem povećanja njihove snage i konkurentnosti. To je u osnovi koncept makromenadžmenta koji prevazilazi individualističko vođenje firme van konteksta okruženja [6]. Internacionalizacija tržišta neraskidivo povezuje korporativni i državni menadžment u makromenadžment. Sada tradicionalne forme stranih direktnih investicija i osnivanje filijala bivaju dopunjene suptilnim formama franšizinga, IR konzorcijuma i finansijskog partnerstva, koji postaju ugaoni oslonci poslovnih alijansi i mreža. Oni brišu razlike između poslovnih i državnih identiteta, stvaranjem integrisanih internacionalnih proizvodnih sistema u kojima transnacionalne kompanije svoje poslovne funkcije regionalno i nacionalno dislociraju. Time se faktički stvaraju razudene mreže, responzivne na razlike u nivou razvijenosti i kvaliteta državnog upravljanja sa ciljem da se ostvari održivi razvoj kao paradigma tehnološkog i informacionog razvoja u funkciji rasta konkurentnosti.

3. PORESKA KONKURENTNOST I PRESTRUKTURIRANJE

Danas su, međutim, dostignuti nivo državnog ingeriranja u tržišni i privredni mehanizam [7] i dosegnuti nivo fiskalnog opterećenja, nezaobilazni suštinski test provere u vrednovanju efekata javnog sektora. Zato u prvi plan izbijaju problemi i dileme [8]:

- (1) da li porezi guše podsticaje za radom, štednjom i investicijama,
- (2) kako i koliko porezi utiču na sveukupnu alokaciju privrednih resursa i redistribuciju dohotka,
- (3) kakve su i kolike koristi od državnih ulaganja,
- (4) kakvi efekti proističu iz vladinih programa izdataka,
- (5) koliko je privredni sektor istisnut sa tržišta hartija od vrednosti i
- (6) koje su perspektive javnog sektora u budućnosti, koji traže decidirane odgovore i nove alternative.

Valja otvoriti i zatvoriti novi krug o značaju i dometu fiskalne politike u okviru makroekonomske politike. Izgleda da je izdaleka započeta monetaristička kontrarevolucija protiv posleratne kejnzijanske revolucije uticala na ponovno oživljavanje značaja nekada pouzdane fiskalne politike; ali se sada nova „fiskalna revolucija“ situira u okvir teorije ekonomike ponude [9], u čijem se epicentru nalazi princip poreskih sniženja u funkciji „osemenjavanja rasta“. Trijada: rad-štednja-investicije upravo se bazira na politici redukcije fiskalnog opterećenja, koja osigurava povratak ekonomskom biznisu oslobođenog korektiva državnog intervencionizma [10].

Ekonomika ponude, dakle, teži da izvrši fiskalnu „kontrarevoluciju“ u demontaži „države blagostanja“ u okviru posustale kejnzijanske revolucije, koja je socijalnom kompozicijom potrošnje unazadila javni sector [11].

Zagovarači ove ideje teže sprovođenju implicitno uravnoteženog budžeta u kome je poreski prihod prilagođen ekonomskom sistemu prema vladinim rashodima. Ukupni dohodni efekti, u takvom okruženju, mogu da se jave jedino ukoliko se primer vladinih rashoda suštinski razlikuje od primera rashoda koji bi rezultirali u nedostatku državne intervencije. Tada se i fokus analize poreske politike pomera na ispitivanje značaja supstitucionih efekata, koji su neminovna posledica kretanja relativnih cena izazvanih poreskim promenama. Zato pristalice Laffero-ve krive u teoriji ekonomike ponude i tvrde da bi smanjivanje sadašnjih visokih poreskih stopa vodilo prividnom smanjivanju prihoda od poreza, jer smanjenje poreskih stopa, koje vodi smanjenju prihoda, prati smanjenje cene (povećanje čistog prihoda) i vodi takvom porastu tražnje za robom (ponuda radne snage) kao da znači porast poreza u celini; dakle, poput objašnjenja Cantoa, Joines i Laffera zasnovanog na mikroekonomskim neoklasičnim pretpostavkama. Smanjivanje marginalne poreske slope može da obezbeđuje podsticaj radnoj snazi da izlazi iz „skrivene privrede“ iz čega proizlazi povećanje prihoda od poreza, što je potpuno u skladu sa neoklasičnim okvi-rom. Roberts, pak, smatra da je ovaj pristup važan i za kratkoročna makroekonomska razmatranja, posebno ako privreda preživljava nezaposlenost i ako poreska sniženja stimulisu privredu, potrošačka očekivanja i likvidnost. Potencijalni kratkoročni makroekonomski efekal posebno dolazi do izražaja u meri u kojoj poresko smanjenje stimuliše privrednu aktivnost tako da rezultanta porasta u transakcijama tražnje za novcem dopušta vladi da finansira pojedine rashode putem kreiranja novca. Pošto smanjivanje poreskih stopa vodi porastu prihoda jedino kada su poreske stope izuzetno visoke, pristalice Lafferove krive plediraju na poresku reformu, koja povlači smanjenje najvećih marginalnih poreskih stopa na prihod (Wanniski i Laffer), da bi se državna intervencija u po-slovanju privatnih tržišta pojavila na najefikasniji način [12].

Efekti fiskalnog programa na planu ponude upravo treba da proisteknu iz amelioracije relativnih cena rada, štednje i investicija koje rezultiraju iz smanjenja poreza. Oficijelna predviđanja idu za tim da modifikacije sa reformom reglamentacije i redukcije budžetskih rashoda i socijalnih transfera diferenciranim podsticajima štednje, amelioracijom abatmana za amortizaciju i olakšavanjem investicionih plasmana, promovišu i konstituišu u „glavni motor“ akceleracije ekonomske aktivnosti i ponude u realnim okvirima. Međutim, postoji evidentna konfliktnost ciljeva: suzbiti nezaposlenost po cenu inflacije i deficita platnog bilansa ili smanjiti inflaciju uz nezaposlenost i pad proizvodnje, implicira oprezno odabiranje prioriteta među datim alternativnim ciljevima. Nezaposlenost se, u kontekstu smanjenja inflacije, može redukovati merama fiskalne politike i to tako što valja smanjivati „odliv“ smanjenjem poreza i povećati „priliv“ povećanjem državnih izdataka radi simultanog delovanja na liniji „odliva“ (linija štednje) i liniji „priliva“ (linija investicija) [13].

Svaka poreska reforma, po reformatorima, ima unapred postavljena dva cilja: podsticanje stvaranja bogatstva i njegova pravedna raspodela. A to sa svoje strane treba da doprinese sniženju ukupnog poreskog opterećenja, smanjenju udela države u privrednim aktivnostima, podsticanju rasta akumulacije i kapitala i stimuliranju inovacija. Teorijski posmatrano, oporezivanje po definiciji koči rast na tri načina: prvo, preterano oporezivanje može iskriviti izbor između rada i dokolice i između oporezivih i neoporezivih delatnosti; drugo, previsoko oporezivanje dohotka isključuje izbor između sadašnje i buduće potrošnje, favorizujući sadašnju potrošnju i isključujući štednju (a preko povećanja kamatne stope i investicija i tehnološki napredak) i, treće, preostro oporezivanje dohotka obuzdava sklonost ka

preuzimanju rizika i slabi međunarodnu konkurenciju. Tako nastupa kumulativni proces, koji implicira povećanje subvencija (kao zaštitni instrument), koje se moraju finansirati ili direktnim povećanjem poreza ili stvaranjem sve većeg budžetskog deficita, koji dovodi do anticipiranja viših poreza u budućnosti.

Fiskalna zahvatanja trebalo bi stabilizovati i fiksirati na 20%–35% od ostvarenog dohotka. Naše je, međutim, mišljenje da u fazi osnivanja preduzeća, uhodavanja proizvodnog procesa i tržišnog selekcionisanja proizvodnog programa ukupno poresko opterećenje ne bi trebalo da pređe granicu od 1/5 ostvarene dobiti (dakle, poreska stopa bi iznosila 20%). U drugoj fazi, u kojoj dolazi do izražaja reprodukcija uloženog kapitala, poreska stopa bi iznosila 25% (tj. 1/4 od ostvarene dobiti). Konačno, u trećoj fazi, kada biznis dostigne zavidan nivo (evropski prošek), na poreski teret ne bi smelo da ode više od 1/3 ostvarenog profita – poreska stopa 33%.

Doprinosi ne bi trebalo podjednako da pogađaju mala preduzeća, jer svi „privatnici“ nisu korisnici usluga društvenih i socijalnih delatnosti.

Oslobođenje od poreza treba omogućiti za obveznike koji prvi put počinju sa obavljanjem delatnosti u trajanju od dve godine, za obveznike koji ulažu sredstva za kupovinu i izgradnju poslovnog prostora, nabavku nove opreme, izgradnju proizvodnih kapaciteta, modernizaciju i novu tehnologiju u trajanju od 2 do 3 godine (dok se uložena sredstva ne reprodukuju), za obveznike povratnike iz inostranstva za uvezenu opremu u trajanju od 1 do 2 godine, i za obveznike koji upošljavaju „pripravnike“ i invalide rada u trajanju od 1 do 2 godine.

Malim preduzećima treba omogućiti poreske beneficije i to onim obveznicima koji prvi put počinju sa obavljanjem delatnosti na sledeći način: za prve dve godine porez se ne plaća (oslobođenje 100%), u trećoj godini porez se plaća u iznosu od 25% ukupno razrezanog poreza, u četvrtoj godini porez iznosi 50% od utvrđenog poreza, i u petoj godini porez bi iznosio 75% od ukupno razrezanog poreza.

Prestrukturiranje domaće privrede preko ulaska novih malih i srednjih preduzeća (tzv. krovni projekat), postavljanje preduzetničkih inkubatora (pilotnih, novih, internih i opštih), u funkciji podsticaja preduzetništva, menadžmenta i korporacijskih finansija, nabavka know-how, SPEDA i poslovne komunikacije sa Saveznom agencijom za mala i srednja preduzeća i preduzetništvo valja u potpunosti osloboditi plaćanja poreza (i doprinosa) iz dobiti (i ličnog dohotka) u toku narednih 5–7 godina, pošto se radi „o stvarima od neprocenjive vrednosti za 21 vek“.[14]

Lombardni i hipotekarni (kao i eskontni kontokorentni) kredit, kao elemenat sigurnosti poverioca, reflektuju u osnovi svojinski odnos i sigurnost ulagača kapitala. Poreska politika, u tom kontekstu, treba da podstakne razvoj lombardnog kredita i hipoteka u prestrukturiranju jednostrane društvene svojine pluralizacije svojinskih odnosa.

Prodaja znanja o preduzetništvu, menadžerstvu i korporacijskih finansija jeste novo srpsko zanimanje u okviru već poznatog i razvijenog menadžment konsaltinga i afirmisanih konsultantnih firmi. Taj koncept mora biti institucionalno podržan, prvenstveno fiskalnom politikom. Kad to konstatujemo, imamo u vidu potrebu poreske stimulacije stvaranja novih malih i srednjih preduzeća, prestrukturiranje jezgra velikih preduzeća (transformacija matičnih preduzeća) i pravljenja koalicija univerziteta i biznisa za podržavanje preduzetništva, kao instrumenta prestrukturiranja. Preduzetnički i menadžerski razvoj uvek reflektuju rizične

poslove i poduhvate. Zato su potrebne finansijske institucije tipa riziko kapital čije formiranje mora imati neporeski tretman. Za to je potrebno i znanje – domaće i strano – čiji „nosioci“ moraju biti korisnici generalnih poreskih beneficija. Perspektivni razvoj najavljene ere „finansijskih supermarketa“ kada će tehnologija i deregulacija omogućiti opštu konkurenciju između bankara, berzanskih brokera i osiguravajućih kompanija, isto tako, implicira poreske stimulacije. Poduhvati za kolektivne investicije u prenosive vrednosne papire, tj. jedinice trustalnog preduslova za slobodan protok ka-pitala i razvoj finansijskog tržišta, takođe, mogu biti predmet poreskih podsticaja.

Prelaz iz dužničke u preduzetničku ekonomiju po definiciji mora biti fiskalno podržavan. Neadekvatan poreski sistem (veliki stepen njegove nepotrebne decentralizacije, ogromno poresko opterećenje, velike regionalne razlike u poreskim tretmanima, decenijsko izostajanje poreza na profit pravnih lica i progresivnog oporezivanja fizičkih lica, egzistencija poreza na promet umesto poreza na dodatnu vrednost) jeste „teška“ prepreka za razvoj biznisa i za integraciju Srbije u Evropi. Razlike u visini poreskih tereta i načinu oporezivanja smetnja su za ulaganje privatnog, domaćeg i stranog kapitala, i za razvoj preduzetničke ekonomije. Prevelika poreska opterećenja, koja su zasnovana na oporezivanju potrošnje, uvoza i ličnih dohodaka, u Srbiji se kompenziraju izrazito niskim platama (premale neto zarade). Razlike u opterećenju plata su predimenzionirane i kreću se od 30% do 100% (porezi i doprinosi na neto plate). No, vlasnike preduzeća i poslodavce ne interesuje neto plata nego bruto plata koja je trošak preduzeća. Oni čak prave razliku između poreza i doprinosa i nemaju razumevanja za obavezne zajmove i udruživanje sredstava. Za njih je izuzetno važna integracija poreza i doprinosa i eliminacija parafiskalnih da-vanja. Za vlasnike preduzeća poreska osnovica jedino može biti dobit. Nije im neophodna jedinstvena poreska stopa u čitavoj zemlji, jer i poreska konkurencija republika i pokrajina može dati pozitivne rezultate. Važno im je jedino da utvrđene poreske stope na profit budu stabilne. Granična poreska opterećenja inkorporiraju informacije o tome u kojoj meri dodatna dobit iz dodatne investicije podleže oporezivanju. Granično oporezivanje je, prema tome, odlučujuća veličina za kalkulaciju investicionih poduhvata u preduzeću [15].

Zapadnoevropske zemlje su sprovele poreske reforme gotovo u tri faze tako da su „Velike“ poreske reforme osetno reducirale granična fiskalna opterećenja za primaoca plata i za vlasnike malih i srednjih predu-zeća, što bi i Srbija mogla da iskoristi kao pozitivno iskustvo.

Razvojni ciklus i privatizacija jesu ključne poluge izvlačenja privrede iz recesije koja je iznuđena zbog obaranja inflacije. Sada je na potezu razvojni ciklus i obavljanje stabilnog rasta na trajnim osnovama u čijem je epicentru otvaranje procesa prestrukturiranja preduzeća. No, prestrukturiranje privrede nije moguće bez integralne transformacije svojine i ubacivanja dodatnog kvantuma svežeg kapitala. Razvojni ciklus integrisao bi preduzetnički i infrastrukturni tip. U teoriji izmodeliranih razvojnih ciklusa preduzetnik je epicentralna tačka u prvom tipu razvojnog ciklusa, koji daje pečat biznisu u predominantnim tržišnim uslovima predviđanja čiji je movens poslovanja – profit. Država je, pak, nosilac drugog tipa razvojnog ciklusa, koji obezbeđuje razvoj infrastrukturnih grana kao bazične pretpostavke razvoja celokupne privrede (iako za njih nisu ne-posredno finansijski zainteresovani privatni preduzetnici). I jedan i drugi tip razvojnog ciklusa moraju biti podržani poreskom politikom, pogotovu ako su u funkciji prestrukturiranja preduzeća i privrede. Mere fiskalne politike

upravo iz tih razloga treba da stimuliraju ulaganja u razvojne projekte koji garantuju, na kratak i srednji rok, povraćaj uloženih sredstava, ulaganja u izvozno orijentisane projekte, ulaganja u nove tehnologije, ulaganja u revitalizaciju eko-ravnoteže, ulaganja u fond rizika kapitala (koji podržava biznis malih i srednjih preduzeća), ulaganja u transformaciju matičnih preduzeća i privatizaciju, ali i ulaganja u preduzetnički duh i menadžere. Iza toga treba da stoji promotivna uloga države, koja preko inovativnih centara i agencijskih institucija i projektnih jedinica „osigurava“ privlačenje inostranog privatnog kapitala, svojinsko prestrukturiranje, finansijsku podršku malim i srednjim preduzećima, poresku i kreditnu stimulaciju na kratak i srednji rok, i pomeranje težišta sa energetske-sirovinskog razvoja na visoko produktivne i inovativno-tehnološke intenzivne projekte sa izvoznom propulzivnošću i sa impulsiranjem amelioracije privredne strukture. Na to se nadovezuje preduzetničko-menadžerski duh koji se ogleda u smanjivanju potrošnje energije i sirovina, repromaterijala i radne snage po jedinici proizvoda, u podizanju produktivnosti rada, nivoa organizacije i efikasnosti poslovanja, u podizanju neophodnog kvaliteta i dizajna, i razvoju marketinga i propagande.

Ali, novu tržišnu konkurentnost mora da prati i nova fiskalna konkurentnost, koja se logikom „ekonomike ponude“ ispoljava kroz poresku redukciju (sniženje poreskih stopa), koja se pozitivno-podsticajno efektira povećanjem akumulacije i produktivnog investiranja, proširenjem proizvodnih kapaciteta i povećanjem zaposlenosti [16]. Isto tako, i realokacija resursa, kao suština preduzetničkog procesa, od manjih ka većim upotrebnim vrednostima mora da prati realokaciju fiskalnog tereta od većih ka manjim poreskim stopama. Tako dolazimo do toga da i profitni račun, koji se izvodi iz realokacije resursa sa poslovnim rizikom, mora da sledi poreski račun kao stimulator za povećanje poslovnog efekta i kao nagodba za preuzeti rizik.

U današnje vreme, i posrednici i neposrednici, i radnici i menadžeri, i preduzetnici i rentijeri, i službenici i nezaposleni želeli bi da utiču na poresku politiku, pošto bogati uvek teže da plaćaju što manje poreza (dok siromašni smatraju da plaćaju neposredno mnogo državi). To što važi za pojedince, važi i za preduzeća i za područja. Ali to ne znači da poreska politika mora biti uniformna, pošto transformaciji poreza pogoduje raznolikost. I upravo različita poreska opterećenja po republikama privlače oskudne i seljive kapitale – domaći i strani, jer tu sada dolaze do izražaja poreske olakšice i koncesije. To, pak, znači da poreski sistem ne mora biti jedinstven po svaku cenu. On mora biti samo racionalan i efikasan. Pri tom, novi poreski sistem, mora biti moderan po ugledu na reformisane poreske sisteme zemalja EZ/EU, koji anglobiraju proporcionalni porez na dobit preduzeća, odnosno kompanija (oporezivanje pravnih lica), progresivni porez na dohodak pojedinaca (oporezivanje fizičkih lica), i porez na dodatu vrednost (VAT ili TVA), itd. Konačno, poreski sistem mora biti stabilan, jer je to osnovna pretpostavka za ulaganje privatnog domaćeg i inostranog kapitala koji se prvi oslobađa nacionalnog romantizma, zalaže za uspostavljanje efikasnog sistema ekonomskih funkcija savezne države, zahteva uspostavljanje ekonomske unije i profitno recikliranje sinteze ekonomskih interesa kapitala, pledira na ekonomsko prestrukturiranje (kao membrane ekonomske dezintegriranosti), insistira na efikasnosti u ponudi javnih dobara od strane savezne države (koja je jeftinija od produkcije federalnih jedinica). Samo tada se potpuno shvata klasična konstatacija da „oni koji su u suštini jednaki treba jednako da budu i oporezovani“, i da ekonomski nejednaki treba da budu i nejednako

oporezovani. Samo tako se može shvatiti činjenica da se poreski mehanizam ne doživljava kao nejednako oporezivanje Slovenca, Hrvata, Srbina, itd., jer su poreski obveznici građani, koji se (ne)jednako oporezuju u zavisnosti od ekonomske snage. Istorija našeg razvoja poreskog sistema učinila je, doduše, da ne delujemo kao tržišni agensi nego kao pripadnici partije, nacije, religije i regiona. Takav tok događaja omogućava i rang jugoslovenskog paradoksa „od čvrste federacije ka labavoj konfederaciji“, odnosno situacija kada „ni čvrsta federacija ni klimava konfederacija ne predstavlja oblik istinske ekonomske unije.“ [17] To, pak, ne znači da treba graditi jedinstveni poreski sistem sa prepoznatljivim centralističkim silama i integralni sistem finansiranja federacije sa skrivenim unitarističkim apetitima. Novi pristup fiskalnom mehanizmu treba da polazi od zajedničkih interesa svih republika, koji podrazumevaju razučivanje poreskog sistema i načina finansiranja savezne države. Tako se jača poreska konkurentnost između federalnih jedinica, kojima pripada izvorni fiskalni suverenitet na osnovu čega se mobilišu i koncentrišu poreski resursi. Na to se nadovezuje distribucija poreskih resursa za finansiranje zajedničkih funkcija savezne zajedničke države (federacija) na principu srazmernog učešća svake republike u društvenom proizvodu.

Vlada se, po logici, okupira problemom transformacije društvene svojine, pošto svojinsko prestrukturiranje shvata kao sredstvo u funkciji povećanja efikasnosti postojećeg kapitala i rekapitalizacije, odnosno obezbeđenja dodatnog kapitala za novi razvojni ciklus. U tom sklopu, država bi sticala pravo svojine ili susvojine u preduzeću na isti način kao i druga pravna ili fizička lica – kupovinom preduzeća ili dela preduzeća. No, ovaj proces ne prati fino komponovana i skladno dozirana politika, koja bi naročito došla do izražaja u momentu prodaje preduzeća zaposlenim radnicima [18]. Zaposleni radnici, kao kupci preduzeća, dobijali bi specijalne poreske olakšice i beneficije u zavisnosti od toga da li koriste bankarski kredit koji bi se otplaćivao iz budućeg profita ili koriste obveznice koje primaju umesto dela ličnog dohotka. Tu je i pitanje da li se dividende, kao prihod, koje se ponovo ulažu u kupovinu akcija mogu u potpunosti osloboditi od poreza.

4. REZIME

Srednjoročna fiskalna politika praćena poreskom reformom u osnovi treba da vodi ka sveobuhvatnom sniženju direktnih poreza i preduzeća i preduzetnika uporedo sa rastućim trendom fiskalnih podsticaja i stimulansa da bi se oslobodilo dejstvo tržišnih sila. Poreska kvota mora biti drastično reducirana da bi se poboljšale ekonomske performanse malih i srednjih preduzeća u skladu sa intencijama poreskih reformi, gotovo u svim zemljama OECD i EU. Rastuća međunarodna integracija i slobodno kretanje kapitala već stvaraju pogodnosti za proizvodno preseljenje po oblastima i regionima u kojima se profili oporezuju po relativno niskim poreskim stopama i sa relativno značajnim fiskalnim bonifikacijama i koncesijama. To je nagnalo brojne vlade da se okrenu politici snižavanja tereta poreza na poslovnu aktivnost, poreza na neto imovinu i poreza na nepokretnosti, i ukidanju poreza pri inkorporisanju i poreza na transfer deonica na berzi [19]. A taj „uspeh“ u zaokretu meriče se u zavisnosti od toga da li je ostvaren cilj u oslobađanju preduzetničkih performansi izraženih kroz poreze, da li je rastući proizvodni potencijal ekonomije održao „konkurentnost“ i da li je moguće održanje porasta broja zaposlenih. Koncepti reforme oporezivanja malih i srednjih preduzeća

u 90-im godina-ma zato i teže da doprinesu trajnim poboljšanjima klime za inovacije i investicije, da odstranjuju fiskalne diskriminacije deoničarskog kapitala u odnosu na dužničke obaveze po zajmovima, da uvažavaju princip neutralnosti u odnosu na „zakonski“ oblik preduzeća i da doprinesu uprošćavanju poreskih zakona uzimanjem u obzir međunarodna kretanja na fiskalnom planu.

REFERENCE

- 1) Rugman, A. i Hodgetts, R. 1995. *International Business, a Strategic Management Approach*, McGraw-Hill, N. York, i Lei, D. *Strategies Global Competition, Long Range Planing* 1/89. str. 26.
- 2) Milićević, V. *Globalna konkurencija i strategijske alijanse*. Direktor 12/95, str. 16-20.
- 3) European Commission, *Growth*, 1994. *Competitiveness, Employment*, Luxemburg-Brussels, str. 71.
- 4) OECD, 1994. *Taxation and Small Business*, Paris, str. 42.
- 5) Salin, P. 1995. *La Concurrence*, P.U.F., Paris, str. 18.
- 6) Boyd, G. (Red.). 1995. *Competitive and Cooperative Macromanagement*, E. Elgar, str. 56. I. Ristić, K. Komazec, S. i Ristić, Ž. 2013. *Globalni finansijski menadžment*, Etnostil, Beograd, str. 404.
- 7) Dobson, W. 1991. *Economic Policy Coordination*, Institut for International Economics, Washington, str. 95.
- 8) Aschauer D. A. i Greenwood, J. 1985. *Macroeconomic Effects of Fiscal Policy*, u K. Brunner i H. H. Meltzer, *The „New Monetary Economics“*, Fiscal Issues and Unemployment, North-Holland, Amsterdam, str.91–138.
- 9) Taylor, L. 1983. *Structuralist Macroeconomics*, Basic books, N. York, str. 41.
- 10) Ražin, A. i Slemrod, J. 1990. (Ed.), *Taxation in the Global Economy*, Chicago/London, University of Chicago Press, str. 18
- 11) Saunders, P i Klau, F. 1985. *The Role of the Public Sector – Causes and Consequences of the Growth of Government*, OECD, Paris, str. 74.
- 12) Ristić, Ž. i Cemović, R. 1989. *Monetarizam, strukturalizam*, Institut za unapređenje robnog prometa, Beograd, str. 318.
- 13) Agllcta, A. i Brendes, A. 1990. *Globalisation, financiere et risque de systeme*, Cahires economiques et monetaires, br. 37, str. 37–71
- 14) Ristić, Ž. ,Komazec, S. i Kovač, J. 1993. *Poreska ekonomija*, ABC Glas, Beograd, str. 141. i Ristić, K. i Ristić, Ž. 2012. *Fiskalna ekonomija*, Etnostil, Beo

FACTORS THAT CONTRIBUTE TO SME INNOVATIVENESS IN SOUTH-EAST SERBIA

Marko Todorović, Bili Petrović, Ana Pavlović

Univerzitet u Beogradu, Tehnički fakultet u Boru, Serbia

Abstract: 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. The study was conducted in 103 organizations. Of all the companies, there were 57 micro enterprises, 36 small enterprises and 10 medium-sized companies. Binary regression was used for data processing.

Keywords: SME, innovativeness, transition economy

1. UVOD

Pokretačem ekonomskog razvoja svake zemlje smatraju se mala i srednja preduzeća. Jedan od primarnih načina da se ispuni ovaj zadatak je da se razvijaju i komercijalizuju inovacije (Radaš et. al., 2009) Sposobnost da se inovira je bitna kod održavanja konkurentske prednosti. Inovacija je neophodna za opstanak modernih organizacija (Chen et.al., 2010, Subramaniam et.al., 2005). Većina autora se slaže da su inovacije bitnije čak SME sektoru, nego velikim organizacijama (Fritz, 1989; Sweeney 1983) 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 pronalazjenju 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 (Arsić et. al., 2014).

Većina istraživanja koje se bave pitanjima inovativnosti u SME sektoru dolaze iz razvijenih zemalja (Keizer et.al., 2002). U ovom radu mi ispitujeemo koji faktori značajno utiču na inovativne napore u jugoistočnoj Srbiji, privredi u razvoju. 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.

Ovaj rad istražuje 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 vrsta inovacija u organizaciji.

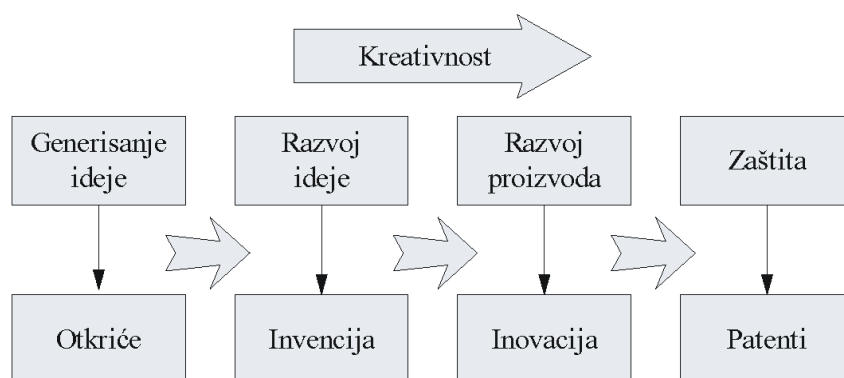
Teorijski deo rada ima za cilj da objasni pojam inovativnost i značajne faktore koji pozitivno ili negativno utiču na inovativne aktivnosti u ispitivanim organizacijama. U istraživačkom delu rada biće prikazani rezultati istraživanja sprovedenog među vlasnicima mikro, malih i srednjih preduzeća koji ispituje stepen njihovih inovativnih aktivnosti i koji unutrašnji i spoljašnji faktori imaju najveći uticaj na njih. Anketni listić se sastoji iz dva dela. Prvi deo identifikuje faktore, a drugi prepreke inovativnim aktivnostima. Za obradu podataka biće korišćen softverski paket SPSS 18.0.

2. LITERATURNI DEO

Inovaciju, kao preduzetnički pojam, Piter Draker (Peter Ferdinand Drucker 1909-2005) određuje kao: „Specifično orudje preduzetnika, sredstvo kojim oni koriste promene kao povoljne prilike za neki drugi posao ili uslužnu delatnost, pa stoga, preduzetnici moraju stvarati nešto novo, oni moraju menjati ili preobražavati vrednosti“ (Drucker, 1985).

Na osnovu veličine promena koje sa sobom nose, inovacije se dele na:

- 1) **Epohalne inovacije** koje obeležavaju jedan duži vremenski period. Epohalne inovacije drastično menjaju pravila igre na tržištu. Npr: pronalazak vatre, pronalazak pisma, nastanak Interneta – svaki na svoj način su izmenili svet.
- 2) **Konzervativne inovacije** koje uvode manje, korisne promene u svakodnevni život. Povećanje štedljivosti motora, uvođenje ekrana veće rezolucije kod mobilnih telefona, ili reorganizacija sektora u preduzeću su primeri konzervativnih promena.
- 3) **Inovacija zasnovana na diferencijaciji proizvoda.** To su specifične inovacije koje izdvajaju proizvod u odnosu na ostale, kao što su promene u dizajnu, ambalaži ili pojedinim funkcijama. Ova vrsta inovacija služi za bolje pozicioniranje proizvoda na tržištu, pridobijanje novih kupaca, „oživljavanje“ starijeg proizvoda i slično (Drucker, 1985).



Slika 1. Proces inovacije (Jovanović, 2014)

Postoji suštinska veza između troškova, kvaliteta i inovacija. Kod istraživanja veze između troškova, kvaliteta i inovacija mora se obratiti pažnja na sledeće parametre:

- **produktivnost** (da bi se postigao uspeh sa inovacijama, kompanija mora stalno i sistematski da preispituje interes vezan za povećanje produktivnosti) ;
- **relevantnost** (rukovodstvo mora da bude svesno šta je relevantno za poslovanje u okviru tržišta, tako da bi mogli da pratimo sve potencijalne izvore informacija sa tržišta) ;
- **svest o tržištu** (kompanije moraju da identifikuju praznine na tržištu i istražuju sve mogućnosti) ;
- **konkurencija** (bilo koji posao i zaposleni u datom poslu moraju stalno biti svesni da data kompanija mora i može da bude bolja u inovativnosti nego konkurencija) ;
- **disciplina** (uspeh u velikoj meri zavisi od kompanijske discipline – uspehu da se uskladi vremenski tempo i set razvojnih ciljeva) (Barden, 2008).

Skraćenica MSP se često može pročitati u štampanim medijima ili na sajtovima, pa čak čuti i preko elektronskih medija. Prema nekim istraživanjima, nije mali broj ljudi ni među onima koji prate medije i žele da budu informisani, a koji ne znaju ili nisu sigurni da skraćenica označava jedan sektor privrede, i to takozvana mala i srednja preduzeća. (dostupno na : <http://www.blic.rs/Vesti/Ekonomija/20803/Sta-su-mala-i-srednja-preduzeca->).

Od ukupno 23 miliona preduzeća i oko 100 miliona zaposlenih u ovom sektoru, koliko ih ima u Evropskoj uniji, čak 99 odsto su mala i srednja preduzeća (u SAD ih ima 25 miliona, a u Japanu pet miliona). Ona doprinose ukupnom bruto društvenom proizvodu EU sa 60 odsto i obezbeđivala su uoči najnovijih primanja članica preko 80 miliona radnih mesta. To konkretno znači da u sektoru MSP rade dve trećine od ukupnog broja zaposlenih u privatnom sektoru u EU. (dostupno na : <http://www.blic.rs/Vesti/Ekonomija/20803/Sta-su-mala-i-srednja-preduzeca->).

Prema zvaničnoj statistici, u Srbiji je na kraju prošle godine bilo ukupno 76.394 preduzeća, od čega 75.729 ili 99,1 odsto malih i srednjih preduzeća. Prema najnovijim, ažuriranim podacima Agencije za privredne registre, trenutno u Srbiji ima oko 86.000 preduzeća koja mogu biti kategorisana kao mala i srednja. (dostupno na : <http://www.blic.rs/Vesti/Ekonomija/20803/Sta-su-mala-i-srednja-preduzeca->).

Mnogi spoljni i unutrašnji faktori mogu da utiču na inovacije proizvoda, inovacije poslovnog procesa, ili njihove kombinacije. U najbitnije faktore koji utiču na inovativnost možemo izdvojiti:

- 1) industrijsku zrelost,
- 2) potrebe i očekivanja kupaca,
- 3) tehnološke mogućnosti,
- 4) atraktivnost investicija,
- 5) intenzitet konkurencije,
- 6) veličina preduzeća,

- 7) poreklo svojine,
- 8) izvozna orijentacija (Zakić et. al., 2008).

Većina studija koje se bave inovacijama u sektoru MSP, dolazi iz razvijenih zemalja. U ovom radu, istraživano je koji faktori značajno utiču na inovativne napore u Srbiji, tranzicionoj ekonomiji. Kako bi ispitali faktore, oslonili smo se na postojeću literaturu. S obzirom da je ova oblast veoma zanimljiva, veliki je broj radova objavljen o ovoj temi ali se podaci odnose uglavnom na razvijene zemlje. Prema Kaizeru et al., (2002) faktori koji utiču na inovacije mogu se podeliti na unutrašnje i spoljašne. Unutrašnji faktori su povezani sa karakteristikama i procedurama organizacije i spoljnih faktora za prilike koje MSP mogu da iskoriste (Tabela 1).

Tabela 1. Lista faktora

Faktori	Definicija faktora
<i>Unutrašnji faktori</i>	
Godine starosti kompanije	1 ako je firma osnovana posle 2000, 0 drugačije
Delatnost	1 ako je proizvodna kompanija, 0 drugačije
Broj zaposlenih sa visokom stručnom spremom	Broj zaposlenih sa visokom stručnom spremom podeljen sa ukupnim brojem zaposlenih
Broj zaposlenih u R&D odeljenju	Broj zaposlenih u R&D odeljenju podeljen sa ukupnim brojem zaposlenih
Implementacija novih ili značajno promenjenih korporativnih strategija	1 ako je takva promena spovedena u periodu 2009-2014, 0 drugačije
Implementacija promena u strategiji upravljanja	1 ako je takva promena spovedena u periodu 2009-2014, 0 drugačije
Implementacija promena u organizacionoj strukturi	1 ako je takva promena spovedena u periodu 2009-2014, 0 drugačije
Značajne promene u marketing konceptu	1 ako je takva promena spovedena u periodu 2009-2014, 0 drugačije
Značajne promene u estetskom izgledu	1 ako je takva promena spovedena u periodu 2009-2014, 0 drugačije
<i>Spoljašnji faktori</i>	
Subvencije vlade	1 ako je kompanija dobila bilo kakve subvencije, 0 drugačije
Subvencije opštine	1 ako je kompanija dobila bilo kakve subvencije, 0 drugačije
Saradnja sa drugim organizacijama	1 ako je kompanija imala saradnju sa drugim organizacijama, 0 drugačije
Saradnja sa univerzitetima I institutima	1 ako je kompanija saradnjivala sa univerzitetima I institutima, 0 drugačije
Nacionalno tržište	1 ako je dominantno tržište nacionalno, 0 drugačije
Medjunarodno tržište	1 ako je dominantno medjunarodno tržište, 0 drugačije

Kao spoljni faktori su uključeni opštinske i državne subvencije i saradnja sa drugim organizacijama ili istraživačkim institucijama. Takođe, dominantno tržište za organizaciju (nacionalno ili međunarodno). Očigledno je da faktori u spoljnom okruženju, kao što je kontekst u kojem organizacija radi i vladini sistemi za podsticanje inovacija imaju uticaj na inovacije, ali ne treba zanemariti ni unutrašnje faktore (Nagano et. al., 2014). Dva tipa unutrašnjih faktora su uključeni. Jedan se odnosi na karakteristike same organizacije (delatnost, godine postojanja kompanije, broj zaposlenih, broj visokoobrazovanih radnika, broj zaposlenih u istraživačkom odeljenju..), vlasništvo se ne razmatra jer su sve organizacije u privatnom vlasništvu. Druga grupa faktora se odnosi na realizaciju značajnih promena u marketing konceptu, konceptu upravljanja, organizacionoj strukturi i estetskom izgledu.

Ranije studije pokazuju razliku između uslužnih i proizvodnih organizacija, u odnosu na inovativne aktivnosti (Ettlie et. al., 2011). Proizvodne organizacije su više sklone promeni strategije i strukture kada se uvode neke inovacije. S druge strane, uslužne organizacije su više sklone da transformišu svaku inovaciju u profit.



Slika 2. Teorijski model (Radaš I Božić, 2009)

Kao indikator inovativnih aktivnosti, korišćena je činjenica da je organizacija razvila ili komercijalizovala bilo koju vrstu inovacije proizvoda ili procesa u periodu od 5 godina (2009-2014). Svaka od pet vrsta inovacija je bila uključena u istraživanje (inovacija proizvoda, inovacija procesa, modifikacija postojećih proizvoda, kopiranje konkurenata ili potpuno novi proizvod).

Da bi se bolje razumele inovativne aktivnosti MSP, razmatrane su i prepreke koje utiču na inovativne aktivnosti (Tabela 2). Pretpostavka je da mala i srednja preduzeća imaju veće probleme sa inovacijama od velikih firmi, usled nedostatka adekvatnih resursa i ekspertize. Visoki troškovi inovativne aktivnosti kao prepreka su najverovatnije povezane sa nedostatkom ličnih finansija ili nedostatka pomoći od strane vlade. Takođe, nedostatak kvalifikovanih kadrova može dovesti do problema u izvršenju inovativnih aktivnosti i uspeha inovacije. Nedostatak informacija u vezi sa tehnologijom i tržištem kao i potrošačke navike mogu povećati neizvesnost u vezi sa inovacijama. (Gallia et.al., 2004).

Prepreke su takodje klasifikovane kao spoljne i unutrašnje. Spoljne barijere se odnose na ponudu, tražnju i finansije. Unutrašnje barijere se odnose na resurse unutar firme, uključujući i ljudske resurse. Ovi faktori su mereni korišćenjem dva indeksa koji se obračunavaju na osnovu četiri izjave koje su procenjene na skali od 1 do 3, gde 1 znači da nema značaja za inovativne aktivnosti dok 3 znači veliki značaj za inovativne aktivnosti (Tabela 2).

Tabela 2. Lista prepreka

Prepreke
<i>Spoljašnje prepreke</i>
Troškovi inovacija su suviše visoki
Nedostatak pravih izvora finansiranja
Nedovoljna pomoć države u obavljanju inovativnih aktivnosti
Navike potrošača
<i>Unutrašnje prepreke</i>
Nedostatak kvalifikovanog osoblja
Nedovoljna motivisanost zaposlenih
Nedostatak informacija vezanih za tehnologiju
Nedostatak informacija vezanih za tržište

3. METODOLOGIJA

Podaci korišćeni u ovoj studiji su prikupljeni u toku 2014 godine, u jugoistočnoj Srbiji. Preduzeća su odabrana u skladu sa glavnim aktivnostima i broju zaposlenih. Pored malih i srednjih preduzeća, u istraživanje su takodje uključena i mikro preduzeća, ukupno 103 firmi. Od ukupnog broja preduzeća, bilo je 57 mikro preduzeća, 36 malih preduzeća i 10 srednjih preduzeća. Stopa odgovora je bila 100% jer je autor lično sproveo anketu pokušavajući da svakom ispitaniku objasni značenje svakog pitanja. Na ovaj način su izbegnuti nesporazumi i svi upitnici su propisno popunjeni.

Korišćen je upitnik razvijen od strane hrvatskih autora, Radaša i Božića (2009). Upitnik se sastoji iz dva dela. Prvi deo pokušava da istraži koji faktori utiču na inovativnost MSP, a drugi deo ispituje šta su najčešće prepreke za inovativne aktivnosti. Prateći navedeno istraživanje najpre je ispitana korelacija između faktora i zavisnih promenljivih i samo oni faktori koju su značajno povezani sa zavisnim promenljivim su zadržani za dalju analizu. Preostali faktori su zatim korišćeni za formiranje pet novih viševarijabilnih modela. U analizi prepreka inovativnih aktivnosti korišćena je deskriptivna statistika.

Tabela 3. Procenat prijavljenih inovacija u periodu 2009-2014

Tip inovacije	Ne	Da
Inovacije vezane za proizvod/uslugu	56.3%	43,7%
Inovacija vezana za proces	82.5%	17.5%
Modifikacija postojećih proizvoda/usluga	71.8%	28.2%
Kopiranje konkurenata	96.1%	3.9%
Potpuno nov proizvod/usluga	69.9%	30.1%

Na osnovu analiziranih podataka (Tabela 3), 43.7% anketiranih preduzeća je pozitivno odgovorilo na pitanje o uvođenju bilo koje inovaciju vezane za proizvod ili uslugu, dok je 56.3% anketiranih kompanija negativno odgovorilo na dato pitanje. Sledeći tip inovacije koji je ispitivan bio je tip “inovacija vezana za proces”. Dobijeni su sledeći rezultati: 82.5% anketiranih kompanija dalo je negativan, dok je 17.5% kompanija dalo pozitivan odgovor na uvođenje bilo koje inovacije vezane za proces. Od ukupnog broja, 28.2% kompanija potvrdilo je da je u prethodnom periodu izvršilo modifikaciju postojećih proizvoda ili usluga, dok većina od 71.8% nije prijavila ovaj tip inovacije.

Na osnovu obradjenih podataka, tip inovacije “kopiranje konkurenata” je najmanje prisutan u praksi. Samo 3.9% anketiranih kompanija je potvrdno odgovorilo na bilo kakvo kopiranje konkurencije, dok 96.1% anketiranih kompanija nije koristilo ovaj tip inovacije. Na pitanje o uvođenju inovacije vezane za potpuno nov proizvod ili uslugu, anketirane kompanije su odgovorile na sledeći način: 30.1% od ukupnog broja anketiranih kompanija je pozitivno odgovorilo o uvođenju ove radikalne inovacije, dok 69.9% kompanija u prethodnom periodu nije koristilo ovaj tip inovacije.

Tabela 4. Koeficijenti korelacije

	Inovacija proizvoda	Inovacija procesa	Modifikacija postojećih proizvoda	Kopiranje konkurenata	Potpuno nov proizvod
Delatnost	-,016	,314**	-,060	-,078	,163
Broj zaposlenih	,079	,152	,024	,281**	,010
Godine starosti kompanije	-,021	-,105	,056	,160	-,172
Broj zaposlenih sa visokom stručnom spremom	,101	-,015	-,058	-,008	,107
Broj zaposlenih u R&D odeljenju	,226*	-,100	-,015	-,094	,047
Implementacija nove ili značajno promenjene korporativne strategije	,232*	,204*	,089	-,181	,262**
Implementacija promena u strategiji upravljanja	,270**	,053	,015	-,190	,254*
Implementacija promena u organizacionoj strukturi	,062	,074	,009	-,091	,095
Značajne promene u marketing konceptu	,035	-,074	,030	-,109	,199*
Značajne promene u estetskom izgledu	-,034	-,135	-,026	-,059	,182
Subvencije vlade	,139	,089	,063	-,070	-,090
Subvencije opštine/grada	,026	,040	-,126	-,040	,087
Saradnja sa drugim kompanijama	,013	,097	,129	-,099	,106
Saradnja sa fakultetima ili institutima	-,052	,322**	,121	-,050	,108
Nacionalno tržište	,088	,087	-,027	-,030	,096
Međunarodno tržište	,074	,220*	,036	-,062	,172

Ispitivanje korelacije između nezavisnih i zavisnih varijabli pokazala je da sledeći unutrašnji faktori nisu bile statistički značajni: godine starosti kompanije, broj zaposlenih sa visokom stručnom spremom, promena organizacione strukture i promene u estetskom izgledu (Tabela 4). Što se tiče spoljnih faktora, ne postoji statistička značajnost sa subvencijama vlade, subvencijama opštine/grada, saradnjom sa drugim kompanijama kao i sa nacionalnim tržištem.

Iako su prethodne studije, sprovedene u razvijenim zemljama pokazale da postoji veza između vlade i opštinskih subvencija, ovaj rad pokazuje da ne postoji veza između ove dve varijable i inovativnih aktivnosti. Objasnjenje za to može biti činjenica da sistem subvencija u Srbiji nije razvijen dobro, a da većina anketiranih organizacija nije dobilo nikakvu finansijsku pomoć, što bi podstaklo inovacione aktivnosti.

Ostatak internih i eksternih faktora se koriste u daljoj analizi. Korišćena je binarna logistička regresija, jer je ona najprikladnija za ovu vrstu istraživanja (Ho, 2006). Tabela prikazuje rezultate regresione analize.

Tabela 5. Koeficijenti regresije

Faktor	Inovacija proizvoda	Inovacija procesa	Modifikacija proizvoda	Kopiranje konkurenata	Potpuno nov proizvod
Delatnost	,165	-1,964*	,405	1,102	-,460
Broj zaposlenih	,004	,003	,002	,011	,000*
Broj zaposlenih u R&D odeljenju	3,232*	-1,094	-,203	-43,507	,412
Implementacija nove korporativne strategije	-,764	-,899	-1,141*	16,537	-,691
Implementacija nove upravljačke strategije	-,699*	,528	,893	16,689	-,526**
Implementacija novog marketing koncepta	,263**	1,046*	-,293	-,289	-,721
Saradnja sa fakultetima ili institutima	,676	-2,425	-2,400*	,780	,065*
Nacionalno tržište	,160	-,529	1,591	-,912	-,258

Rezultati pokazuju da delatnost kompanije ima negativan uticaj na inovaciju procesa. Broj zaposlenih u kompaniji ima pozitivan uticaj na realizaciju potpuno novog proizvoda. Broj zaposlenih u R&D odeljenju ima pozitivan uticaj na inovaciju proizvoda.

Implementacija nove korporativne strategije pokazuje negativan uticaj na modifikaciju postojećih proizvoda. Implementacija nove upravljačke strategije negativno utiče na inovaciju proizvoda. Takodje ona vrlo negativno utiče na realizaciju potpuno novog proizvoda.

Implementacija novog marketing koncepta vrlo pozitivno utiče na inovaciju proizvoda, kao i na inovaciju procesa. Saradnja sa fakultetima ili institutima negativno utiče na modifikaciju proizvoda, dok ima pozitivan uticaj na realizaciju potpuno novog proizvoda.

Nacionalno tržište ne pokazuje značajan uticaj ni na jednu vrstu inovacija. Interesantan podatak u ovom istraživanju jeste da nijedan od ovih faktora nema značajan uticaj na vrstu inovacije "kopiranje konkurenata"

4. REZULTATI ANALIZE PREPREKA INOVATIVNIM AKTIVNOSTIMA

Kao što je već pomenuto, prepreke inovativnim naporima su takodje klasifikovane kao spoljne i unutrašnje. Spoljne barijere se odnose na ponudu, tražnju i finansije. Unutrašnje barijere se odnose na resurse unutar firme, uključujući i ljudske resurse. Ovi faktori su mereni korišćenjem dva indeksa koji se obračunavaju na osnovu četiri izjave koje su procenjene na

skali od 1 do 3, gde 1 znači da nema značaja za inovativne aktivnosti dok 3 znači veliki značaj za inovativne aktivnosti. Srednje vrednosti, onako kako su ih vlasnici ocenili, date su u Tabeli 6.

Tabela 6. Srednje vrednosti ocena inovativnih prepreka

	N	Srednja vrednost
Troškovi inovacija su suviše visoki	103	2.32
Nedostatak pravih izvora finansiranja	103	2.23
Nedovoljna pomoć države	103	2.23
Navika potrošača	103	2.06
Nedostatak kvalifikovanog osoblja	103	1.89
Nedovoljna motivisanost zaposlenih	103	1.84
Nedostatak informacija vezanih za tehnologiju	103	2.03
Nedostatak informacija vezanih za tržište	103	2.10

Pokazalo se da kao najznačajnije prepreke vlasnici smatraju finansije, pre svega troškove inovacija, za koje smatraju da su previše visoki, a uz to i nedovoljnu pomoć države oko finansiranja, što se poklapa sa istraživanjem u Hrvatskoj. Smatraju da su najmanje bitne kao prepreke navike potrošača i motivisanost zaposlenih. Nedostatak kvalifikovanog osoblja ne smatraju za značajnu prepreku, smatrajući da je trenutni kadar dovoljno kvalifikovan i sposoban za inovativne aktivnosti.

5. DISKUSIJA REZULTATA ISTRAŽIVANJA

Rezultate ovog istraživanja možemo podeliti prema delovima ankete koju su kompanije popunjavale, tj na rezultate unutrašnjih faktora, rezultate spoljašnjih faktora i rezultate prepreka inovativnosti.

Prvi među unutrašnjim faktorima koji utiču na preduzeće jeste delatnost kojom se to preduzeće bavi. Delatnost kao unutrašnji faktor ima negativan uticaj na inovaciju procesa, dok na druge tipove inovacija nema značajniji uticaj. Broj zaposlenih u kompaniji ima uticaj na inovacije, tačnije broj zaposlenih pozitivno utiče na inovacije tipa potpuno nov proizvod. Veza između broja zaposlenih sa visokom stručnom spremom i inovacija nije pokazana, jer je u malim i srednjim preduzećima mali broj zaposlenih sa visokom stručnom spremom, a i taj

mali broj zaposlenih uglavnom nije uključen u poslove inoviranja ili pak ne pokazuje dovoljno inovativne aktivnosti. Za razliku od broja zaposlenih sa VSS, broj zaposlenih u R&D odeljenju pokazuje povezanost sa inovacijama i to sa inovacijom proizvoda. Ovi rezultati su očekivani, jer zaposleni u R&D odeljenju i teže tome, da stvore novi proizvod sa kojim će kompanija na tržištu ostvariti profit. Trebamo reći da je broj zaposlenih u R&D odeljenjima kod malih i srednjih preduzeća mali (u slučajevima gde postoje R&D odeljenja), ali da istraživačka odeljenja pozitivno utiču na inovacije proizvoda. Takođe, iskazuje se povezanost između implementacije nove korporativne strategije i inoviranja. Dakle, ta veza postoji i ona je pozitivna. Jedna od vrlo bitnih stvari pri vodjenju preduzeća jeste upravljačka strategija. Ona predstavlja način vodjenja preduzeća pa samim tim ima uticaj na inovacije. Veza između implementacije nove upravljačke strategije i inovacija proizvoda kao i potpuno novog proizvoda je negativna, što dovodi do zaključka da nova upravljačka strategija kod anketiranih preduzeća nije ubrajala promenu proizvodnog programa ili inoviranje proizvoda. Promene u organizacionoj strukturi ne pokazuju značajniju vezu sa inovacijama. Promene u marketing konceptu veoma utiču na inoviranje. Veza između marketing koncepta i inovacija je pozitivna i jaka, a odnosi se pre svega na inoviranje proizvoda i inoviranje procesa. Takođe trebamo napomenuti da su rezultati istraživanja pokazali da ne postoji bilo kakva povezanost između inoviranja i uvođenja značajnih promena u estetskom izgledu proizvoda određene kompanije.

Kada kažemo spoljašnji faktori koji utiču na inovativnost MSP, misli se na određene subvencije koje je preduzeće dobilo, saradnju sa drugim kompanijama, fakultetima ili institutima, kao i na tržište na kome određena kompanija plasira robu. Za razliku od razvijenih zemalja, ne postoji veza između opštinskih i državnih subvencija sa inovativnošću anketiranih kompanija, zbog činjenice da je mali broj njih dobio bilo kakav vid subvencije. Takođe, rezultati istraživanja su pokazali da ne postoji povezanost između saradnje sa drugim kompanijama i inovativnosti, jer saradnja ne uključuje razmenu inovativnih rešenja. Međutim, postoje spoljašnji faktori koji su pokazali povezanost sa inoviranjem MSP. Jedan od tih faktora jeste saradnja kompanija sa fakultetima ili institutima. Saradnja sa fakultetima ili institutima održava negativnu vezu sa inoviranjem, tačnije sa modifikacijom proizvoda. Ono što se i očekivalo, pokazana je pozitivna veza između saradnje organizacije sa fakultetima i institutima i realizacijom potpuno novog proizvoda. Kaufmann and Todtling (2000) su dobili slične rezultate, što posledica toga da su za radikalne inovacije potrebne kreativne ideje i napredno znanje, koje je karakteristično za akademsku zajednicu. To je u saglasnosti i sa drugim istraživanjima (Massa i Testa, 2008), po kojima akademsku zajednicu samo radikalna inovacija predstavlja pravu inovaciju. Nije pokazana veza između tržišta na kome se roba plasira i inovacija.

Što se tiče prepreka koje ometaju inovacione aktivnosti, pokazalo se da je najveći problem privrednim društvima koja posluju na teritoriji republike Srbije pronaći finansijska sredstva potrebna za uvođenje određenih inovacija. Kada se zna da su troškovi inoviranja veliki, a izvori finansijskih sredstava mali, dolazi se do razrešenja pitanja zbog čega preduzeća u malom procentu uvode inovacije. Takođe, pomoć države preduzećima u inoviranju je na vrlo niskom nivou što dodatno otežava samo inoviranje.

Istraživanje je pokazalo da većina preduzeća zapošljava kvalifikovano osoblje koje je motivisano da odgovarajući posao izvrši na pravi način. Međutim, finansijski problemi na

tržištu povlače i pitanje sredstava za rad sa kojima preduzeća posluju. Većina anketiranih privrednih društava posluje sa zastarelim sredstvima za rad, i što je još veći problem ne planira ista da menja pa se u velikoj meri ispoljava nedostatak informacija vezanih za tehnologiju.

6. ZAKLJUČAK

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.

Istraživanje faktora koji utiču na inovativne aktivnosti je podjednako bitno kako za razvijene, tako i za zemlje u razvoju. Osnovna greška koju čine kreatori ekonomske politike u zemljama u razvoju je to da pokušavaju rezultate iz razvijenih zemalja da kopiraju u sopstvenim privredama, ne uzimajući u obzir specifičnosti koje vladaju u njima. Obzirom da je veoma mali broj studija odradjen u zemljama u razvoju, nije poznato koliko se rezultati iz razvijenih zemalja mogu generalizovati. Implikacije koje ovo istraživanje ima na kreatore ekonomske politike su te da najpre identifikuje one faktore koji imaju uticaj na inovativne aktivnosti, da bi mogao da uvede neka sistemski poboljšanja, posebno kada se radi o spoljašnjim faktorima.

Kao i svakom istraživanju, postoje određena ograničenja. Glavno ograničenje bila bi činjenica da je istraživanje sprovedeno u Jugoistočnoj Srbiji, koja važi za nerazvijeniji deo Srbije, tako da se i dobijeni rezultati ne mogu generalizovati i odnositi za celu Srbiju. Budućim istraživanjima bi trebalo obuhvatiti i ostale delove Srbije, a zatim uporediti rezultate da bi se videlo da li postoje određene sličnosti.

REFERENCE

- Arsić M., Fedajev A., Savić M., Voza D., (2014) Factors that contribute to SME innovativeness in transition economy, Serbia, II International May Conference on Strategic Management 23-25 May 2014, Bor, Serbia, Book of proceedings – IMKSM2014. ISBN: 978-86-6305-019-8, pp. 851-855
- Barden Ph. Innovations., (2008) The basics of innovation, Strategic Directions, 24 (2), 29-31.
- Chen C.J., Huang Y.F., (2010) Journal of Business Research 63
- Drucker, P.F. (1985), Innovation and Entrepreneurship: Practice and Principles, 1st ed. New York: Harper & Row.
- Ettlie J.E., Rosenthal S.R., (2011) Journal of product innovation management 28
- Fritz W., (1989) Journal of Marketing 23 10.

- Galia F., Legros D., (2004) Complementaries between obstacles to innovation: Evidence from France
- Jovanović I. (2014), Preduzetništvo u savremenim uslovima poslovanja, Tehnički fakultet Bor, Bor
- Kaufmann, A., Tödting F. (1999) "SME innovation and support in Upper Austria", TSER-Project, SMEPOL, Vienna epub.wu-wien.ac.at/dyn/virlib/wp/eng/mediate/epub-wu-01_51b.pdf?ID=epub-wu-01_51b
- Keizer, J., Dijkstra, L., Halman, J.I.M., (2002). Explaining innovative efforts of SMEs. An exploratory survey among SMEs in the mechanical and electrical engineering sector in The Netherlands. *Technovation* 22, 1–13.
- Massa, S., Testa, S., (2008). Innovation and SMEs: misaligned perspectives and goals among entrepreneurs, academics, and policy makers. *Technovation* 28 (7), 393–407.
- Nagano M.S., Stefanovitz J. P., (2014) *Journal of Engineering and Technology Management* 33
- Radaš S., Božić Lj., (2009) *Technovation* 29
- Subramaniam M., Youndt M.A., (2005) *Academy of Management Journal* 50 2.
- Sweeney G.P., (1983) *New Entrepreneurship and Smaller Firm*, Campus, Frankfurt, New York,
- Zakić N., Jovanović A., Stamatović M., (2014) External And Internal Factors Affecting the Product and Business Process Innovation
<http://www.blic.rs/Vesti/Ekonomija/20803/Sta-su-mala-i-srednja-preduzeca->

SELECTION OF OPTIMAL SUPPLIERS BY USING THE AHP METHOD

Bili Petrović, Ana Pavlović, Marko Todorović

University of Belgrade, Technical faculty in Bor, Serbia

Abstract: The selection of suppliers is one of the critical tasks of supply management, which is indicated by the fact that an adequate choice of suppliers has a significant impact on the competitiveness of companies. In dealing with these types of issues, several important factors (innovation, risk, quality of service, performance) should be taken into account. Due to the complexity of the problem, the solution can be found in the application of some of the tools for multi-criteria decision making (MCDM) which are based on the development of relevant methodology for the decision-making process. Consequently, the aim of this paper is to select optimal suppliers by using the AHP multi-criteria method.

Keywords: Supplier selection, Competitiveness, Multi-criteria decision-making, AHP method.

1. UVOD

U današnjem visoko konkurentnom, globalnom radnom okruženju, nemoguće je uspešno proizvesti proizvode niske cene i visokog kvaliteta bez adekvatnih dobavljača [1]. Varijacije u zahtevima za proizvodnju ukazuju na potrebu za angažovanjem spoljnih saradnika u vezi sa aktivnostima snabdevanja [2]. Proces snabdevanja predstavlja veoma važan segment koji ima veliki uticaj na poslovanje preduzeća, pa je neophodno obezbediti adekvatno kontrolisanje i koordinaciju aktivnosti što predstavlja primarni problem snabdevanja.

Upravljanje lancem snabdevanja (SCM) je skup procesa upravljanja koji uključuju planiranje, sprovođenje i kontrolu poslovanja od optimalnog dobavljača do krajnjeg potrošača, uz strateško opredeljenje za kooperativne napore da se sinhronizuju i podudaraju odnosi unutar firme i između firmi. Proces izbora dobavljača je od izuzetnog značaja za efikasno upravljanje mrežom lanaca snabdevanja usled činjenice da je neophodno postići krajnji cilj - zadovoljstvo kupaca [3]. Izbor i evaluacija dobavljača je jedna od najvažnijih aktivnosti preduzeća, jer performanse snabdevanja mogu imati direktan uticaj na finansijski i operativni segment poslovanja [1]. Kako je ovaj proces na samom početku čitavog sistema, neophodno je izvršiti detaljnu analizu izbora kako bi se postigao napomenuti cilj.

Činjenica da krajnja odluka o izboru dobavljača ima značajan uticaj na poslovanje preduzeća, ukazuje na potrebu da se celokupna problematika izbora analizira detaljno. Ovaj proces nije jednostavan, potrebno mu je posvetiti dosta pažnje i vremena, i neophodno je uzeti u obzir sve faktori koji mogu imati uticaja na kranji ishod.

Selekcija dobavljača se može tretirati kao problem višekriterijumskog odlučivanja (MCDM) u okviru koga je razvijen širok spektar matematičkih metoda koje obezbeđuju

višestruka i pre svega efikasna rešenja [4]. Metode kojima se mogu rešiti različiti vidovi problema jesu: optimizacija, modelovanje, različiti modeli prognoziranja, sistemi za podršku odlučivanju, višekriterijumsko odlučivanje, fuzzy logika i dr. Međutim, velika pažnja usmerena je na višekriterijumsko odlučivanje (Multi Attribute Decision Making), koje se bazira na razvoju relevantnih metodologija koje se koriste prilikom problema oko donošenja odluke u situacijama kada se mora uzeti u obzir nekoliko kontradiktornih faktora [5]. Jedan od najčešće korišćenih metoda višekriterijumskog odlučivanja je analitički hijerarhijski proces (AHP), pa se istraživački deo ovog rada bazira na rešavanju problema izbora optimalnog dobavljača primenom AHP metode, pri čemu se uzimaju u obzir nekoliko značajnih kriterijuma i podkriterijuma.

2. METODOLOGIJA ISTRAŽIVANJA

2.1. DEFINISANJE PROBLEMA

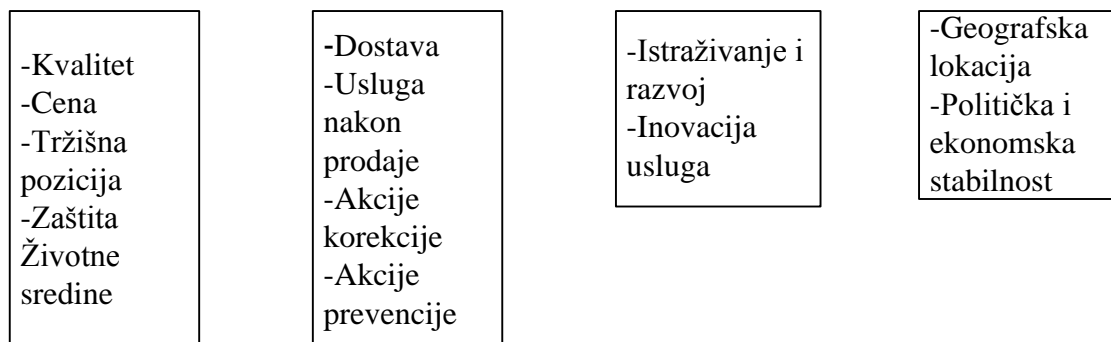
Pre same implementacije, neophodno je definisati problematiku istraživanja, sastaviti listu alternativa (dobavljača), kriterijuma i podkriterijuma, nakon čega se pristupa prikupljanju podataka.

Predmet istraživanja jeste iznalaženje optimalnog dobavljača u odnosu na definisane kriterijume i podkriterijume [6]:

Nivo 1 - Kriterijumi



Nivo 2 - Podkriterijumi



Slika 1. Kriterijumi i podkriterijumi optimalnog izbora dobavljača

Listu alternativa čine dobavljači odeljenja za transport Topionice i rafinacije bakra u Boru, koji su ocenjivani od strane stručnjaka primenom Saaty – jeve skale. Kvalitativne i kvantitativne ocene sadržane u skali date su u tabeli 1.

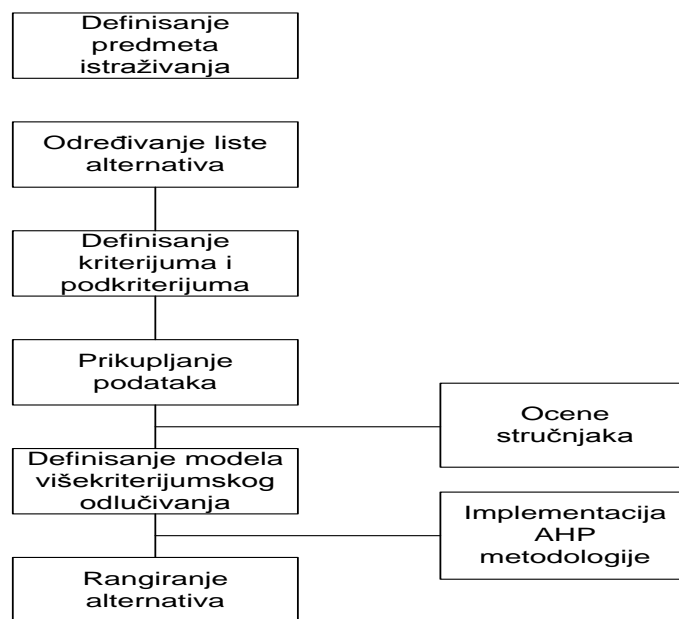
Tabela 1. Saaty – jeva skala [7]

Intensity of importance	Definition
1	Equal Importance
2	Weak
3	Moderate Importance
4	Moderate Plus
5	Strong Importance
6	Strong Plus
7	Very Strong or Demonstrated Importance
8	Very, Very Strong
9	Extreme Importance

Tabela 2. Ocene korišćene za ocenjivanje dobavljača

Intensity of importance	Definition
1	Equal Importance
3	Moderate Importance
5	Strong Importance
7	Very Strong or Demonstrated Importance
9	Extreme Importance

Celokupan model definisanja problema grafički je prikazan na slici 2.



Slika 2. Struktura problema

2.1. AHP METODOLOGIJA

Analitički hijerarhijski proces (AHP) je moćan metod za rešavanje složenih problema odlučivanja. Svaki kompleksan problem se može dekomponovati u nekoliko pod-problema korišćenjem AHP metode u vidu hijerarhijskih nivoa, gde svaki nivo predstavlja skup kriterijuma ili atributa u odnosu na svaki pod-problem [8].

Prilikom primene ove metode, podaci dobijeni od donosioca odluke predstavljaju poređenja alternativa po parovima pri čemu treba uzeti u obzir relativnu važnost svakog od kriterijuma, odnosno stepen preferencije jednog faktora u odnosu na drugi u vezi sa svakim kriterijumom. Poređenje parova se vrši primenom skale sa određenim koeficijentima [9].

Metoda AHP predstavlja metod višekriterijumske analize zasnovane na dodatnom procesu određivanja pondera, u kojoj se nekoliko relevantnih osobina predstavljaju kroz njihov relativni značaj [8].

AHP metoda je izgrađena na dobroj i jednostavnoj teoretskoj osnovi. Inače sam metod se sastoji iz 4 faze [7]:

1. Definisanje problema
2. Strukturiranje problema – sa ciljem na samom vrhu, zatim kriterijumi iz šire perspektive, nakon čega sledi srednji nivo (podkriterijumi) sve do najnižeg nivoa (set alternativa)
3. Ocenjivanje relativnih težina
4. Iskoristiti prioritete dobijene od poređenja kako bi se proračunali prioriteta nižeg nivoa. Postupak se ponavlja za svaki element. Zatim se vrši dodavanje težinskih vrednosti elementima na nižem nivou radi dobijanja ukupnog ili globalnog prioriteta. Postupak se ponavlja do dobijanja konačnih prioriteta alternativa.

Aksiomi na kojima se AHP zasniva:

- *Aksiom reciprocnosti.* Ako je element A n puta značajniji od elementa B, tada je element B 1/n puta značajniji od elementa A.
- *Aksiom homogenosti.* Poređenje ima smisla jedino ako su elementi uporedivi – npr. ne može se porediti težina komarca i težina slona.
- *Aksiom zavisnosti.* Dozvoljava se poređenje među grupom elemenata jednog nivoa u odnosu na element viseg nivoa, tj. poređenja na nižem nivou zavise od elementa viseg nivoa.
- *Aksiom očekivanja.* Svaka promena u strukturi hijerarhije zahteva ponovno računanje prioriteta u novoj hijerarhiji.

Matematička pozadina AHP metode je sledeća [10]:

Relativne težine date su pomoću sopstvenih vrednosti matrice (w) u skladu sa najvećim vrednostima matrice (λ_{max}):

$$A_w = (\lambda_{max})$$

Ukoliko su uporedna poređenja u potpunosti dosledna, u tom slučaju matrica A ima rang 1 i $\lambda_{max} = n$. U tom slučaju, težinski parametri mogu biti određeni normalizacijom bilo kojeg reda ili kolone matrice A.

Neophodno je istaći da je kvalitet izlaznih vrednosti AHP metode, striktno povezan sa doslednošću uporednog poređenja procene donosioca odluke. Doslednost je definisana relacijom između ulaznih vrednosti matrice A: $a_{ij} \times a_{jk} = a_{ik}$. Indeks doslednosti (CI) dobija se primenom izraza:

$$CI = (\lambda_{max} - n) / (n - 1)$$

Koeficijent doslednosti, koji se koristi radi provere da li su vrednovanja konzistentna, izračunava se kao odnos indeksa doslednosti i nasumičnog indeksa:

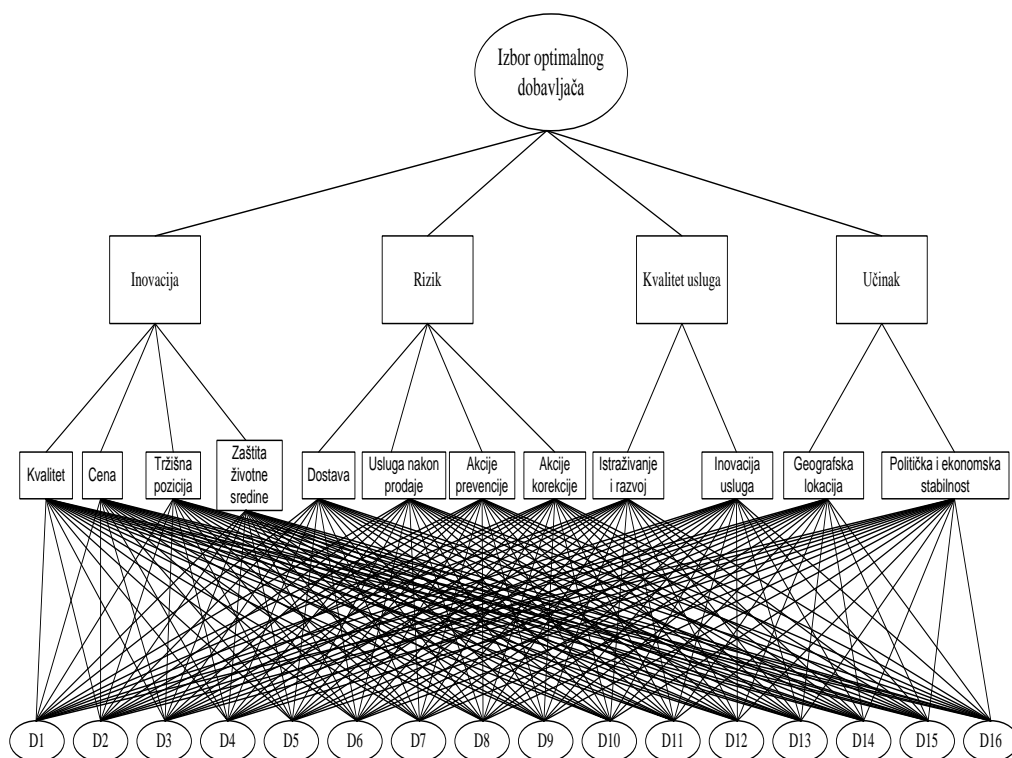
$$CR = CI/RI$$

3. REZULTATI I DISKUSIJA

Cilj primene AHP metode jeste rangiranje alternativa, u ovom slučaju izboru optimalnog dobavljača,

Nakon definisanja alata višekriterijumskog odlučivanja neophodnog za izbor optimalnog dobavljača, implementirana je AHP metodologija radi dostizanja konačnog cilja.

Korak 1. Strukturiranje hijerarhije problema izbora optimalnog dobavljača.



Slika 3. Hijerarhijska struktura problema izbora optimalnog dobavljača

- | | |
|------------------------|----------------------------|
| D1 – M.M. Veriga | D2 - Taliya |
| D3 – Metalka D.O.O. | D4 – Min Div |
| D5 – AC D.O.O. | D6 – Honex D.O.O. |
| D7 - Tik | D8 – Vir Impex D.O.O. |
| D9 – Feromax
D.O.O. | D10 – Ljubex International |
| D11 – Srndak | D12 – A.D. Insa |
| D13 – Demax | D14 – Unior Teos alati |
| D15 - Korpus | D16 – Copper D.O.O. |

Korak 2. Ocena kriterijuma i podkriterijuma od strane stručnjaka. Rezultati upoređivanja prikazani su u tabeli.

Tabela 3. Određivanje faktora značajnosti kriterijuma

Nivo 1	Inovaije	Rizik	Kvalitet usluga	Učinak	Značaj faktora
Inovaije	1	3	5	3	0.112
Rizik	1/3	1	9	7	0.044
Kvalitet usluga	1/5	1/9	1	3	0.340
Učinak	1/3	1/7	1/3	1	0.504

Korak 3. U narednom koraku, određen je značaj podkriterijuma od strane stručnjaka, pri čemu su ocene uporednih parova date u tabelama 4-7.

Tabela 4. Određivanje faktora značajnosti podkriterijuma - Inovacije

Inovacije	Kvalitet	Cena	Tržišna pozicija	Zaštita životne sredine	Značaj faktora
Kvalitet	1	3	3	3	0.265
Cena	1/3	1	5	3	0.175
Tržišna pozicija	1/3	1/5	1	5	0.066
Zaštita životne sredine	1/3	1/3	1/5	1	0.494

Tabela 5. Određivanje faktora značajnosti podkriterijuma - Rizik

Rizik	Dostava	Usluga nakon prodaje	Akcije prevencije	Akcije korekcije	Značaj faktora
Dostava	1	3	5	5	0.316
Usluga nakon prodaje	1/3	1	5	3	0.496
Akcije prevencije	1/5	1/5	1	3	0.112
Akcije korekcije	1/5	1/3	1/3	1	0.076

Tabela 6. Određivanje faktora značajnosti podkriterijuma – Kvalitet usluga

Kvalitet usluga	Istraživanje i razvoj	Inovacija usluga	Značaj faktora
Istraživanje i razvoj	1	3	0.250
Inovacija usluga	1/3	1	0.750

Tabela 7. Određivanje faktora značajnosti podkriterijuma - Učinak

Učinak	Geografska lokacija	Politička i ekonomska stabilnost	Značaj faktora
Geografska lokacija	1	3	0.250
Politička i ekonomska stabilnost	1/3	1	0.750

Korak 4. Množenjem dobijenih težinskih faktora iz koraka 2 i koraka 3, dolazi se do vrednosti sveukupne značajnosti podkriterijuma, koje su predstavljene u tabeli 5.

Tabela 8. Značajnost kriterijuma i podkriterijuma

Kriterijumi	Značajnost kriterijuma	Podkriterijumi	Lokalna Značajnost podkriterijuma	Sveukupna značajnost podkriterijuma
Inovacije	0.112	Kvalitet	0.265	0.030
		Cena	0.175	0.020
		Tržišna pozicija	0.066	0.007
		Zaštita životne sredine	0.494	0.055
Rizik	0.044	Dostava	0.316	0.014
		Usluga nakon prodaje	0.496	0.022
		Akcije prevencije	0.112	0.005
		Akcije korekcije	0.076	0.003
Kvalitet usluga	0.340	Istraživanje i razvoj	0.250	0.085
		Inovacija usluga	0.750	0.255
Učinak	0.504	Geografska lokacija	0.250	0.126
		Politička i ekonomska stabilnost	0.750	0.378

Značajnost podkriterijuma se može prikazati matricom w_1 na sledeći način:

$$w_1 = \begin{bmatrix} 0.030 \\ 0.020 \\ 0.007 \\ 0.055 \\ 0.014 \\ 0.022 \\ 0.005 \\ 0.003 \\ 0.085 \\ 0.255 \\ 0.126 \\ 0.378 \end{bmatrix}$$

Korak 5. Određivanje težinskog značaja alternativa u odnosu na definisane podkriterijume, pri čemu se dobija sledeća matrica:

$$W_2 = \begin{bmatrix} 0.061 & 0.054 & 0.029 & 0.035 & 0.040 & 0.036 & 0.020 & 0.029 & 0.052 & 0.035 & 0.018 & 0.079 \\ 0.026 & 0.023 & 0.030 & 0.030 & 0.037 & 0.019 & 0.071 & 0.031 & 0.024 & 0.021 & 0.099 & 0.034 \\ 0.083 & 0.143 & 0.085 & 0.126 & 0.067 & 0.192 & 0.193 & 0.211 & 0.150 & 0.159 & 0.251 & 0.117 \\ 0.084 & 0.133 & 0.086 & 0.097 & 0.069 & 0.142 & 0.126 & 0.099 & 0.090 & 0.125 & 0.090 & 0.091 \\ 0.028 & 0.008 & 0.028 & 0.034 & 0.055 & 0.018 & 0.008 & 0.023 & 0.017 & 0.014 & 0.010 & 0.026 \\ 0.058 & 0.095 & 0.067 & 0.046 & 0.072 & 0.063 & 0.066 & 0.023 & 0.032 & 0.058 & 0.023 & 0.050 \\ 0.076 & 0.056 & 0.066 & 0.065 & 0.043 & 0.071 & 0.048 & 0.059 & 0.046 & 0.057 & 0.066 & 0.038 \\ 0.135 & 0.076 & 0.125 & 0.154 & 0.067 & 0.095 & 0.112 & 0.106 & 0.124 & 0.139 & 0.042 & 0.137 \\ 0.056 & 0.060 & 0.056 & 0.038 & 0.033 & 0.031 & 0.032 & 0.027 & 0.067 & 0.035 & 0.021 & 0.052 \\ 0.032 & 0.033 & 0.018 & 0.020 & 0.073 & 0.012 & 0.013 & 0.023 & 0.018 & 0.026 & 0.012 & 0.018 \\ 0.021 & 0.039 & 0.016 & 0.029 & 0.076 & 0.012 & 0.010 & 0.018 & 0.018 & 0.023 & 0.015 & 0.022 \\ 0.036 & 0.011 & 0.031 & 0.019 & 0.074 & 0.013 & 0.010 & 0.020 & 0.022 & 0.014 & 0.011 & 0.018 \\ 0.109 & 0.052 & 0.097 & 0.067 & 0.079 & 0.086 & 0.069 & 0.066 & 0.103 & 0.090 & 0.041 & 0.097 \\ 0.066 & 0.073 & 0.071 & 0.085 & 0.077 & 0.045 & 0.076 & 0.072 & 0.078 & 0.106 & 0.049 & 0.067 \\ 0.104 & 0.048 & 0.145 & 0.086 & 0.066 & 0.067 & 0.026 & 0.046 & 0.104 & 0.069 & 0.051 & 0.125 \\ 0.025 & 0.096 & 0.048 & 0.070 & 0.070 & 0.098 & 0.122 & 0.147 & 0.055 & 0.030 & 0.199 & 0.029 \end{bmatrix}$$

Korak 6. Na kraju, ukupna značajnost alternativa, dobija se na sledeći način:

$$W = \begin{bmatrix} D1 \\ D2 \\ D3 \\ D4 \\ D5 \\ D6 \\ D7 \\ D8 \\ D9 \\ D10 \\ D11 \\ D12 \\ D13 \\ D14 \\ D15 \\ D16 \end{bmatrix} = W_1 \times W_2 = \begin{bmatrix} 0.055 \\ 0.034 \\ 0.141 \\ 0.100 \\ 0.022 \\ 0.050 \\ 0.050 \\ 0.126 \\ 0.045 \\ 0.022 \\ 0.023 \\ 0.019 \\ 0.088 \\ 0.077 \\ 0.096 \\ 0.051 \end{bmatrix}$$

Konačan rang alternativa dat je u tabeli 9.

Tabela 9. Konačan rang dobavljača primenom AHP metode

Rang	Dobavljač	Rezultati
1	Metalka D.O.O.	0.141
2	Vir Impex D.O.O.	0.126
3	Min Div	0.100
4	Korpus	0.096
5	Demax	0.088
6	Unior Teos Alati	0.077
7	M.M. Veriga D.O.O.	0.055
8	Copper D.O.O.	0.051
9	Honex D.O.O.	0.050
10	Tik	0.050
11	Feromax	0.045
12	Talija	0.034
13	Srndak	0.023
14	AC D.O.O.	0.022
15	Ljubex International D.O.O.	0.022
16	A.D. Insa	0.019

4. ZAKLJUČAK

Modeli višekriterijumskog odlučivanja se danas često koriste prilikom rešavanja kompleksnih, složenih problema. Implementacijom modela, formira se set mogućih rešenja, iz koga se krajnja odluka donosi primenom odgovarajućeg alata.

Prilikom formiranja modela odlučivanja neophodno je uzeti u obzir veliki broj faktora, kako bi se donela prava odluka. Imajući u obzir posledice koje krajnja odluka izbora može imati na poslovanje preduzeća, formiran je model višekriterijumskog odlučivanja koji omogućuje detaljnu analizu problema. U ovom slučaju izbor optimalnog dobavljača vrši se primenom AHP metode. Konačan rang dobavljača prikazan je u tabeli 9.

REFERENCE

- [1] Araz C., Ozkarahan I., Supplier evaluation and management system for strategic sourcing based on a new multicriteria sorting procedure, 106, 585 – 606, Izmir (2007)
- [2] Senvar O., Tuzkaya G., Kahraman C., Multi criteria supplier selection using fuzzy promethee method, Berlin (2014)
- [3] Alencar L., Almeida A., Supplier selection based on the promethee VI multicriteria method, Berlin (2011)

- [4] Shemshadi A., Shirazi H., Toreihi M., Tarokh M.J., A fuzzy vikor method for supplier selection based on entropy measure for objective weighting, 38, 12160–12167, Tehran (2011)
- [5] Diushenalieva E., Romualdas R., Multiple attribute decision making model for analysis of the crisis situation in the enterprise, 7th International Scientific Conference “Business and Management 2012”, 10-11, (2012)
- [6] Zouggari A., Benyoucef L., Simulation based fuzzy Topsis approach for group multi-criteria supplier selection problem, 507-519 (2012)
- [7] Saaty L. T., Decision making with the analytic hierarchy process, Pittsburgh (2008)
- [8] Sun Chia-Chi, A performance evaluation model by integrating fuzzy AHP and Fuzzy Topsis methods, 37, 7745–7754, Taiwan (2010)
- [9] Paksoy T., Pehlivan N.Y., Kahraman C., Organizational strategy development in distribution channel management using fuzzy AHP and hierarchical fuzzy Topsis, 39, 2822–2841 (2012)
- [10] Dagdeviren M., Serkan Yavuz S., Kılınç N., Weapon selection using the AHP and TOPSIS methods under fuzzy environment, Expert Systems with Applications, 36, 8143–8151 (2009)

EXTERNAL SUPPORT TO SME'S GROWTH: THE RECENT ENDEAVOURS OF MACEDONIAN POLICY FOR REGIONAL DEVELOPMENT

Marijana Milevska

Deputy Programme Director at Increasing Market Employability, Swisscontact, Macedonia

Abstract: The paper aims to assess the correlation between external support to SMEs growth and the actual growth of the SMEs in terms of employment and profit through indirect variables on regional level such as unemployment rate and GDP per capita. Before introducing the model that tests the influence of the five-year policy for balanced regional development on SMEs growth in Macedonia, an overview on recent findings related to different types of external support to SMEs growth is presented. Moreover, short summarized outline is demonstrated on the different theories on regional economic development as an overture to the model testing the effectiveness of the policy on SMEs growth. The model is expected to set two-folded results. Firstly, it opens area for researchers to test other policies and their impact on SMEs growth. Second, the results from the model testing on regional development policy in Macedonia can be used as a starting point for policy makers in the new programming process of strategy design in line with Europe 2020 agenda for smart specialization strategies of the regions.

Keywords: SMEs growth, regional development, Macedonia.

JEL classification code:

R11 (Regional Economic Activity: Growth, Development and Change)

R58 (Regional Development Policy)

INVESTIGATION OF METHODS AND WAYS LEARNING ACHIEVED RESULTS

Goran Babić

University of Belgrade, Technical Faculty, Management Department, Bor, Serbia

Abstract: Among the scientific-professional professorial elite is constantly debate about teaching, about which method of learning encourages greater efficiency and effectiveness in students, and a better accumulation and subsequent interpretation of the acquired knowledge. This is precisely the reason to carry out a study that will include a certain number of students who worked in accounting test. After what they did to test, students were asked to declare that the teaching methods used. Data on the number of points achieved in the test and the way students are taught are covered in the software program SPSS. The results indicate that students learning method brings the best test results. The purpose of this scientific research is to help young intellectuals, future professionals, to master high expertise in an efficient, logical and practical way.

Keywords: education, efficiency, effectiveness, teaching methods, knowledge management.

1. UVOD

Imajući u vidu da se o metodama i načinima učenja stalno vodi debata, najčešće među akademskom elitom, javila se ideja, a i potreba da se obavi jedno ovakvo istraživanje koje će ispitati uticaj metoda i načina učenja na postignute rezultate kod studenata. Svrha istraživanja je da se mladim ljudima, budućim stručnjacima iz određenih oblasti pomogne u načinu učenja. Profesori, predavači, asistenti i ostali naučni i profesorski kadrovi trebalo bi da primenjuju metode nastave koji će podstaknuti studente na način učenja koji će im doneti najbolje rezultate. Rezultati primene tih metoda učenja trebali bi da se prvenstveno uoče prilikom testiranja studenata. Studenti koji budu učili primenom adekvatnih metoda postizaće bolje rezultate na testovima, kolokvijumima, ispitima i pri rešavanju konkretnih zadataka (studija slučaja).

Naravno, ovo istraživanje, biće od pomoći i kompanijama koje primenjuju menadžment znanja, jer odabir pravog načina učenja, organizacijama će smanjiti troškove, a povećati pozitivne efekte učenja.

Istraživanju se pristupilo na sledeći način. Posle završenog kolokvijuma, na jednom od fakulteta u Beogradu, studenti su zamoljeni da se izjasne o načinu na koji su učili dok su se pripremali za kolokvijum. U ovom slučaju, zbog dostupnosti podataka o broju poena koji su studenti osvojili na kolokvijumu i zbog poznavanja nastavnog plana i programa konkretnog fakulteta, autor je ispitivao studente koji su radili kolokvijum iz računovodstva. Istraživanje je obuhvatilo ukupno 120 studenata koji su pristupili kolokvijumu. Studentima je bilo ponuđeno da se izjasne za jedan od sledeća 3 načina učenja:

1. učenje napamet
2. učenje sa razumevanjem
3. interaktivno učenje.

Nakon što je održan kolokvijum, svim studentima su podeljeni anketni listići. Pre popunjavanja anketnih listića, studentima je objašnjena svrha i cilj istraživanja, kao i da je od izuzetne važnosti da prilikom anketiranja daju zaista istinite odgovore, odnosno da se izjasne za način učenja koji su zaista primenjivali prilikom pripremanja za kolokvijum. Takođe studenti su upoznati i šta znači svaki od ponuđenih odgovora.

Učenje napamet. Ovaj način učenja najčešće se primenjuje u književnosti, gde je neophodno zapamtiti određene stihove, ili delove teksta od reči do reči, tj. bukvalno onim redosledom kako su i napisane reči, odnosno rečenice od strane autora književnog dela. Kod ostalih nauka, ovaj način učenja ne nailazi na neke simpatije od strane stručnjaka iz određenih oblasti. Smatra se da na ovaj način studenti ne mogu da postignu svoj maksimum, kao i da se znanje stečeno takvim učenjem brzo zaboravlja i nema svoju praktičnu primenu u praksi.

Učenje sa razumevanjem. Učenje sa razumevanjem podrazumeva stvaranje slike u glavi o materiji koja se izučava. Povezivanje onoga što se uči sa realnim stvarima i pojavama u okruženju, kao i primena tako stečenih znanja na praktičnim primerima i slučajevima u praksi.

Interaktivno učenje. Ovde se pre svega misli na učenje kroz prisustvo predavanjima i vežbama na fakultetu. Studenti u interakciji sa profesorima i asistentima prate izvođenje nastave (predavanja i vežbe) pri čemu studenti uzimaju učešće u nastavi. Na ovaj način studenti najbolje akumuliraju znanja i iskustva svojih predavača, što im kasnije omogućava da bolje interpretiraju stečena znanja, kako u rešavanju testova, kolokvijuma i pri polaganju ispita iz računovodstva, tako i kasnije u radu u relanom privrednom sektoru.

2 . METODOLOGIJA ISTRAŽIVANJA

Da bi se doslo do ulaznih podataka koji će kasnije biti obrađeni u SPSS softverskom programu, studenti su popunjavali anketni listić (***Tabela 1***) koji je izgledao ovako:

Tabela 1. Anketni listić

<p>Anketni listić</p> <p style="text-align: center;">ISPITIVANJE UTICAJA METODA I NAČINA UČENJA NA OSTVARENE REZULTATE</p> <p>Predmet: Računovodstvo Ime i prezime: Broj indeksa:</p> <p>Tokom pripremanja kolokvijuma iz Računovodstva koristio sam sledeći način učenja (zaokružiti jedan od ponuđenih odgovora):</p> <ol style="list-style-type: none">1. Učenje napamet2. Učenje sa razumevanjem3. Interaktivno učenje <p>NAPOMENA: Anketa se radi u cilju istraživanja uticaja metoda i načina učenja na ostvarene rezultate na testu, što za cilj ima poboljšanje metoda izvođenja nastave. Podaci o imenu, prezimenu i broju indeksa biće korišćeni samo u svrhu povezivanja načina učenja sa brojem ostvarenih poena na kolokvijumu i neće biti prikazivani u istraživanju.</p>

Ono što je neophodno napomenuti je da anketa nije bila anonimna. Razlog zbog kojeg je autor odlučio da anketa ne bude anonimna je da bi se rezultati sa kolokvijuma uparili sa načinom učenja za svakog studenta. Imajući u vidu da izjašnjavanje o načinu učenja ne ugrožava studentima privatnost, kao ni da ne nosi nikakve negativne posledice, nije bilo razloga da anketa bude anonimna. Podaci o njihovim imenima, prezimenima i brojevima indeksa koristili su se samo u cilju povezivanja ostvarenog broja poena i načina učenja, sa čime su studenti upoznati i usmeno i pismeno na samom anketnom listiću. Takođe, treba napomenuti i da su anketirani svi studenti koji su bili prisutni na kolokvijumu, a metodom slučajnog uzorka izabrano je po 20 studenata za svaku od metoda učenja. Posle održanog kolokvijuma, studentima su podeljeni anketni listići koje su oni popunjene vratili anketaru, tj. autoru ovog rada.

Kako bi se sprovedla statistička analiza od ukupno anketiranih studenata, odabran je slučajni uzorak od 60 studenata, i to 20 studenata koji su učili napamet, 20 studenata koji su učili sa razumevanjem i 20 studenata koji su interaktivno učili.

2.1. UPARENI PODACI (BORJ OSTVARENIH POENA NA KOLOKVIJUMU I NAČIN UČENJA)

U nastavku (*Tabela 2*) su prikazani podaci o broju ostvarenih poena na kolokvijumu i načinu učenja za svakog studenta iz uzorka pojedinačno, koji su uneti u SPSS program.

Tabela 2. Ulazni podaci

	uspeh	metoda		uspeh	metoda		uspeh	metoda
1	1	1	21	5	2	41	15	3
2	3	1	22	5	2	42	17	3
3	3	1	23	7	2	43	17	3
4	4	1	24	9	2	44	18	3
5	4	1	25	9	2	45	18	3
6	5	1	26	9	2	46	18	3
7	5	1	27	9	2	47	18	3
8	5	1	28	11	2	48	19	3
9	7	1	29	12	2	49	20	3
10	7	1	30	12	2	50	20	3
11	2	1	31	5	2	51	15	3
12	3	1	32	7	2	52	16	3
13	3	1	33	7	2	53	17	3
14	4	1	34	9	2	54	18	3
15	4	1	35	9	2	55	18	3
16	5	1	36	9	2	56	18	3
17	5	1	37	9	2	57	20	3
18	5	1	38	10	2	58	20	3
19	6	1	39	12	2	59	20	3
20	7	1	40	12	2	60	20	3

Studenti su na kolokvijumu mogli da osvoje najviše 20 poena.

3. REZULTATI I DISKUSIJA

Za obradu ulaznih podataka korišćen je softverski program SPSS.

Obzirom da želimo da ispitamo da li postoje razlike između postignutih rezultata na testu - kolokvijumu za tri različite metode učenja (učenje napamet, učenje sa razumevanjem, interaktivno učenje), koristimo Analizu varijanse sa jednim faktorom (ANOVA).

„ANOVA je ekstenzija nezavisnog t testa. Koristi se kada istraživača zanima da li se aritmetičke sredine više od dve nezavisne grupe (skupa) razlikuju međusobno.“ [1]

Pre nego što se uradi jednofaktorska analiza varijanse potrebno je proveriti da li su ispunjeni svi neophodni uslovi. Uslovi da bi se uradio ANOVA test su sledeći [1]:

1. Neophodno je postojanje samo jedne nezavisne varijable (u ovom slučaju nezavisna varijabla je način učenja)
2. Nezavisna varijabla treba da ima dve ili više vrednosti (u ovom slučaju ima 3: učenje napamet, učenje sa razumevanjem i interaktivno učenje)
3. Neophodno je da postoji samo jedna zavisna varijabla (u ovom slučaju je to broj osvojenih poena na kolokvijumu)

Pošto su svi navedeni uslovi ispunjeni, donosi se zaključak da se ANOVA test može koristiti za testiranje hipoteze da postoje razlike u broju ostvarenih poena na kolokvijumu u zavisnosti od načina na koji su studenti učili.

Tabela 3. Deskriptivna statistika

	N	Mean	Std. Deviation	Std. Error	95% Confidence Interval for Mean		Minimum	Maximum
					Lower Bound	Upper Bound		
					Učenje napamet	20		
Učenje sa razumevanjem	20	8,85	2,300	,514	7,77	9,93	5	12
Interaktivno učenje	20	18,10	1,619	,362	17,34	18,86	15	20
Total	60	10,45	6,043	,780	8,89	12,01	1	20

Kao što se vidi iz Tabele 3, deskriptivna statistika pokazuje da su studenti koji su učili napamet osvojili prosečno 4,4 poena, student koji su učili sa razumevanjem 8,85 poena, a studenti koji su interaktivno učili 18,10. Broj poena koji su osvojili studenti koji su učili napamet se kreće u intervalu od 1 do 7 poena, studenti koji su učili sa razumevanjem od 5 do 12, a studenti koji su interaktivno učili osvojili su od 15 do 20 poena. Na osnovu deskriptivne statistike možemo zaključiti da najviše poena na kolokvijumu osvajaju studenti koji su interaktivno učili, tj. redovno su prisustvovali predavanjima i vežbama i učili u interakciji sa profesorima.

Tabela 4. Test homogenosti varijansi

Levene Statistic	df1	df2	Sig.
,975	2	57	,383

U Tabeli 4 predstavljeni su rezultati o homogenosti varijanse za sva tri načina učenja. Kako je statistika testa mala (0,975) i odgovarajući realizovani nivo značajnosti veliki 0,383 (>0,05) pretpostavka o jednakosti varijansi je potvrđena i ANOVA test se može koristiti za testiranje razlika između prosečnih vrednosti ostvarenih rezultata na testu za tri posmatrana skupa studenata.

Tabela 5. ANOVA

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1953,700	2	976,850	276,811	,000
Within Groups	201,150	57	3,529		
Total	2154,850	59			

Rezultati u Tabeli 5 pokazuju da način učenja ima statistički značajan uticaj na ostvareni uspeh na testu-kolokvijumu, jer je $p(\text{Sig.}) < 0,0005$, što je manje od 0,01. Dakle, možemo prihvatiti hipotezu da postoje statistički značajne razlike u broju ostvarenih poena u zavisnosti od načina učenja.

Tabela 6. Razlike u načinima učenja

(I) Metoda učenja	(J) Metoda učenja	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Učenje napamet	Učenje sa razumevanjem	-4,450*	,594	,000	-5,94	-2,96
	Interaktivno učenje	-13,700*	,594	,000	-15,19	-12,21
Učenje sa razumevanjem	Učenje napamet	4,450*	,594	,000	2,96	5,94
	Interaktivno učenje	-9,250*	,594	,000	-10,74	-7,76
Interaktivno učenje	Učenje napamet	13,700*	,594	,000	12,21	15,19
	Učenje sa razumevanjem	9,250*	,594	,000	7,76	10,74

*. The mean difference is significant at the 0.05 level.

Iako statistika F testa u Tabeli 5 ukazuje da postoje statistički značajne razlike u broju ostvarenih poena na kolokvijumu iz računovodstva između studenata koji su učili po jednoj od tri metode. Ali, Tabela 5 nam ne pokazuje između kojih metoda postoje značajne razlike u broju ostvarenih rezultata. To će nam pokazati podaci iz Tabele 6. Da bi se testirale razlike između svake od metoda učenja koristimo Post Hoc test. Rezultati Post Hoc testa u Tabeli 6 pokazuju da ostoje statistički značajne razlike između svih metoda učenja, budući da su u koloni Sig. koja predstavlja realizovani nivo značajnosti sve vrednosti $< 0,005$, što je manje od 0,01.

4. ZAKLJUČAK

Studenti koji su redovno prisustvovali predavanjima i vežbama uglavnom su se izjašnjavali da su kolokvijum spremali interaktivnim učenjem. Ti studenti su postizali i bolje rezultate na kolokvijumu. S' druge strane, studenti koji nisu bili redovni na predavanjima i vežbama nisu imali mogućnost da interaktivno uče, što je rezultiralo manjim brojem ostvarenih poena na kolokvijumu. Od studenata koji nisu bili redovno na nastavi, oni koji su učili sa razumevanjem ostvarili su znatno bolje rezultate, od onih koji su učili napamet.

Imajući u vidu činjenicu da najbolje rezultate postižu studenti koji su interaktivno učili, tj. koji su redovni na predavanjima i vežbama, učestvovali u radu i aktivno pratili nastavu, potrebno je uložiti napore da se studenti animiraju da budu redovni i aktivni na predavanjima. Na taj način će studentima biti lakše da sprema kolokvijum, a time povećavaju šansu da postignu bolji rezultat i na ispitu. Interaktivno učenje će studentima i kasnije dosta značiti, jer će na svojim radnim mestima efikasnije i efektivnije obavljati svoje svakodnevne poslovne aktivnosti, dok će se u rešavanju konkretnih problemskih situacija mnogo lakše snalaziti.

Takođe, kod kompanija koje u svom poslovanju primenjuju koncept menadžmenta znanja izbor načina učenja je od velikog značaja. Troškovi konstantnog učenja, školovanja i obuke zaposlenih su ogromni. Primenom interaktivnog načina učenja kompanije će smanjiti troškove i dobijati stručniji i sposobnije kadrove.

REFERENCE

1. D. Manasijević, Statistička analiza u SPSS programu (autorizovana predavanja), Tehnički fakultet u Boru, Bor, 2011, p. 120

SELECTION OPTIMAL OFFERS FOR THE IMPLEMENTATION OF THE PROJECT

Goran Babić

University of Belgrade, Technical Faculty, Management Department, Bor, Serbia

Abstract: Organizations that operate on the principle of projects, ie. project are oriented, continuously, shall select a project that will be implemented. If the organization publish a tender (competition) to perform a specific project, and to the tender are reported two or more organizations with their proposal for the execution of the project, the organization has launched a tender to a selection of projects that will be implemented. The choice of the organizations is done on the basis of certain criteria, depending on the type of project, as well as the objectives that the organization wants to achieve. Analysis offer organization helps to select optimal or profitable offer. In this study were treated with two bids for the realization of the same project from two different companies. The analysis of bids and award of certain criteria were selected optimal supply.

Keywords: project profitability, efficiency, selection, implementation.

CONTENTS:

**INTERNATIONAL MAY CONFERENCE ON STRATEGIC MANAGEMENT
– IMKSM2015 –**

Plenary lectures

INCORPORATING MCDS AND VOTING INTO SWOT – BASIC IDEA AND EXPERIENCES

Jyrki Kangas, Miika Kajanus, Pekka Leskinen, Mikko Kurttila..... p1

EXPLORING THE LINK BETWEEN R&D INTENSITY AND EMPLOYEE DOWNSIZING: A U-SHAPED RELATIONSHIP

José David Vicente-Lorente, José Ángel Zúñiga-Vicente..... p13

INITIALIZATION OF THE SIMPLEX ALGORITHM

Predrag S. Stanimirović, Nebojša V. Stojković..... p14

SIMULATION MODEL FOR EMERGENCY DEPARTMENT

Gupte Jaideep..... p18

Conference papers

RISK MANAGEMENT PRACTICES, DECISION MAKING AND CORPORATE GOVERNANCE

Y. Ayse B. Nordal, Metu-Turkey Licentiat Nhh 1

STRATEGIES OF WORK MOTIVATION AS A FACTOR OF HUMAN RESOURCES

Jelena Simić, Jelena Rakić Davidović 14

CUSTOMERS PERCEPTION ON THE USE OF SMS AS A STRATEGIC MANAGEMENT TOOL IN NIGERIAN BANKING INDUSTRIES

Oludele Mayowa Solaja, Faremi Elijah Idowu, Adesina Ekundayo James 15

THE ROLE OF INFORMATION COMMUNICATION TECHNOLOGY (ICT) ON DEMAND FOR YOUNG WORKERS IN NIGERIA BANKING INDUSTRY	
Solaja Mayowa Oludele, Faremi Elijah Idowu, Adesina Ekundayo James	16
ROLE OF PRODUCT CHARACTERISTICS AND ANIMATED SPOKESPERSON CHARACTERISTICS ON CHILDREN BUYING BEHAVIOR	
Syed Bakhtyar Ali Shah, Shahzad Khan	36
THE ROLE OF THRIVING AND TRAINING IN MERGER SUCCESS: AN INTEGRATIVE LEARNING PERSPECTIVE	
Mahima Thakur, Anjali Bansal, Peter Stokes	52
ASSESSMENT CENTER AS A METHOD OF ASSESSING LEADERSHIP POTENTIAL LEADER	
Natalia L. Minayeva, Nina A. Pecherskaya, Farida U. Chankhieva	53
MEASUREMENT OF CUSTOMER SATISFACTION IN THE DEVELOPMENT OF THE STRATEGY IN THE MARKET OF RESIDENTIAL AND MUNICIPAL SERVICES	
Natalia B. Safronova, Alexey R. Urubkov, Ludmila V. Tkachenko	57
QUANTIFYING STRATEGIC PERFORMANCE INDICATORS OF R&D FUNCTION IN AN INDUSTRIAL ORGANIZATION	
Duška Pešić, Aleksandar Pešić, Slavko Ivković	62
ANALYTIC METHOD TO DESIGN AND CALCULATE THE CONVENTIONAL DRUMS	
Angélica Pimenta Fernandes	72
STRATEGIC CONCET OF HUMAN RESOURCES MANAGEMENT BY INTELLIGENCE SERVICE MEMBER	
Dusko Tomic, Srdjan Tomic, Ljubica Tomic	73
SIGNIFICANCE LOGISTICS CENTERS, THEIR ROLE AND TASK WITH REVIEW SITUATION IN THE REPUBLIC OF SRPSKA	
Željko Stević	80

CALCULATION OF THE BASIC PARAMETERS OF QUEUING SYSTEMS USING WINQSB SOFTWARE	
Željko Stević	91
CONCESSIONS IN BULGARIA AS A MANIFESTATION OF PUBLIC-PRIVATE PARTNERSHIPS	
Gena Velkovska.....	101
PRESENT ISSUES RELATED TO STRATEGIC CRISIS DECISIONS	
Mariana Kuzmanova.....	112
IMPACT OF LEADERSHIP ON THE FUNCTIONING OF THE QUALITY SYSTEM ISO9001 UNDER TRANSITIONAL CONDITIONS IN SERBIA	
Predrag Djordjevic, Marija Savic, Jelena Spasic, Zivan Zivkovic	122
PERFORMANCE APPRAISAL FOR PROJECT TEAMS	
Lilyana Stankova	123
NOISE MONITORING AND MANAGEMENT IN AGRARIAN ISSUES	
Saša Spasojević, Ljiljana Tanasić.....	133
THE IMPORTANCE OF POWER SHARING AND EMPOWERMENT OF EMPLOYEES IN MODERN ORGANIZATIONS	
Srdjan Zikic, Jane Paunkovic, Aleksandra Mitrovic.....	139
FISCAL MANAGEMENT OF MACROECONOMICS	
Kristijan Ristić, Žarko Ristić.....	149
AN ANALYSIS OF FACTORS AFFECTING FAILURE OF SMES	
Nenad Nikolić, Zhaklina Dharmo, Peter Schulte, Ivan Mihajlović, Vasilika Kume	162
SYSTEMS AND CONTINGENCY MODELS OF MANAGEMENT PHILOSOPHY IN NIGERIA	
B.E.A. Oghojafor, Andrew E Olike-Obaro, O.J. George.....	181
RESPONSE OF FOREIGN PRIVATE INVESTMENT TO PUBLIC DEBT IN NIGERIA	
Emenike Kalu O.....	195

**EMPLOYMENT AS A FACTOR OF WORK PRODUCTIVITY, COST AND
PROFIT IN TRADE**

Vojteski-Klijenak Dragana, Sljivic Slavoljub, Pavlovic Milenko209

**INFLUENCE OF MUSEUM OFFERS TO VISITORS SATISFACTION - A CASE
STUDY NATIONAL MUSEUM IN LESKOVAC**

Suzana Randelović, Živan Živković.....219

TURNAROUND MANAGEMENT

Vlado G. Vukasović230

**CHALLENGES AND PROBLEMS IN THE PROCESS OF STRATEGIC
PLANNING IN MICRO, SMALL AND MEDIUM ENTERPRISES (MSMES)**

Lidija Stefanovska, Mende Soluncevski240

**ENVIRONMENTAL DIMENSION OF SOCIAL RESPONSIBILITY IN HOTELS
IN EASTERN SERBIA**

Milovan Vuković, Danijela Voza, Snežana Urošević.....249

MODELLING OF SPATIAL VARIATIONS IN SURFACE WATER QUALITY

Danijela Voza, Milovan Vuković, Milica Arsić257

**INFLUENCE OF ORGANIZATIONAL JUSTICE ON EMPLOYEE TURNOVER
INTENTION AMONG NIGERIAN EMPLOYEES**

Salisu Umar264

**TECHNOLOGY AS BASIC INITIATOR IN DEVELOPMENT OF CYBER
CULTURE**

Marijan Stevanovski, Marjan Mladenovski.....265

**CORPORATE IDENTITY, PUBLICITY, PUBLIC RELATIONS AND
ADVERTISING**

Mirko Tripunoski, Lazar Arsovski, Maja Tripunoska276

**FUZZY TOPSIS RANKING OF ZINC CONCENTRATES FOR THE
HYDROMETALLURGICAL PROCESS OF ZINC PRODUCTION**

Marija Savić, Đorđe Nikolić, Živan Živković284

INNOVATIVE EFFICIENCY IN SERBIA - CURRENT STATUS AND PROSPECTS

Nebojša Djokić, Ljiljana Arsić285

THE IMPACT OF THE BRAND ON CONSUMER'S DECISION MAKING PROCESS

Daliborka Blazeska, Natasha Ristovska294

ENERGY EFFICIENT CONSTRUCTION STRATEGIES AS AN ELEMENT OF THE SUSTAINABLE DEVELOPMENT STRATEGY IN POLAND

Renata Stasiak-Betlejewska304

ENERGY EFFICIENCY IN EUROPEAN BUILDINGS – TRENDS AND FINANCING STRATEGIES

Renata Stasiak-Betlejewska318

SUCCESS AND FAILURE OF ENTREPRENEURIAL VENTURE IN SERBIA THROUGH SKILLS AND COMPETENCE OF ENTREPRENEURS

Nikola Radić, Jovanka Popović, Vlado Radić, Saveta Vukadinović330

HEALTH ECONOMICS WITH REFERENCE TO THE LIBYAN ECONOMY

Khaled Emhemed Ennajar, Layth Alhamdani.....339

QUALITY MANAGEMENT OF PUBLIC LIGHTING

Žarko Vranjanac348

STRATEGIC MANAGEMENT IN LIBYA'S EDUCATION

Entesar Yahya Elmgadmi, Nada Živanović, Layth Alhamdani.....358

COMPREHENSIVE ASSESSMENT OF MERGER & ACQUISITION (M&A) EFFECTIVENESS

Natalia Nesterenko, Alexander Kolyshkin365

MULTI-CRITERIA ANALYSIS OF PROBLEMS OF IMPLEMENTATION OF PROJECT PORTFOLIO MANAGEMENT

Dejan Bogdanović, Ivan Jovanovic, Nenad Milijic377

IMPACT ENTREPRENEURIAL ACTIVITY ON THE PROFITABILITY OF SMES IN THE PIROT DISTRICT	
Ivan Jovanović, Milica Arsić.....	389
THE STAFF EVALUATION AS A SOURCE OF INFORMATION FOR THE MAIN FUNCTIONS AND ACTIVITIES IN STRATEGIC HUMAN RESOURCES MANAGEMENT	
Valentin Vassilev, Stefan Novoselski.....	403
STRATEGIC APPROACH TO CORPORATE GOVERNANCE AND FOREIGN DIRECT INVESTMENT – THE WESTERN BALKANS	
Nada Vignjević Đorđević, Safet Kurtović.....	404
EFFECTS OF APPLICATION OF ELECTRONIC SYSTEM BUS4I THE EXPLOITATION AND MAINTENANCE OF FUNDS FOR PASSENGER TRANSPORT THE JKP "ZENICATRANS PREVOZ PUTNIKA" DD ZENICA	
Jusuf Borić, Sulejman Muhamedagić, Mirsada Oruč.....	415
DEALING WITH RISK MANAGEMENT IN SMALL AND MEDIUM ENTERPRISES	
Xhenana Azizi.....	423
STRATEGIC MANAGEMENT FOR CENTRAL EUROPEAN START-UP COMPANIES	
Hana Janáková, Monika Zatrochová.....	433
APPLICATION OF IPA ANALYSIS IN DETERMINING THE CRITICAL FACTORS OF JOB SATISFACTION IN PUBLIC ENTERPRISES	
Milica Arsić, Danijela Voza, Živan Živković.....	439
MULTIGROUP ANALYSIS OF CREATIVITY IN THE PROCESS OF DATA COLLECTION AND VIABILITY OF BUSINESS IDEA	
Milica Arsić, Ivan Jovanović.....	447
BUSINESS STRATEGY AND SUCCESS AMONG INDEGINIOUS IGBO ENTREPRENEURS: STUDY OF HOUSE HOLD EQUIPMENT LINE, MAIN MARKET ONITSHA, NIGERIA	
Franca Obi.....	456

GLOBAL FINANCIAL CRISIS AND MENA

Abdulhamed Ahmed.....457

**COMPLEXITY OF INTERNATIONAL MARKETING RESEARCH IN
MANAGEMENT**

Ljiljana Stošić Mihajlović, Miloš Nikolić.....467

**FINANCIAL CONTROL AND OVERSIGHT IN FINANCIAL MANAGEMENT
OF COMPANIES**

Ljiljana Stošić Mihajlović, Miloš Nikolić.....477

**SOME CONSIDERATIONS ON MODERN CONCEPTS OF KNOWLEDGE
MANAGEMENT AND E – BUSINESS**

Aleksandar Krstić.....489

**HUMAN CAPITAL IN FUNCTION OF THE COMPETITIVENESS OF
IMPORTANCE COMPANY**

Petronije Jevtić, Ljiljana Stošić Mihajlović, Jasmina Starc.....500

ORGANISATIONAL APPROACH OF HUMAN RESOURCES MANAGEMENT

Ljiljana S. Mihajlović, Petronije Jevtić511

**THE STRATEGIC IMPACT OF OPERATIONS AND PROJECT
MANAGEMENT ON THE QUALITY SYSTEM IN THE COMPANIES**

Toni Soklevski517

**EFFECTS OF STRATEGIC CONTROL IN RELATIONSHIP BETWEEN
SUPPLIERS – CUSTOMER**

Isidora Milošević, Dragana Živković, Sanela Arsić, Ivan Mihajlović523

**RISK MANAGEMENT ON STRATEGIC INVESTMENT PROJECTS IN
SERBIA**

Filip Jovanović, Nenad Milijić, Ivan Mihajlović534

**INCREASING COMPANIES PERFORMANCE BY USING CLOUD
COMPUTING SOLUTIONS**

Dejan Zdraveski, Margarita Janeska, Suzana Taleska559

“GREEN ACCOUNTING” - LINK BETWEEN ECONOMY AND ENVIRONMENTAL PROTECTION

Ninko Kostovski, Jadranka Mirsic.....560

STRATEGIC APPROACH TO SERVICES

Slobodanka Krivokapic568

CROSS CURRICULAR CONNECTIONS AS ESSENTIAL ELEMENT OF EDUCATIONAL MANAGEMENT STRATEGIES IN THE IMPLEMENTATION OF INTERDISCIPLINARY APPROACH TO TEACHING IN SECONDARY EDUCATION

Dragor Zarevski, Gordana Nikčevska, Tamara Kjupeva577

UNDERSTANDING CONFLICT IN SMALL BUSINESSES IN REPUBLIC OF MACEDONIA

Ljubomir Drakulevski, Aleksandra Janeska-Iliev, Angelina Taneva-Veshoska,588

ANALYSIS OF EMPLOYEE SATISFACTION WITH QUANTITY AND QUALITY OF INFORMATION IN THEIR WORK ORGANIZATIONS

Milijana Roganović, Biljana Stankov, Sonja Marjanski Lazić600

MARKETING RESEARCH OF WINE CONSUMERS IN THE SOUTH AND EAST SERBIA REGION

Vladimir Radovanović, Jelena Petrović, Snežana Djekić, Blaga Radovanović611

ECONOMIC DEVELOPMENT OF COUNTRIES FORMED AFTER THE BREAKDOWN OF THE FORMER SFRY

Radmilo Nikolić, Aleksandra Fedajev, Igor Svrkota, Andon Kostadinović, Slobodan Mladenović619

MOTIVATING STRATEGY FOR INCREASING BUSINESS PERFORMANCE

Sanela Arsic, Isidora Milosevic, Zivan Zivkovic632

SOCIAL ENTREPRENEURSHIP AS A FORM OF AN ALTERNATIVE ECONOMY IN EUROPEAN INTEGRATION PROCESS

Ana-Marija Đurić, Suzana Ranđelović645

ANALYZING THE DETERMINANTS OF STOCK RETURNS IN NIGERIA USING PARTIAL LEAST SQUARE-STRUCTURAL EQUATION MODELING

Ibrahim Mohammed661

**QUANTIFICATION IN HUMAN RESOURCE MANAGEMENT - SPIRAL
MANAGEMENT**

Jana Plchova, Lubos Polakovic662

**EVALUATING INDIVIDUAL WEALTH AND ATTITUDE TOWARDS RISK
BY PROSPECTIVE RETIREES IN NIGERIA USING PARTIAL LEAST
SQUARE-STRUCTURAL EQUATION MODELING**

Halimah Sani Sambo673

**RFID TEHNOLOGIJA U UPRAVLJANJU ČVRSTIM KOMUNALNIM
OTPADOM**

Tamara Ognjanović674

MODERN APPROACH OF MARKETING COMMUNICATIONS

Aleksandra Vuković, Dejan T. Riznić, Milovan Vuković, Danijela Durkalić682

**THE HUMAN CAPITAL IN THE FUNCTION OF BUSINESS ACTIVITIES IN
THE ORGANIZATION**

Danijela Durkalić, Dejan T. Riznić, Snežana Urošević692

**THE IMPACT OF MOBILE TECHNOLOGY ON THE DEVELOPMENT OF E-
BUSINESS**

Časlav Kalinić, Miladin Kalinić, Radovan Vladislavljević699

FOOD QUALITY MANAGEMENT SYSTEM

Ružica Milovanović705

**OCCUPATIONAL MOTIVATION AND MOTIVATION FOR SAFE WORKING
CONDITIONS AS SOME OF THE MAIN OBJECTIVES IN HRM WITH THE
AIM OF CREATING MORE EFFICIENT AND MORE PLEASANT WORKING
ENVIROMENT**

Tomislav Rakić712

**SYSTEM APPROACH TO THE ANALYSIS OF COPPER CONCENTRATE
PRODUCTION**

Ivica Nikolić, Ivana Jovanović, Ivan Mihajlović, Igor Miljanović726

**LECTURERS INFLUENCE IN DEPLOYING AND SATISFACTION OF M-
LEARNING - INNOVATIVE APPROACH IN HIGHER EDUCATION
NOWADAYS**

Isidora Milošević, Dragana Živković, Dragan Manasijević.....742

THE IMPORTANCE OF BRAND IDENTITY AND ITS POSITIONING

Maja Kochoska, Ana Binovska Kocheva743

GOALS OF ESTABLISHING TECHNOLOGICAL PARKS

Miroslav Milutinović, Andon Kostadinović751

**INSURANCE CONTRACT CONCLUSION WITH PARTICULAR EMPHASIS
ON SOLUTIONS IN THE DRAFT OF THE SERBIAN CIVIL CODE**

Danijela Glušac.....759

CREATING MARKETING STRATEGY FOR SALE NEW PRODUCT

Danijela Durkalić.....767

**THE APPLICATION OF FUZZY-TAGUCHI OPTIMIZATION MODEL FOR
MULTI-RESPONSE BAYER PROCESS OF BAUXIT LEACHING**

Živan Živković, Dragica Lazić, Djordje Nikolić, Predrag Djordjevic, Ivan Mihajlović,
Isidora Milošević768

**KNOWLEDGE MANAGEMENT MODEL IN THE PROJECT-ORIENTED
COMPANIES**

Nenad Milijić, Ivan Jovanović, Ivan Mihajlović, Dejan Bogdanović.....769

**ACTION PLAN FOR MITIGATION AND MONITORING OF
ENVIRONMENTAL IMPACT OF PROJECTS ATYPICAL MINING WITH
RISK ANALYSIS**

Slobodan Radosavljević, Nikola Ille.....783

**REDESIGN STICK CONSTRUCTION WORKING WHEEL SRS 1200 *22/2,
AND RISK ANALYSIS**

Slobodan Radosavljević, Milan Radosavljević, Jovana Radosavljević.....797

**MICROCREDIT POLICY IN THE STATE OF SAO PAULO, BRAZIL:
HELPING SMALL BUSINESSES TO DEVELOP**

Mário Henrique Marcondes Pereira, Vera Mariza Henriques de Miranda Costa,
Elisabete de Lourdes Teixeira Baleiro Inácio, José Luis Garcia Hermosilla806

MARKETING STRATEGY STRUCTURE OF THE MARKET

Gordana Petrusavska815

**STRATEGIES OF WORK MOTIVATION AS A FACTOR OF HUMAN
RESOURCES**

Jelena Simić, Jelena Rakić Davidović822

**BUSINESS STRATEGY AND SUCCESS AMONG INDEGINIOUS IGBO
ENTREPRENEURS: STUDY OF HOUSE HOLD EQUIPMENT LINE, MAIN
MARKET ONITSHA, NIGERIA**

Franca Obi831

Students Symposium on Strategic Management

TARGET 1 TARGET 2

Milan Miljuš853

**IMPLEMENTATION OF MULTI-CRITERIA ABC ANALYSIS USING AHP
METHOD**

Anđelka Stojanović866

**ECOLOGICAL AWARENESS OF STUDENTS OF TECHNICAL FACULTY IN
BOR, UNIVERSITY OF BELGRADE**

Sanela Božinović, Milica Niculović, Dragan Ranđelović876

**THE IMPACT OF TRAFFIC ON AIR QUALITY AT THE INTERSECTION
STREETS IN NISH**

Žarko Vranjanac, Jovana Stojanović887

**CONSTRUCTION PROJECT OF PIPELINE PART THROUGH RESIDENTIAL
BLOCK „STANKO VLASOTINCANIN“ IN NISH**

Žarko Vranjanac, Jovana Stojanović896

**IMPROVING THE ENVIRONMENT THROUGH ENVIRONMENTAL
MANAGEMENT**

Milan Martinović905

OVERCOMING ECOLOGICAL CRISIS OF MODERN TIMES

Milan Martinović911

**INNOVATION AND TECHNOLOGICAL PROGRESS IN THE LIGHT OF
SUSTAINABLE COMPETITIVENESS**

Jevtić Miroslava916

**ENCLOSURE OF STRATEGIC DEVELOPMENT OF TOURIST
DESTINATION STARA PLANINA**

Cvetkovic Vidosava926

**SCIENTIFIC MODELING – CASE STUDY: DESIGN OF THE OPEN-PLAN
OFFICE**

Veličkovska Ivana, Dimitrievska Dragana, Mentor: Dr. Ivan Mihajlović936

**ASSESSMENT OF PRODUCT LIFE CYCLE (LCA) IN THE INTEGRATED
WASTE MANAGEMENT - ENVIRONMENTALLY ARTIFACT**

Neda Domanović, Stefan Lukić, Mladen Stanković951

**COMPETENCES ACQUIRED DURING STUDIES AND NEEDS OF MARKET
ECONOMY**

Marija Kostić952

STRESS AND ITS CONSEQUENCES

Slađana Đurić964

CIVIL SOCIETY AND DEMOCRATIC POLITICAL CULTURE

Slađana Đurić970

FINANCIAL BROKERS

Aleksandra Đurić978

GLOBAL COMPETITIVENESS AND FISCAL POLICY

Aleksandra Đurić992

FACTORS THAT CONTRIBUTE TO SME INNOVATIVENESS IN SOUTH-EAST SERBIA

Marko Todorović, Bili Petrović, Ana Pavlović.....1001

SELECTION OF OPTIMAL SUPPLIERS BY USING THE AHP METHOD

Bili Petrović, Ana Pavlović, Marko Todorović.....1014

EXTERNAL SUPPORT TO SME'S GROWTH: THE RECENT ENDEAVOURS OF MACEDONIAN POLICY FOR REGIONAL DEVELOPMENT

Marijana Milevska1025

INVESTIGATION OF METHODS AND WAYS LEARNING ACHIEVED RESULTS

Goran Babić1026

SELECTION OPTIMAL OFFERS FOR THE IMPLEMENTATION OF THE PROJECT

Goran Babić1033