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IMPORTANCE OF INNOVATION MANAGEMENT

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Abstract

Innovation has always been an essential tool for being competitive. It is quite unequivocal that being competitive is indispensable for each and every company. Through my writing, I inspect the lack of attention on innovation management and its affects. To study competitiveness, a research was done among companies mostly located in Hungary. The questionnaire focused on crisis and change management, innovation management, as well as on strategic management. The aim of my thesis was to measure the extent of innovation management and the changes it has caused inside different firms. I analyzed the results of the research with different methods. International academic literature as well as basic and higher statistics have been used through the processing of the questionnaire. I could draw the conclusion with the comparison of these tools. As a final statement to end my thesis I made general and concrete suggestions for the firms which are eager to improve.

***Keywords*:** *competitive advantages, competitiveness, innovation management, survey*

1. INTRODUCTION

According to the experts of 30 countries, the definition of innovation has been widen. Innovation does not only incorporate the introduction of a new product/process or an improvement of an already existing one, but also means a new marketing-method and the introduction of a new organizational method. [1]
Product innovation means the introduction of goods or services that are new or significantly renewed. This includes the detailed technical descriptions, the ingredients and materials, the built-in software, the user-friendly features or other functional characteristics.
Process innovation includes new methods of production or logistics. This covers all the changes in techniques and in equipment or in the software.
Marketing innovation by definition is the use of new marketing-methods which are bringing significant change in product planning or packing, as well as into the introduction of new products to the market, and even in the advertisement of goods and pricing.
Organizational innovation means the implementation of new organizational methodologies in a firm's business practices, in the organization of work or in the external relationships.
As Peter Drucker implied in his book (The Discipline of Innovation; 1985), there is no doubt that innovation has a high importance in the competitive market, but the real question is how to innovate, how to manage innovation [12]. Ages ago innovation equaled professional development. According to Schumpeter (Capitalism, Socialism and Democracy; 1942), capitalism has its focus on searching for possibilities and opportunities,

while innovation aims to aggressively demolish the balance [20]. Innovation comes from a new idea which differs from the ordinary solutions. This is where most people usually mix up the definition of strategy and innovation.
While strategy covers a 1-5 year period, and it is planned previously, innovation come to be in a second. However, these two elements are indispensable for owning a competitive company, these have to be treated differently. When a change appears in the economy, the firms need to have a reaction. There are 3 types of strategic reactions to all types of change. When the company adapts to the environment it is called reactive reaction. In this case the change in the environment has taken place before the reaction from the firm was carried out. In the second case the company acts before the rules appear and that is called preactive reaction. The third type is proactive reaction when the organization influences or even forms the regulations.
The last option is very common when we are innovating. During innovation, the outcome has an effect on both the environment and the members of the competitive field. We must ask ourselves why we are innovating.

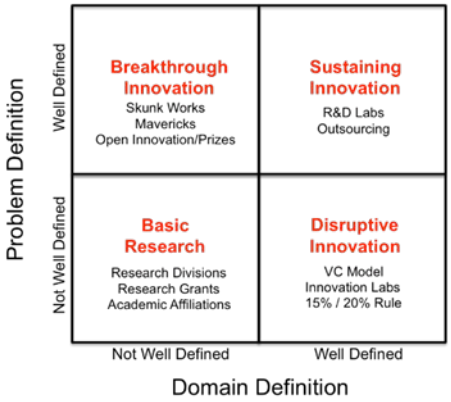

Figure 1. Innovation Matrix
(Source: http://www.forbes.com/sites/gregsatell/2013/03/07/how-to-manage-innovation-2/#293c2c5533d9)

Might be because we would like to be the first one to provide something new and to be the market leader of that product. In Schumpeter's study (1942) he ranks basic cases of innovation into five groups: selling the new goods or producing novel goods, introduction of new transportation practices, discovering new markets, use of new production materials, creating new market situation. Nowadays there are different groupings of innovation, for example the innovation matrix below which differs 4 groups from each other depending on the domain definition and the problem definition. [2]
In each side we can see whether the problem or the domain is well defined or not. Part of the innovation matrix is Basic Research that gains meaning when you are about to invent something completely new to which you don't have any support, previous experience. When the domain is well defined but the problem is not, it is called disruptive innovation [3]. In this case the original manufacturer is about to upgrade its products while a new company enters the market with the same product but for a lower price. Thus the previous company gives up its originally targeted consumers, by focusing on more profitable ones. The new firm entering the market concentrates on the people/consumers with lower budget for the same product before. After a while the new company gains profit and widens its product range, focusing on the mainstream products or upgrading the previous products to acquire additional profit. In this situation the innovation for the original firm is disruptive in a way, since it lets the other company enter the market.
In figure 2, it is easy to see how the incumbent has always had a higher product performance and focused on the most profitable customers with the progression of time.

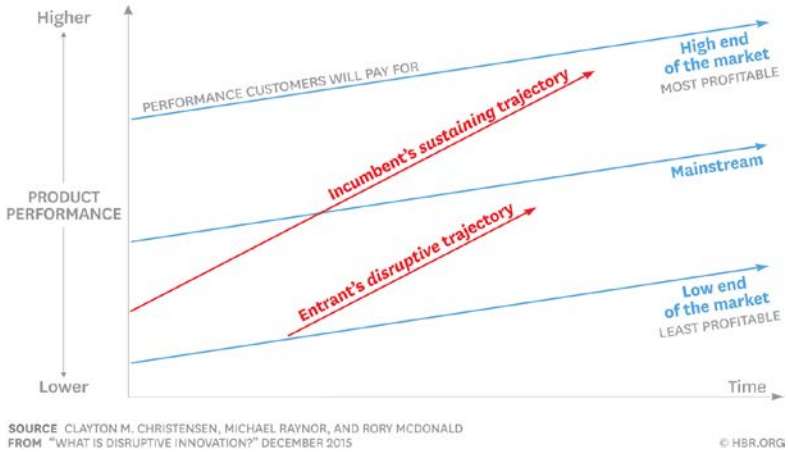

Figure 2. Disruptive Innovation

At the point where the incumbent firm serves the mainstream market, the new firm enters the market and has a disruptive trajectory.
Incumbent applies sustaining innovation which means that it is always improving and targets the high end of the market. Toyota's example is very applicable. It started to produce its first economic models then it added luxury features. Toyota still has the third biggest market share in the US [4]. Moreover in Japan it has the biggest market share [5]. Toyota improved its cars in a rapid way. They were the first in launching hybrid cars and making their cars more eco-friendly, more efficient in use. Toyota uses the well-known Japanese management behavior, Kaizen, which means continuous improvement [6].
The last type is the breakthrough innovation where the problem is well defined but the domain is not. A good example for this kind of innovation is Procter & Gamble's innovation implementation. It created a completely new market with the help of breakthrough innovations [7].

2. UNSUCCESSFUL INNOVATIONS

Having introduced some successful companies, on the other hand some bad examples can be also found. The well-known LEGO [8]. Company had some struggles back in 2003. It all started in the '90s when LEGO faced a challenging and rapidly changing market. The technology improved quickly and the themed toys gained space as well. The marketing team decided to innovate, they introduced new Harry Potter-themed toys and had an agreement with Star Wars to produce toys based on the film. The product portfolio expanded quickly, adding an amusement park, jewelry, education centers and even interactive video games. According to the forecasts, LEGO could have been the leading brand by 2005 if everything went well. The company employed plenty of marketing managers, however, it almost went bankrupt. Firstly, the toys of Harry Potter and Star Wars did not meet the expectations, hence big stocks remained unsold. The other reason why LEGO almost failed was that the marketing group made its decisions unreasonably hurriedly, not thinking enough about the consequences. They had no exact goals and just focused on more and more innovations. By managing the innovations, focusing back on its original market, from 2009 to 2012 profits have grown by 41%.
Coca Cola in 1985 had a failure with "the new coke". They introduced a new formula in taste- based on 200000 people testing it before launching the product. However the Coca Cola Company [9] whose popularity was flagging through years expected a increase which it eventually received, however not in a traditional way. Receiving 1500 complaining

phone calls a day, thousands of letters, Coca Cola set back its original product. Because loads of people realized the loss of their original coke, it got a big attention through that year and a boost in sales happened.

3. FOURTH INDUSTRIAL REVOLUTION AND THE DEMOGRAPHICAL CHANGES

After having discussed the basic types of innovations, I would like to put the emphasis on the external environment. Our life has sped up while the life cycle of the products shortened. This caused fierce competition on the market in creativity and innovation. We must focus on the future, primarily because the Fourth Industrial Revolution [10] is at the doorstep.

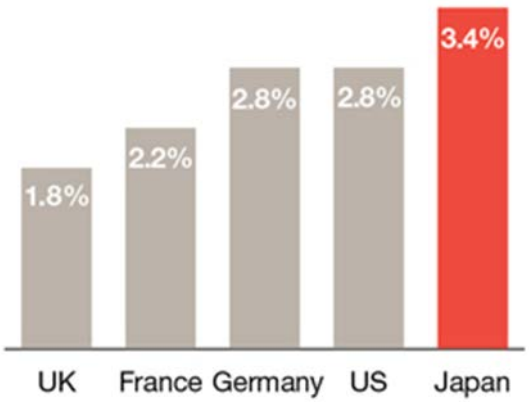

Figure 3. R&D spend as of GDP, 2010

(*Source: http://www.pwc.com/gx/en/services/advisory/consulting/revitalizing-corporate-japan/embracing-innovation.html*)

The Forth Industrial Revolution is going to put the emphasis on artificial intelligence and remotely controlled acts like booking a flight or ordering a cab. On the other hand, the new technological revolution can bring us some inequalities and widens the gap between those poor and wealthy within a given society. This can be explained by saying that the blue-collar jobs can be done by robots while the unskilled citizens are going to remain without jobs. Furthermore, the talented employees are going to earn more salary and become richer and richer. This will result in a society where the intellectual and creative or innovative minds are going to have more respect and money. The changing environment demands relentless innovation, using the combination of platforms and mobile applications. [10]

The Japanese [11] are pioneers in robotics, because they have monitored the demographic changes and paid enough attention to the forecasts saying that younger generations are about to stay in school for a longer period of time and not keen on doing minor tasks. Following the tendency where the workforce for traditional blue-collar job is about to decrease Japan solved the problem using artificial intelligence. [12]

In figure 3, we can see Japan as the forerunner of research and development according to a survey from 2010.

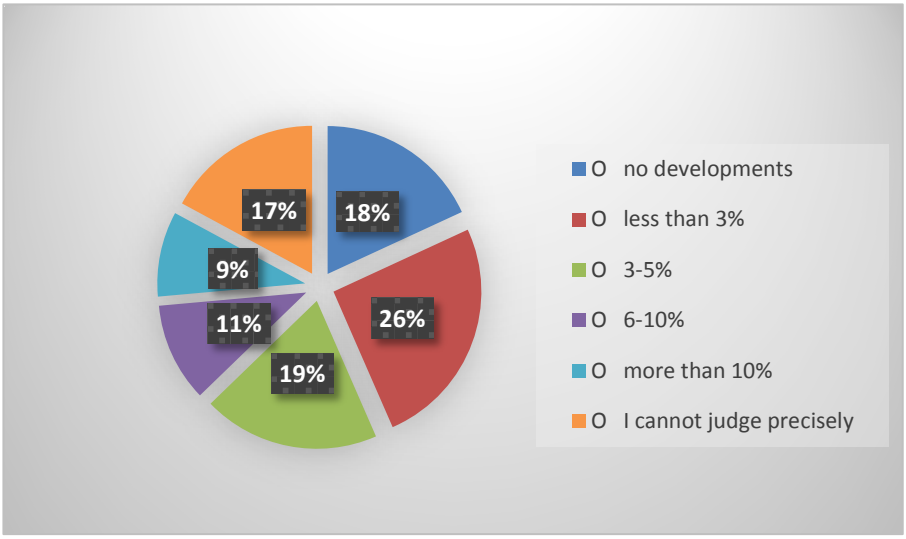

Figure 4. The % of the income spent on developmental expenditures

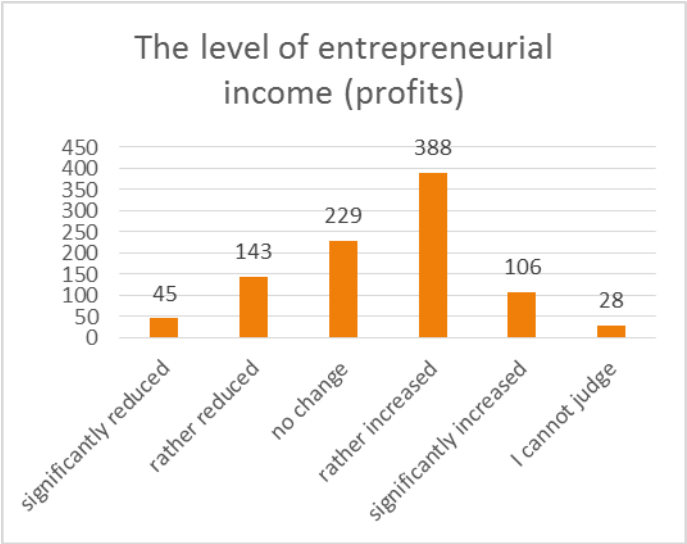

Figure 5. The level of entrepreneurial income (profits)

4. EXAMINING HUNGARY'S PLACE FROM DIFFERENT POINTS OF VIEW

In 2010, Hungary spent 1,14% of its GDP, which is less than the rate of the previous year, owing to the cut on the sources by the state [13,14].

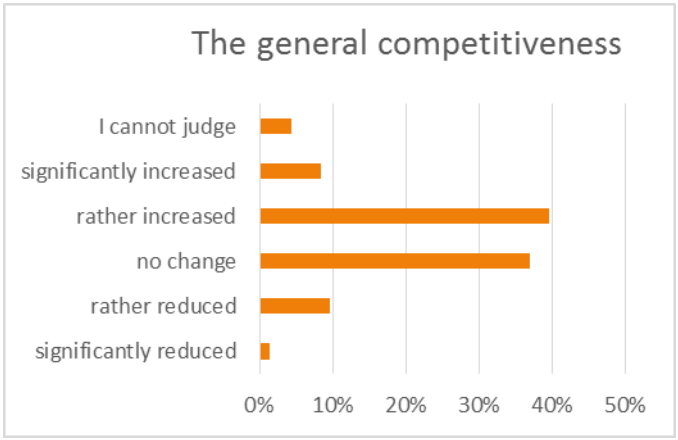

Figure 6. The general competitiveness

During a period of 10 years, the source of R&D investment has changed drastically. While in 2004, the R&D spending were mostly supported by the state, in 2014 the companies were mostly financing their own innovations [15]. At the same time an increasing tendency can be seen on how much they expend on developments. Japan is not the only country that has an outstanding result in R&D spending in the ratio of GDP. The Scandinavian countries have already realized the benefits of innovation-driven and knowledge-based economy. Spending above the EU rate for R&D and Education, Finland became a leading innovator among the EU countries. They started the new strategy before 2000 and we can see its result, how well its economy performs. Although neither Finland nor Hungary was among the most-improved countries before the change of regime, the line-up has changed. Finland is considered as the third leading innovator, at the same time Hungary is below the EU rate in the group of moderate innovators taking the 8th place.

Between the innovation leaders and the moderate innovators the strong innovators can be found mostly above the EU rate. Some countries which belong to this group are: France, the Netherlands, Belgium, and United Kingdom.

Hungary could improve its economical accomplishment only by 3 percentage points through 8 years. In 2004 Hungary's GDP reached the 63% of the average EU rate, while in 2012 it reached 66%. For 2011 Sweden [16] had its GDP 126% more than the average EU GDP rate, Finland's GDP is quite close as Sweden's with its 115% performance, while the Norwegian GDP in 2011 was 189% higher than the EU rate.

There is a connection between the educational program, the expenditures on innovations and the GDP of the countries. The spending on innovations [17] has increased in the last 5 years. Indeed, between 2013 and 2015 it stood at the same value (1,40%; 1,37%; 1,39%). Since 2010 it increased by 0,25 percentage points.

The survey on the very matter was conducted among 944 companies and contained several questions of innovation, R&D, competitiveness through many aspects.

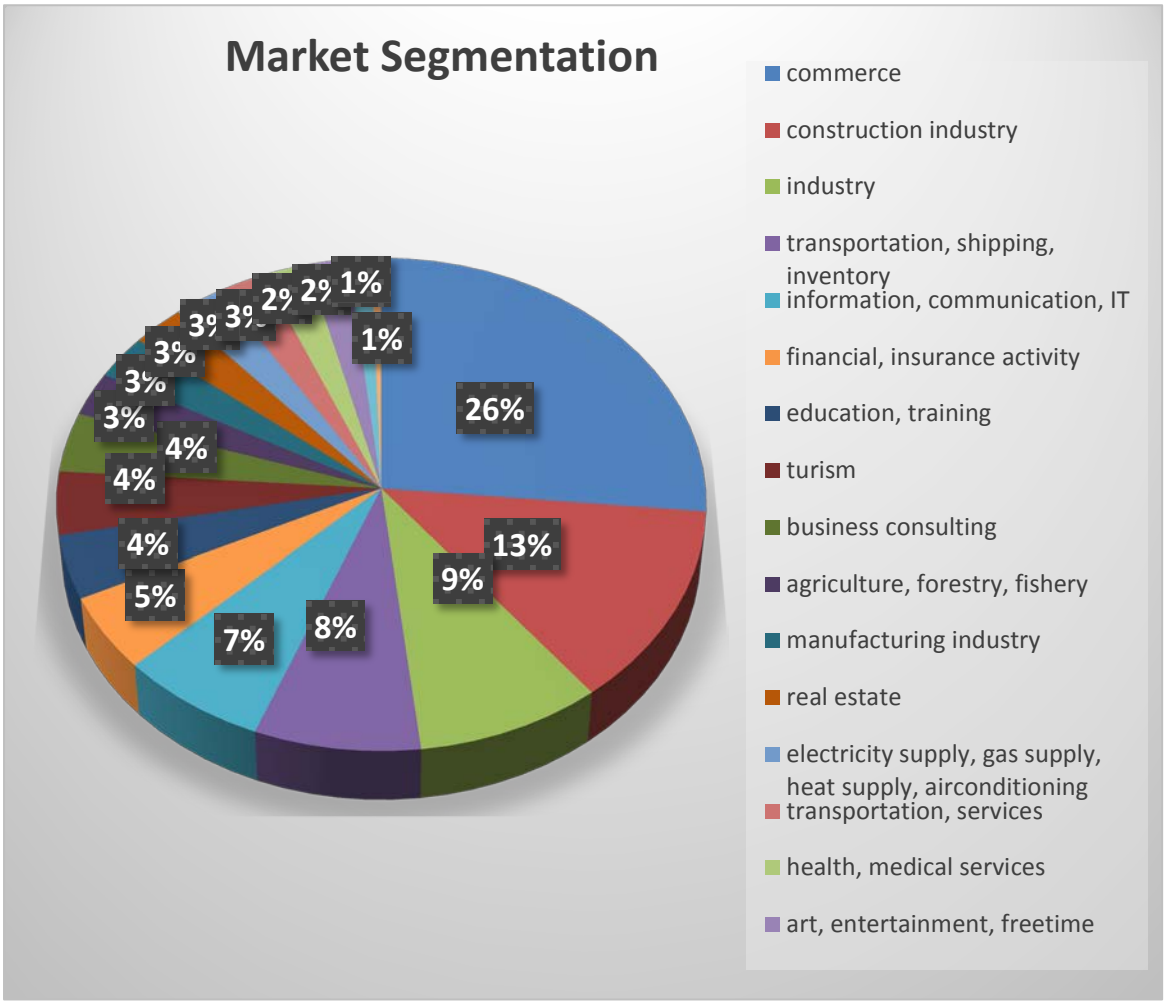

Figure 7. Market Segmentation

The firms which filled in the survey, mostly were involved in commerce (27%), on the second place they operated in the construction industry (13%), on the third place, firms were operation in heavy industry (9%). From the 944 firms, some indicated more than one field on which they operate, thus the answers sums up to 1306. Throughout 5 years the level of income slightly increased among 41,3% of the firms that filled in this part of the survey. Despite the fact that the level of income increased, the national market share has not changed for 39% of the firms, however for 31% it rather increased. The correlation coefficient is 0,91515 which implies that there is a strong connection between the income and the internal market share. 39% of the respondents have given the reply that the number of employees during the last 5 years have not changed. The general competitiveness – like the previous indicators say – has rather increased or not changed at all.

The statement "The enterprise implements several innovations every year, gradually increasing innovation performance." to which 32% of the repliers said it was rather not significant, should also be stressed.

The amount of firms that think that the environment is changeable is only 36%, while 32% of them are not paying sufficient attention to innovation. Among other things, it is also shocking that 59% of the responders had not paid great attention to R&D, which means they were not paying any attention at all or they rather not paid attention. The correlation coefficient is 0,206173 between the R&D and the consumer satisfaction indicators. This is a merely a weak connection between these factors. Precisely among the 944 firms who

replied, 26% of them spends less than 3% on developmental expenditures such as Research and Development or innovations or on other improvements. This allows me to suppose that the leader/manager of 2016 does not follow the researches and does not draw conclusions e.g. how much importance innovation has when talking about improvements and sustainability.

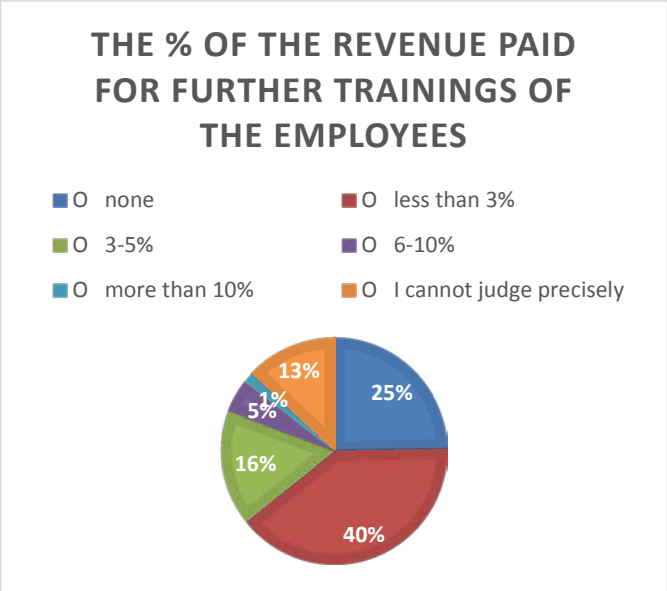

Figure 8. The % of the revenue paid for further trainings of the employees

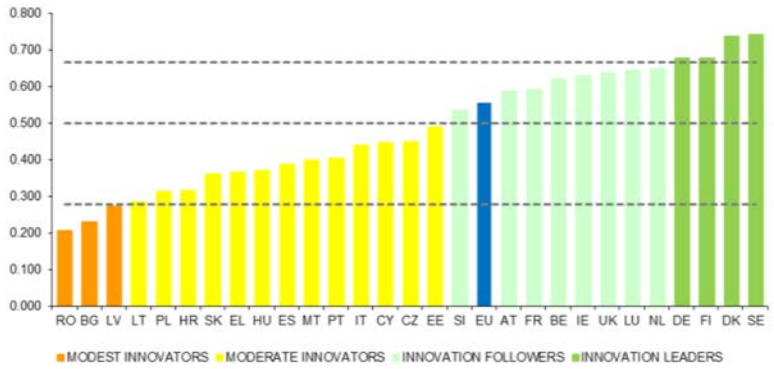

Figure 9. European Innovation Rank List 2015

8 years have passed since the depression in 2008 when there were many dismissals. On the figure 8 from the survey which shows the percentage of the revenue paid for further trainings of the employees it can be clearly seen that almost two third of the corporations have spent less than 3% of their revenue or no money on trainings. The attitude of the labor force has changed with the new generation. The Y generation loves challenges and novelties, does not like to stuck in the same situation, same job. This generation makes the HR managers' job challenging to not only choose a good work force but making them want to stay in the company. Even today, young labor force appreciate trainings because it adds value to the company and themselves as well, and also enables them to get higher on the career ladder. Generation Y requires more than remuneration, they demand involvement as well. Based on the study of the improvement in Finland, there is a strong connection between knowledge and competitiveness. Hence, if the Hungarian corporations

had invested more to human resources it would be able to present a faster development [18].
In the research of the World Economic Forum from 2015-2016 Hungary is at the 63rd place among 140 countries at the world ranking list of competitiveness [19]. What remarkable is that Romania (which country was considered as a modest innovator while Hungary as a moderate innovator) got ranked 10 place above Hungary.

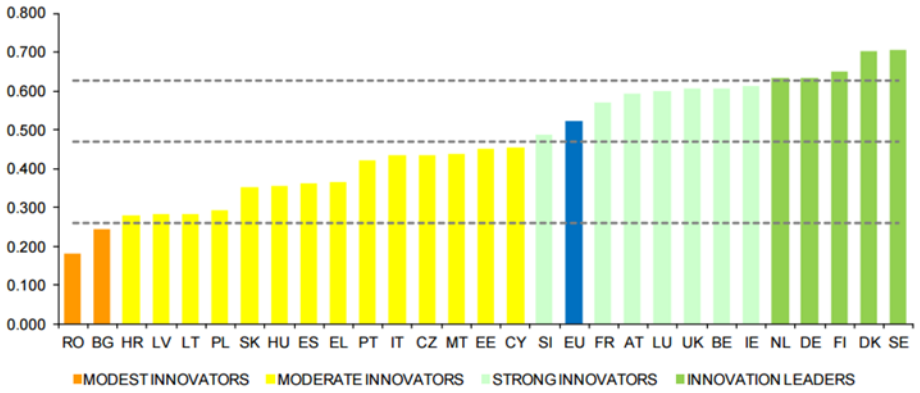

Figure 10. European Innovation Rank List 2016

Bulgaria which was also considered as a modest innovator and has not owned a well-developed industry in the past years, now have been ranked to the 54th place on the scale of the competitiveness. Latvia from the same group is at the 44th place. All the modest innovators could improve fast.
Comparing this to the research of 2014-2015, Hungary has lost 3 places, while Romania, Bulgaria have improved since last year.

5. CONCLUSION

Examining the answers of Hungarian firms, it can be stated that Hungary still has not realized the significance of the Human Resources and the demographical changes. Investing in knowledge and experience rather than saving money on further education of the employees would foster innovation. The organizational changes have rather not been initiated by the ideas of the employees (43%). To concentrate on the inspiration of employees to have more ideas and not to keep them for themselves would also be advisable. If the employees are more open, they will be more creative and have more ideas on how to innovate.
Every government should increase the amount spent on developmental expenditures and put the emphasis on education and motivate the corporations to innovate more at their respective field.
To draw a conclusion, Hungary has a lot to change for example in its cultural attitude at the business field. We have to let good innovations from abroad enter and – as through the years in history we have already proved – we are also capable to invent new things, make the processes better and improve the competitiveness.
The companies have to spend more on R&D and trainings, while the state has to make efforts to have the country competitive against others to attract the workforce. At the same time, we have to deal with the lack of labor force, in a way that educating more engineers to develop the field of robotics. Now we do not have to examine the present but focus on the future, and face up with the competitors successfully.

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