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INNOVATIONS IN THE SECTOR OF SMALL AND MEDIUM ENTERPRISES (SME)

ABSTRACT

The article explains aspects of the term „innovation" and innovative attitude. It describes general determinants of the implementation of innovation in SME as well as sources of innovation and main ways supporting innovative actions. The essence of the article is a presentation of results obtained in 2015 from a study on 50 companies (SME) from Lodz voivodeship.

Keywords: innovation, being innovative, SME sector.

1. INTRODUCTION

Active attitude in the area of innovation brings positive impact in the long-term development and growth of enterprises. Exploration and innovation are now one of the most important factors in the development of enterprises. They are related to building a sustainable advantage in the market. Innovation activities also give the company visibility and recognition. Nowadays, innovations need to be implemented; it is believed that they bring a chance of survival and development. Innovation of individual companies decides on the status and position of the national economy. The aim of the study is to show the level of innovation in the sector of small and medium-sized enterprises, based on research conducted on a sample of 50 companies (production and service branch) from the province of Lodz.

2. INNOVATION AND BEING INNOVATIVE

Organization for Economic Co-operation and Development (OECD) defines innovation as a process of implementing a new or improved product, process or service, or an introduction of a new organizational or marketing system. Innovation

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is the first practical application of ideas (http://www.oecd.org/science/inno/2101733.pdf).

The concept of innovation is derived from the Latin: innovare – „renew" (Kaszuba 2010). Colloquially it means something new, original, sometimes used as a synonym for the word „chang" For economic sciences it was introduced by J. A. Schumpeter in 1911. According to the author, innovations are (Schumpeter 1960: 104):

- the introduction of new or improved existing products,
- introduction of a new or improved method of production,
- opening a new market,
- application of a new method of sale or purchase,
- introduction of a new organization of production,
- the use of new raw materials or semi-finished products.

J. A. Schumpeter separated the concept of „invention" and „innovation"; he did not consider an invention that has not been put into production as an innovation (Żukowska, Pindelski 2010: 3). Subsequently, E. M. Rogers believes that „innovation is an idea, practice or object perceived by the accepting entity as a new" (Rogers 1983: 56–57). According to this definition, innovation does not have to be a product, or completely unknown form of organization, it may be something that is well known and widely used, for example, in one country but not in the other.

P. Drucker perceives an innovation process as a deliberated and well-organized operation, with ongoing research focused on changes in the internal and external environment of the company (Drucker 1992: 8).

Innovations make a company a competitive one. They contribute to the development and growth of enterprises, provide benefits that create the brand, and are a strategic resource. According to Z. Pietrusiński: innovations are based on the change of the current status quo into the other, positively evaluated based on the criteria that make up the progress (Drucker 1992: 5). In a different way innovation is seen by Z. Madej, who believes that innovation is a change, even such which cannot be described as positive (Janasz, Kozioł 2007: 16). Innovations are associated with positive economic effect, which must be felt at the microeconomic level (Żukowska, Pindelski 2010: 5). The need for innovation in a company means the lack of acceptance for current status. The answer for the need is an idea that leads to innovation.

Innovation relates to companies and entire economies. It means the ability to create and implement innovations and absorb them. Innovation involves an active participation of operators in the processes of innovation and commitment in obtaining sources and capacity necessary to participate in innovation process (Niedzielski 2005: 74). Innovation is essential for the properly functioning and competitive businesses. Innovation management is an essential skill from the

perspective of long-term development of companies (Lachiewicz, Adamik, Majetun 2008: 5).

The process of innovation is associated with considerable uncertainty. Innovative processes often end up as a failure. Companies are developing ways of reaction and protection against failure, increasing the chances of survival and of positive process of innovation. Following the innovation is the reason for the company to generate high costs; however, if they are carried out properly they can be a reason of extended life cycle of the organization.

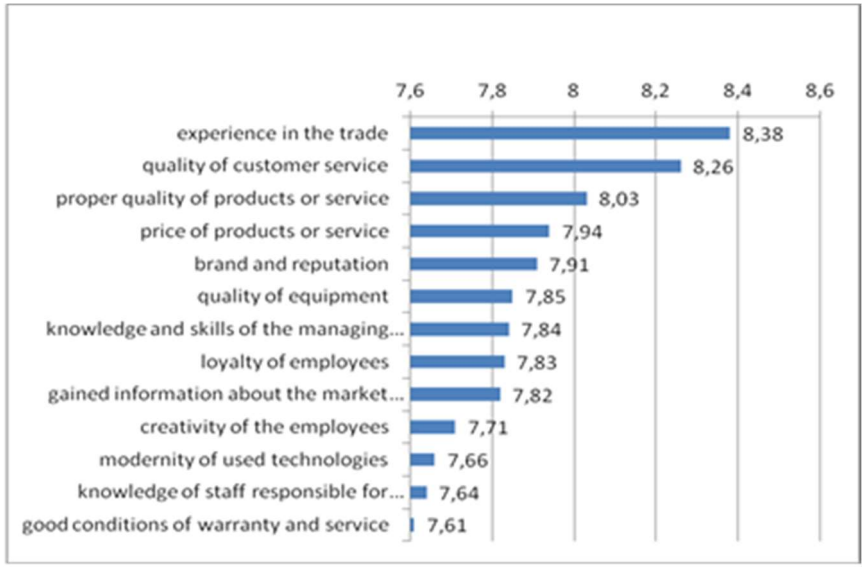
3. DETERMINANTS OF AN INNOVATION IN THE COMPANY

The research „Education of employees and its influence on competitive position of enterprises", commissioned by the order of Polish Agency of Enterprise Development (PARP), was conducted on a sample of 1,200 workers and 600 managers. The study has shown that in general opinion of the respondents the competitive potentials of companies are immaterial and material resources consisting of the following elements (PARP):

- knowledge and managerial ability of executives,
- modernity of applied technologies,
- size of the financial resources being at the disposal of the company,
- type of motivation and appraisal systems,
- employees creativity and their level of education,
- knowledge of people employed in R&D,
- density and range of distribution network,
- innovative solutions,
- quality of customer service,
- type of brand,
- positive reputation of the company.

The respondents highlighted that the competitiveness potential, mentioned above, can be a determinant of enterprise innovation. In the era of knowledge-based economy, innovation is a major source of competitive advantage. Determinants, creating the competitive potential of enterprises, are mostly analogous with elements of competitiveness potential, especially in the field of: organization and management, research and development and employment. Another group of determinants of innovation is cooperation in implementing new solutions with such entities as: customers, suppliers, consulting firms, research and development units, scientific institutions, technology transfer centers, financial institutions, and even competitors.

The results of the tests carried out by PARP illustrate the determinants of the innovation potential and competitiveness of the surveyed enterprises, according to the current state and feedbacks of the respondents. They are a representation of the answers to the question: what is a decisive factor for innovation and competitiveness in companies (Figure 1).



Evaluation was carried out on a scale of 1 to 10, where 10 – the maximum level of the resource.

Figure 1. Factors of innovation and competitiveness of companies

Source: http://badania.parp.gov.pl/index/more/18781, 10.08.2015.

The analysis of the data presented in fig 1 shows that experience in the trade, quality of customer service, quality of products and services, and their price have a relatively large impact on the level of innovation. Quality of the equipment, the ability of managers, and employees' loyalty to the company take the next places. Less importance is attributed to such factors as: the modernity of used technologies, creativity of employees, personnel knowledge, good warranty and service.

Smaller companies, which have troubles with maintaining a high level of material resources and the ownership of advanced technologies, should base their competitiveness on intangible factors instead: mainly related to the competence and qualifications of employees. In almost all areas of competitive potential of companies, there was recorded a prevalence of those companies, where the

leadership was hold by those with higher education (PARP). Therefore, knowledge and entrepreneurship of managers seem to be the primary determinant of innovation in organization.

Another important determinant is the capital of the customer, because the anticipation of the requirements of customers can be the cornerstone for creating a matrix of innovation. Customer needs can be assessed in points, according to the scale, which allows for obtaining a weighted average of specific needs. The needs, characterized by a small notification or lack of it, but for which there are technological capabilities, may be an opportunity for the organization. The existence of a strong response of competition to important needs may be dangerous (Bogdanienko 2004: 30–32). Matrix of Innovation is formed from combinations of these three components.

In the modern economy, increasingly important role is played by the ecological aspects of economic activity. The modern company is one of the most important components of the innovation policy, since the social responsibility of companies is associated with their development. Companies must consider these aspects, as this determines the acceptance of the products on the market. It is an important element of innovation policy in organization, which also has become a determinant of their innovation activities.

W. Kasperkiewcz suggests an analysis of the sources of innovative activities, taking into account demand and supply. In the source of the demand a need to change must occur, for which the necessary innovative measures shall be taken. Supply-side source occurs when the research for new methods of production is started for the already found solution (Kasperkiewicz 1986: 115).

According to D. Smith sources and determinants of innovation level in enterprises are people professionally engaged in the research for innovative solutions, for example concentrated in the sectors of research and development, as well as enterprising managers and owners of companies and motivation to explore and implement the concept. Knowledge is the component that connects all kinds of sources of innovation (Smith 2006: 88–89).

4. SUPPORT FOR THE INNOVATION FOUNDING IN THE SECTOR OF SME

It is well known that the sector of small and medium-sized enterprises (SMEs) has a great importance for the economy of the country. Data from the web pages of PARP from the end of 2011 shows that the participation of SMEs in total number of enterprises is 99.8% and its participation in GDP is 47.3%, moreover SMEs generate employment for more than 60% of the economically active people (Tanawa 2011). Due to the importance of this sector to the national economy, it is

worth to support innovative activities, since this area leaves a big gap, despite the fact that Poland is getting closer to European leaders. SME benefit greatly from the technologies and solutions developed and tested already in other countries, since their capability of their own research is relatively small (Lachiewicz, Adamik, Majetun 2008: 145–147). Investments in innovation mainly concern the assets, also purchases of software, licenses, technology or patents. The smallest proportion of expenditure on innovation is spent for courses and training about implementing innovations(Lachiewicz, Adamik, Majetun 2008: 145–147).

An important element influencing the development of SMEs is innovation support by national programs and the European Union. Also important are: demand, competition, unemployment, law and regulations. Those issues are usually linked to the mission and strategy of the company (Lachiewicz, Adamik, Majetun 2008: 145–147). They should be focused on innovation activities of individuals, ensuring the long-term competitive advantage.

Low activity of the research and development area and weak governance are an important obstacles, as well as economic barriers. Until 2003 innovative activity was carried out from own resources of the companies, which contributed to the lack of interest in new technologies, causing the development of imitation and limitation to implement only to improvements (Lachiewicz, Adamik, Majetun 2008: 149–151).

The first changes in this area were made in 2004, when the law on freedom of economic activity was approved. In addition, in 2005 the government also adopted a law about supporting innovative activity of SMEs. The innovation has also been included in the National Development Plan for 2007–2013 „Innovative Economy". The program was adopted by the Council of Ministers on 19 December 2006 (http://www.mg.gov.pl/Wspieranie+przedsiebiorczosci/Polityki+przedsiebiorczosci+i+innowacyjnosci/Definicja+MSP). Currently, the companies are covered by the support of „Enterprise Development Programme until 2020", which aims to increase the level of innovation in the economy and co-operation based knowledge (https://www.premier.gov.pl/wydarzenia/decyzje-rzadu/pro-gram-rozwoju-przedsiebiorstw-do-2020-roku.html). The government also approved a statement „About some forms of supporting innovative activity". The Act includes rules for granting of technological loan, by Bank Gospodarstwa Krajowego, and regulates the income tax from individuals, and legal means, ensuring reimbursement of part of the cost for innovation activities (Głodek, Gołębiewska 2006).

5. LEVEL OF INNOVATION IN SME, BASED ON THE RESEARCH[1]

In addition to statistics posted on the websites of the surveyed companies, an anonymous online survey was also conducted. The study included 50 small and medium-sized enterprises of the Lodz region, operating in the market from 1 to 10 years, at the most existing over 5 years. More than half of the companies are manufactures (35 companies), others provide services. The questions concerned the types and quantities of introduced innovation, financing plans, types of cooperation in innovation activity. The primary objective of the study was to know the attitude of entrepreneurship to the innovation and its level in the surveyed companies. The sample was selected randomly and does not constitute a representative sample. Questionnaires were directed to the offices and representatives of the company. In this case they were received very often by the owners or managers. The survey results are presented in Table 1.

Table 1. Summary of test results of the level of innovation in the surveyed companies

No.	Questions	Answer		
		Yes	No	Total
1.	For how long have the enterprises existed?	X	X	X
a)	Less than 1 year	2 (4%)	48 (0%)	50 (100%)
b)	1–5 years	8 (16%)	42 (30%)	50 (100%)
c)	5–10 years	40 (80%)	10 (100%)	50 (100%)
2.	What does the innovation mean?	X	X	X
a)	It is a way to reach the advantage in competition	50 (100%)	0 (0%)	50 (100%)
b)	It makes chance to enter a new market	35 (70%)	15 (30%)	50 (100%)
c)	It has no influence on the functioning of the company	0 (0%)	50 (100%)	50 (100%)

[1] The study was carried out by a student Damian Mrowiński under the direction of dr Beata Glinkowska (author of this study). The entire results of the research and analysis have been developed and included in the thesis titled: *Innovation Management with focus on sector MSP*, Łódź 2015. The study included only part of the test results.

Table 1. (cont.)

No.	Questions	Answer		
		Yes	No	Total
3.	Which innovative activity has been performed in the company during the last few years:	X	X	X
a)	Purchase of machines and equipment	41 (82%)	9 (18%)	50 (100%)
b)	Purchase of buildings or surfaces	18 (36%)	32 (64%)	50 (100%)
c)	Purchase of licenses or patents	5 (10%)	45 (90%)	50 (100%)
d)	Purchase of software	10 (20%)	40 (80%)	50 (100%)
e)	Trainings for employees	22 (44%)	28 (56%)	50 (100%)
4.	What kind of innovation is the most often used in the company:	X	X	X
a)	Innovation of products	10 (20%)	40 (80%)	50 (100%)
b)	Innovation of processes	30 (60%)	20 (40%)	50 (100%)
c)	Innovation of positioning	10 (20%)	40 (80%)	50 (100%)
5.	The impulse to implement some changes in the company is caused by…	X	X	X
a)	Research activity of employees	15 (30%)	35 (70%)	50 (100%)
b)	Changes implemented by competitors	35 (70%)	15 (30%)	50 (100%)
6.	Does the company have fundings for innovative activities?	X	X	X
a)	Yes	2 (4%)	48 (96%)	50 (100%)
b)	No	48 (96%)	2 (4%)	50 (100%)
7.	How is the innovative activity financed in the company?	X	X	X
a)	Self-funding	43 (86%)	7 (14%)	50 (100%)
b)	Fundings from EU	8 (16%)	42 (84%)	50 (100%)
d)	Bank loan	6 (12%)	44 (88%)	50 (100%)
8.	Does the company benefited from public funds from the state budget allocated to the innovation?	X	X	X
a)	Yes	3 (6%)	47 (94%)	50 (100%)
b)	No	47 (94%)	3 (6%)	50 (100%)
9.	Do you plan to use public funds earmarked for innovation?	X	X	X
a)	Yes	10 (20%)	40 (80%)	50 (100%)
b)	No	40 (80%)	10 (20%)	50 (100%)

No.	Questions	Answer		
		Yes	No	Total
10.	Does the company encounter problems in the implementation phase of the innovation?	X	X	X
a)	Yes	41 (82%)	9 (18%)	50 (100%)
b)	No	9 (18%)	41 (82%)	50 (100%)
11.	What kind of difficulties the company was facing in the implementation phase of the innovation:	X	X	X
a)	The resistance of workers against the change.	18 (36%)	32 (64%)	50 (100%)
b)	Failures resulting from errors in the planning process	35 (70%)	15 (30%)	50 (100%)
c)	Too small number of resources	10 (20%)	40 (80%)	50 (100%)

Source: Mrowiński (2015) under the direction of Beata Glinkowska.

The analysis of the findings contained in the table shows that 50% of respondents see innovation as the basis to achieve a competitive advantage, and for 35% of respondents it is an opportunity to enter new markets. Companies do not underestimate the importance of innovation for the existence and development.

The innovative activity of the respondents is based mainly on the purchases of machinery and equipment 82%, buildings or land 36%, licenses and patents 10%, information systems 20%, training for employees 44%.

Sources and determinants of innovation activity primarily are enforced by competition, which often comes down to the copying of ideas. In the studied case, the employees have a large impact on the level of innovation in companies.

Only 2 of the 50 (4%) companies surveyed have a dedicated budget for innovation activities. Innovative projects are financed mainly from their own resources 86%, but also from EU funds 16% and bank loans 12%. The use of EU funds and public funds is growing, but is still at a low level. Innovative activity is expensive, which constitutes a major barrier for entrepreneurs. The arduous bureaucratic and lack of reliable information and support at the stage of writing applications discourages entrepreneurs to benefit from public support. Only 6% companies have benefited so far from the financial help, but in the near future already 20% companies surveyed intend to use it as well.

Companies face many difficulties in the implementation process of innovation. The most common cause of failure in the surveyed companies is mistakes in the planning process, then the resistance of workers to change, and too few resources.

For comparison with the data of the website of Harvard Business Review, it is seen that the percentage of successful entries of an innovative product to market is located within a range from 30% to 80% (http://www.hbrp.pl/news.php?id=635).

6. CONCLUSIONS

Today, the issue of innovation has gained critical meaning. Introduction of Innovation has become one of the most important goals of the global economy. The level of competitiveness of a national economy is correlated to the level of its innovation. Innovative activities are undertaken increasingly also by Polish entrepreneurs, but many companies encounter too many barriers to successfully carry out the innovative project. Support from the government seems to be crucial to improve the level of innovation in enterprises. The aim of this study was to show the level of innovation in the sector of small and medium-sized enterprises on the basis of the tests. The results show that companies from the SME sector do not have generally funds intended for innovation purposes. If, however, they make innovative changes, they do so mainly from their own funds or loans. It is usually competition and the actions of competitors, which are determinants of innovative actions in companies. It proves that they do not have concrete, long-term plans of action in this regard. Most often they make changes in the processes and not in the products or technologies. To sum up, although companies from the SME sector are commonly considered to be innovative, the level of innovation is generally insufficient.

REFERENCES

Bogdanienko J. (2004), *Innowacyjność Przedsiębiorstw*, Wydawnictwo Uniwersytetu Mikołaja Kopernika, Toruń.

Drucker P. F. (1992), *Innowacje i przedsiębiorczość – praktyka i zasady*, Warszawa.

Głodek P., Gołębiowski M. (2006), *Finansowanie innowacji w małych i średnich przedsiębiorstwach*, *Vademecum innowacyjnego przedsiębiorcy*, t. II, Warszawa, (publication intended for free distribution).

http://www.hbrp.pl/news.php?id=635, 29.05.2015.

http://www.mg.gov.pl/Wspieranie+przedsiebiorczosci/Polityki+przedsiebiorczosci+i+innowacyjnosci/Definicja+MSP, 10.08.2015.

http://www.oecd.org/science/inno/2101733.pdf, 09.08.2015.

http://www.rsi.org.pl/dane/download/vademekum_2tom_finansowanie_innowacji.pdf, 11.08.2015.

https://www.premier.gov.pl/wydarzenia/decyzje-rzadu/program-rozwoju-przedsiebiorstw-do-2020-roku.html, 11.08.2015.

Janasz W., Kozioł K. (2007), *Determinanty działalności innowacyjnej przedsiębiorstw*, PWE, Warszawa.

Kasperkiewcz W. (1986), *Źródła innowacji. Klasyfikacja i charakterystyka*, „Studia Prawno-Ekonomiczne", XXXVI.
Kaszuba M. (2015), *Innowacja dobra na wszystko*, http://www.las.polskieradio.pl/innowacje/artykul192830.html, 09.08.2015.
Lachiewicz S., Adamik A., Matejun M. (2008), *Zarządzanie innowacjami w przedsiębiorstwie*, Monografie Politechniki Łódzkiej, Łódź.
Mrowiński D. (2015), *Zarządzanie innowacjami z uwzględnieniem sektora MSP*, Łódź, praca licencjacka, (B. Glinkowska kierownik naukowy, promotor).
Niedzielski P. (2005), *Rodzaje innowacji*, [in:] *Innowacje i transfer technologii – Słownik pojęć*, Matusiak K. B. (ed.), PARP, Warszawa.
PARP, *Determinanty innowacyjności i rozwoju przedsiębiorstwa*, http://badania.parp.gov.pl/index/more/18781, 10.08.2015.
Rogers E. M. (1983), *Diffusion and Innovations. The Free Press*, New York.
Schumpeter J. A. (1960), *Teoria rozwoju gospodarczego*, PWN, Warszawa.
Smith D. (2006), *Exploring Innovation, The McGraw – Hill Companies*, New York.
Tarnawa A. (2011), *Raport o stanie sektora MSP*, Warszawa, http://www.parp.gov.pl/files/74/81/626/18355.pdf, 10.08.2015.
Tidd J., Bessant J. (2011), *Zarządzanie innowacjami*, Oficyna Wolters Kluwer, Warszawa.
Żukowska J., Pindelski M. (2010), *Rola innowacji w zarządzaniu organizacjami – studium przypadku*, [in:] Pyka J. (ed.), *Nowoczesność przemysłu i usług – współczesne wyzwania i uwarunkowania rozwoju przemysłu i usług*, TNOIK, Katowice.

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Creativity is now an exposed trait. This is due to the high need for innovation, original and useful solutions that serve the development of the organization, their effective market entry and long-term survival. This publication is a collection of papers prepared under The First National Conference „CREATIVE VIBES. Kreatywnością napędzamy gospodarkę", whose aim was to stir issues concerning the significance of creativity from the point of view of the development of innovative economy, as well as to draw attention to the role of creativity in the education process of students and its impact on the development of professional competence.

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