Perception of Innovativeness in Companies and Business Environment Institutions

WOJCIECH MISTEREK
Maria Curie-Sklodowska University, Poland
wmisterek@interia.pl

BEATA LEWICKA
Maria Curie-Sklodowska University, Poland
beata.lewicka@interia.pl

The aim of this paper is to present key features of innovative enterprise in opinion of entrepreneurs and Business Environment Institutions. The survey conducted among entities from selected EU region reveals how innovativeness is described by entrepreneurs and institutions which supporting them. It appears that the key feature of an innovator is ability to quickly adapt to market changes by modifying offered products and processes. The significant problem, identified by the survey, is insufficient cooperation between entrepreneurs and universities/research centres. According to this, it is indispensable to create adequate mechanisms, which on the one hand would activate academic world to commercialize their research and on the other hand improve the research information flow.

Key words: innovativeness, enterprise, Business Environment Institutions, R&D

Introduction

A review of the scholarly literature exposes that innovation may be defined in many various ways, including its narrow technological aspect and its wider capture considering organizational and process changes in companies. The first definition of innovation was introduced by Joseph Schumpeter and it focuses mainly on tangible aspects of innovations, directly connected with production (Schumpeter 1934). Imperfections of Schumpeterian definition were later revealed by Peter Drucker (Drucker 2007), Andrew Hargadon and Robert I. Sutton (Hargadon and Sutton 2000). Their propositions of innovation definition are more focused on intangible perspective, including hard work and knowledge exchange. The dissonance also appears in academics opinions about re-using available solutions. According to Schumpeter, new implication of old ideas cannot be called innovation (Schumpeter, 1934). On the contrary, Hargadon

and Sutton describe implementing old solution into new context as a one of its main sources (Hargadon and Sutton 2000).

This variety of definitions and multidimensional analysing innovations and innovative projects create unfavourable conditions for pursuing coherent policy on innovation development, because particular institutions responsible for this process at country and regional level may differ in its interpretation. As a result, potential beneficiaries meet various requirements, which causes that the aid is addressed to heterogeneous group of recipients, which reduces its efficiency. However, more significant problem is an adequate interpretation of this term by entrepreneurs. The lack of one, coherent approach causes that entrepreneurs have problem with proper judgement if their planned projects are innovative or not. As a result, they do not know if they have any chance to receive financial or advisory help from supporting activity of Business Environment Institutions. The lack of this support may hinder the realisation of planned development projects. This situation was a premise to carry out a research on identifying the key factors of innovative enterprise. The research was conduct among Business Environment Institutions and entrepreneurs, which allows diagnosing significant differences in interpretation of analysing terms in both populations.

This article was presented at Make Learn conference in Zadar in 2013 and reformulated according to all suggestions, which appeared after fruitful discussions.

A term 'innovation' is derived from Latin 'innovatio' which means 'renovation' or 'innovare' which means 'to renew,' 'to revive,' 'to regenerate.' Generally, there is a tendency to use this term to describe new thing, activity or method that has never been used in practice before. The first scholar who has implemented 'innovation' term on the field of economics was J. A. Schumpeter. In 1911, he formulated the innovation definition, which is still quoted by economic theoreticians and practitioners. According to Schumpeter, as an innovation could be considered (Schumpeter 1934, 66):

- The introduction of a new good, or of a new quality of existing goods.
- The introduction of a new method of production (scientifically new or already existed but significantly upgraded).
- The opening of a new market.
- The application of new selling or buying methods.
- The conquest of a new source of supply of raw materials or half-manufactured goods.

- The introduction of the new organization of production process.

The most distinctive characteristic in presented definition is the use of 'new' adjective. According to Schumpeter, only the first application of specific solution is an innovation, further dispersal of the idea should be called imitation. It is worth to notice that in his definition Schumpeter focused particularly on technological aspects of innovation, underestimating its organisational dimension. Finally, Austrian academic concentrated exclusively on technological innovation, which he defined as: 'new combination of means of production, that is, as a change in the factors of production (inputs) to produce product (outputs)' (Schumpeter 1939, 87).

By contrast, P. F. Drucker defined innovation as a specific instrument of entrepreneurship, which is an activity that endows resources with new ability to create wealth (Drucker 2007). This definition emphasizes the necessity of active identifying changes in business environment and analysing capacity of their use in order to create new ideas. Considering innovation from this perspective reveals that innovation may appear not only in technological process, which is characteristic of Schumpeterian reflections.

According to Drucker, innovations permeate all spheres of company activities and may be related to product changes, changes in marketing policy (promotion, channels of distribution, extra services, etc.), changes in methods of management, organisational changes. As the main drivers of innovation may serve (Drucker 1998):

- Entrepreneurs' own unexpected successes and failures, including implementation of new products or unexpected external incident (i. e. natural disaster).
- Incongruity between reality and presumed, predicted state, because it introduces necessity of searching new, uncommon solutions.
- Necessity of improving production process' weaknesses.
- Surprising changes in market structure.

Drucker presents innovations as activities derived from changes in company and its environment that implement brand new ability to create wealth. In contrary to Schumpeter definition, innovation in Drucker's considering is rather social-economic than technological phenomenon. According to him, innovation requires hard work and regularity connected with analysing available opportunities and searching for their effective exploitation.

Hargadon and Sutton present different perspective of innovation. They considered innovation as an effect of knowledge exchange

from various functional company areas and its environment. A new, extraordinary integration of knowledge leads to creation of new products, services, processes. Therefore, implementation of old idea on new context still may be called innovation.

According to Hargadon and Sutton, enterprises may create their innovations by realising knowledge brokering strategy. It is made up of four practices (Hargadon and Sutton 2000, 157–166):

- Capturing ideas and conceptions.
- Keeping ideas alive, using active stuff cooperation.
- Searching for new uses of old solutions.
- Testing new ideas.

Hargadon's and Sutton's conception differ from those postulated by Schumpeter. They consider innovation as an effect of novel use of ideas, which are not necessarily new, whereas Austrian academic called this phenomenon as an imitation.

Contemporary, the most common definition of innovation is a definition introduced by OECD in document 'The Measurement of Scientific and Technological Activities, Proposed Guidelines for Collecting and Interpreting Technological Innovation Data' which contains methods of collecting and analysing data on economic innovation (also called *Oslo Manual*). According to Oslo definition, innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations (*Oslo Manual* 2005). *Oslo Manual* divides innovation into two kinds: technological innovations (connected with production and processes) and non-technological innovations (connected with organisation and marketing methods) (Bigliardi and Dormio 2009, 223–242). In comparison with Schumpeter's theses, Oslo definition does not include all innovation categories like opening of a new market or the conquest of a new source of supply of raw materials. The reason for that is that *Oslo Manual* deals with innovations, which take place only at the level of the firm. It considers innovation as a product, service, process or method new or significantly upgraded at least from specific company perspective. An enterprise does not have to develop an innovation itself; it may use available solutions, which was postulated by Hargadon and Sutton (2000).

To summarize, the variety of innovation definitions in scholarly literature, hampers its unequivocal interpretation by entrepreneurs. Therefore, they may find it difficult to judge if new solutions in

their companies are innovative or not. Schumpeter's definition that emphasizes technological aspects of innovation was in contrary to Drucker who describes innovation as a social-economic phenomenon, ensuing not only from implementing technological novelties but also from change in the way of thinking and hard working. Sutton's and Hargadon's reflections are also in contrast with Schumpeter definition, because they consider innovation as a new implementation of old ideas, which Schumpeter describes as an imitation.

As reconciliation between presented ideas may serve innovation definition from *Oslo Manual*. According to OECD document, innovation is a service, product, process, method (Drucker), new or significantly upgraded (Schumpeter) at the level of the firm, not necessarily invented by firm itself (Sutton, Hargadon).

Difficulties in interpretation of 'innovation' term induce to analyse this problem carefully. According to this, providing research on traits of an innovative enterprise seems to be the best idea to find universal, general definition of innovation. In order to do that authors of this article have conducted surveys which aim was to identify the characteristics that should have an innovative company.

Methodology

The surveys were conducted in 2011 as a part of a research project funded by Ministry of Science and Higher Education (No. NN 113 303038), entitled 'Financial instruments of support the development of innovative companies in Lubelskie Province.' The statistical data exposes that there were nearly 76 500 active enterprises in 2011 in Lubelskie Province (Central Statistical Office 2013, 68). Presented study has included 395 companies, which means that research sample stated about 0.5% of all population.

Surveys reveal that 192 entities have implemented various types of new solutions for their product, service, the manufacturing process, the organization of the company or the marketing instruments. Thus, the share of innovative companies in the research sample significantly exceeded the average in the country and the research's region.

In terms of business, form dominated sole traders – nearly 61%, limited liability companies had a significant share – almost 15% and last one group – partnerships had over 9% share. Other forms occurred occasionally. Analysis of the enterprises in terms of the extent of their impact showed that dominated part was local and regional companies, which accounted from 30.8% to 34.5% of the study sample. Significantly fewer businesses had nationwide (23.5%) and

international (11.2%) scope. However, it should be noted that this structure is characteristic for the whole country and the test region (Central Statistical Office 2013).

In the above-mentioned project, alongside, was carried out detailed study among business environment institutions. Individual in-depth interviews (IDI) were performed within a period June-September 2012, among 20 institutions. In the research were involved entities responsible for support during the generation of the idea and the implementation of innovations, such as transfer of technology centres, science and technology parks, a cluster of industry, the local government investor service centre or consulting firms. Among the studied institutions, there were also a number of entities supporting the process of raising capital such as banks, leasing companies, loan and guarantee funds, venture capital funds, business angels and institutions responsible for the distribution of the various aid programs financed by the European Union, both at the national and regional level.

One of the aims of the research was to identify the characteristics that an innovative entity should have and what features seems to be the most wanted among supporting institutions. Another question stated in this research was how did companies consider innovations and which theoretical perspective is the closest to this approach.

Results

The entrepreneurs included in the study, has been asked to indicate one definition, which in their opinion describes innovation best. Nearly half of respondents think that innovation is an activity connected with implementing new technological an organizational solutions or introducing new products or services. Novelty and technology are elements characteristic for Schumpeter theories. On this basis, it can be concluded that 100-year old definition is still the most adequate for entrepreneurs from examined region.

About 25% of the surveyed considered innovation as a work connected with preparing and launching production and preparing to sell new or upgraded products and services or launching new methods of distribution. This definition refers to Drucker's, who emphasizes work aspect in creating innovations.

Only 16% of respondents considered innovation, similarly to Hargadon and Sutton, as a process consisted of transferring available opportunities into new ideas and implementing them to new practical context. Hardly 10% of entrepreneurs indicated that innovation is interposing new knowledge in production process.

Similar results were achieved by comparing answers of those entrepreneurs who admitted that they had introduced innovation in their entities. Nearly 58% of innovators indicated definition, which corresponds with Schumpeterian tradition, 21% were much more willing to choose definition which emphasizes work aspect in introducing innovations. Only 15% pointed at implementation of available solutions on new practical areas, 6% chose the most general definition – interposing new knowledge in production process. To sum up, entrepreneurs from Lubelskie province, no matter if they were introducing innovation or not, have small awareness about intangible aspects of innovation. Indication on definition, which is the most similar to Schumpeter reflections, means that innovation is considered mostly as a technological, tangible, new value. A few of entrepreneurs from region notice intangible, social innovation aspect, connected with working on their creation. Even less of them consider innovation as transforming available opportunities into new solutions.

A lack of interest about knowledge transfer in innovation creating process seems to be the most disturbing problem in examined region. At the level of entity, it is absolutely free and unlimited. According to this, entrepreneurs should appreciate this forgotten aspect of innovation, which was emphasized by Hargadon and Sutton (2000).

As it was previously presented, companies defined the innovation in very technical or even technological way. Therefore, it is reasonable to deepen the analysis by identifying the attributes that an innovative company should have.

The analysis of data presented in table 1 shows that due to companies from Lubelskie province, the most important feature of the innovator is the ability to adapt to market demands. More than 60% of the surveyed companies indicated such key factors as the continuous improvement of its products or services, and quick adaptation to changes. In addition, it can be seen that the first from the described features is more often indicated by the companies, which has carried out an innovative project. On this basis, it can be concluded that innovation is largely the result of changes made by the demand side (in this case of enterprises) and not the result of projects carried out by research institutions and then commercialized in the market. This situation should be evaluated positively as it is a proof of understanding that the main initiator of the implementation of innovative projects has to be the company itself. This is because they are the most knowledgeable about the changes in the area of technology,

TABLE 1 Features of Innovative Companies in the Opinion of Surveyed Business Entities from the Lubelskie Province (%)

Innovator feature	(1)	(2)	(3)
Continuously improves its products/services	72.4	62.6	67.3
Quickly adapts to market changes	66.7	67.5	67.1
Continuously trains their employees	50.5	36.9	43.5
It is computerized in all business areas	30.7	23.2	26.8
Introduces modern forms of human resource management (e. g. flexible forms of employment)	31.3	21.2	26.1
It has its own R&D Unit	23.4	25.6	24.6
Participates in trade fairs, exhibitions	25.5	22.7	24.1
It has a flexible organizational structure	27.1	19.2	23.0
Works closely with universities and research centres	20.3	18.2	19.2
Funding research and development	16.1	18.7	17.5
Work in modern industries (such as biotechnology, information technology, telecommunications, aerospace, cybernetics and robotics, etc.)	17.7	14.3	15.9
Has a competitive range of products/services	17.7	14.3	15.9
Rigidly sets goals and tries to achieve them	15.1	14.8	14.9
Employees are treated more as a freelancers than labour force	11.5	11.3	11.4
Take action in the area of corporate social responsibility	11.5	11.3	11.4
Employs scientists	6.8	10.8	8.9
It is managed by scientists	3.1	2.5	2.8

NOTES Column headings are as follows: (1) innovative firms, (2) non-innovative firms, (3) all respondent firms.

product/service, or manufacturing process that will guarantee their long-term development.

The confirmation of this thesis is relatively high assessment of features associated with the search for innovative solutions or in the market through participation in fairs and exhibitions, or through independent researches in their R&D structures. Especially in the case of the second feature the achieved result (24.6%) seems to be surprisingly high, as possession such unit is very expensive and not very common among Polish companies. In comparison, less because only 19.2% of the surveyed companies indicated the need for cooperation with universities and research centres, and less than 9% of them – the employment of scientists. It is a proof of large difficulties in cooperation between enterprises and universities in Poland. It seems that in this area the biggest changes are necessary to enhance the commercialization of scientific research and to encourage companies to search for new technological solutions to national Universities.

An interesting observation from the study may be noticing a significant role of the company's own resources in creation the innovative solutions. It is indicated by the high evolution of two factors, associated with the development of human resources – the training of employees (43.5%), and the implementation of modern forms of human capital management (26.1%). In addition, these two indicators were more often pointed by a group of innovative companies in comparison with non-innovative firms. Thus, entrepreneurs recognize the need for self-improvement and to incur expenditure on the process in order to obtain any competitive advantages resulting from the implementation of innovations. Similar high rate obtained other factor – technical resources aimed at computerization of all functional areas of the company

However, it is surprising, that surveyed companies recognized a small role in the creation of innovation in the industry trade in which the entity functions. This means that in the opinion of the searched companies an innovator can run its business in all sectors of the economy. It should be also highlighted that in the population of innovative firms the role of this feature is much higher, which is a proof to perceive greater ease of implementing innovative projects in certain sectors. It is because the greater pressure of the market at both the customers and the competition side.

One of the key links of supporting innovation in companies should be business environment institutions. Due to European Union Council, their role should focus on increasing access to financial instruments, creating a friendly regulations and procedures, supporting institutions that can create and implement innovation, especially in the area of research and development and in the creation of links between science and business (European Commission 2009, 74). Therefore, research concerning the characteristics of innovative companies was also carried out among 20 institutions that support business innovation in the studied region.

The researches confirmed the high assessment of the characteristics associated with dynamic adaptation to changes in the market and the continuous improvement of products and services. These features were indicated by more than 75% surveyed institutions. It means that the entrepreneurs and their tendency to modernize the company are crucial in the development of innovation. However, it is necessary to develop appropriate incentive mechanisms that will increase business activity in this area. One example can be financial instruments both non-refundable and return. The capital is one of the major obstacles in the implementation of innovative projects. It

TABLE 2 Features of Innovative Companies in the Opinion of Surveyed Businesses Environment Institutions

Innovator feature	(1)	(2)
Continuously improves its products/services	67.3	89.5
Quickly adapts to market changes	67.1	78.9
Works closely with universities and research centres	19.2	52.6
Funding research and development	17.5	47.4
Has a competitive range of products/services	15.9	42.1
It has its own R&D Unit	24.6	36.8
Continuously trains their employees	43.5	31.6
Work in modern industries (such as biotechnology, information technology, telecommunications, aerospace, cybernetics and robotics, etc.)	15.9	31.6
It has a flexible organizational structure	23.0	21.1
Introduces modern forms of human resource management (e.g. flexible forms of employment)	26.1	10.5
Participates in trade fairs, exhibitions	24.1	10.5
It is computerized in all business areas	26.8	5.3
Rigidly sets goals and tries to achieve them	14.9	5.3
Employees are treated more as a freelancers than labour force	11.4	5.3
Take action in the area of corporate social responsibility	11.4	0.0
Employs scientists	8.9	0.0
It is managed by scientists	2.8	0.0

NOTES Column headings are as follows: (1) companies, (2) business environment institutions.

seems that the potential exists also in the area of creating ideas and innovation. As shown research presented in table 2, business environment institutions describing innovator features paid much more attention to the cooperation between business and the scientists. It is confirmed by the very high proportion of indications for such features as closely cooperates with universities and research centres (52.6%) and funds research and development (47.4%). On the contrary, to the business they pay more attention to the development of innovation in the region through the supply side.

Therefore, the research conducted at universities should be more commercial, in order to be easily implemented by the regional entities. A proper system of relations would be helpful in achieving it, on the one hand would it force R&D units to develop new technologies, and the other hand would force the business to seek innovative solutions in the domestic market. Key in this area may be centres of technology transfer and technological and scientific parks, which allow for greater involvement of scientists in innovative projects. On

the contrast, much lower by business environment institutions were rated characteristics associated with shaping the firm's financial resources. This applies both to the development staff through training or effective management systems and technical resources in the field of computerization of individual functional processes.

Business environment institutions assessing innovator features found much higher factors associated with the industry in which the company operates and its product. Therefore, the experience in working with innovators can put business environment institutions the thesis that the selected sectors or markets create a much greater chance of developing innovative solutions. This is an important clue to the development of a support system in the regions. Support instruments should be concentrated in certain areas that should become core for region's development. It is also worth noting that the specificity of the region and its existing infrastructure will have a significant impact on what kind of industries will be developed.

Discussion

As shown the study most traders equate innovation with technical or product aspects. There is the very low awareness about the intangible aspects, resulting in an undervalued the modification process. From point of view of the effectiveness of the projects and their commercial nature it seems to be justified, because it shows that businesses want to meet market expectations and implement new technologies, or opt for the introduction innovative solutions for the product or service. This increases their chances of securing new markets or new customers and allows for distancing the competition. As a result, innovative projects mainly affect the revenue side of the surveyed enterprises, as opposed to the innovation process, which is primarily aimed at reducing the costs of the company. Confirmation of this is the evaluation of the key features of an innovator, who in the opinion of both the business and the business environment institutions should be able to adapt to the needs of the market

One of the key problems diagnosed in the study is that the surveyed companies do not notice the potential in dynamiting innovative processes in collaboration with research institutions and universities. This area seems to be the key to improve the situation in the future and activate the larger group of entities to implement innovative projects that create competitive advantages in the long term. However, this requires significant changes on the universities and research institutes, in order to redirect the research areas that can quickly find the commercial effect. For this purpose, greater activ-

ity must demonstrate business environment institutions, mainly the transfer of technology centres and science and technology parks. This should improve the flow of information about the expected research areas from business to the scientific enterprise and in the other side about any possession innovative technical or process solutions that may be applied directly to companies.

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