

INNOVATIONS IN DEVELOPMENT OF PERIPHERAL REGIONS

Malgorzata Juchniewicz¹, phd. habilitated, prof. UWM
¹University of Warmia and Mazury in Olsztyn, Poland

Abstract. In this article, based on a case study of peripheral region in Poland, the meaning of innovations in regional development was discussed. Empirical studies were made by the usage of diagnostic survey. It consisted of the representative group of business entities localized on the studied area. They were referred to, in chosen aspects of innovative activity which was: level of innovativeness of enterprises, plans of implementation of innovations in future, influence of innovations in operation of enterprises and the most important barriers of conduction of innovation activity. They take into consideration the meaning of external factors influencing the innovativeness of enterprises and regions, it was also rated the possibilities of usage of the sources from the funds of EU by studied entities.

Key words: innovativeness, business entities, regional growth, peripheral regions.

JEL code: R11, R19.

Introduction

Economic development² of international groups, countries or regions depends from many factors. Theoretical conceptions and empirical studies emphasize among them above all (besides „classical“ growth factors) innovations and resulting from its implementation, the level of innovativeness of enterprises and territorial units. Theoretical connection between innovativeness and economic growth was considered early by Adam Smith. He did highlight that work productivity consist of speciality and division of work (enabling the usage of more efficient machines and devices, and the growth of qualifications of workers). Consequently, it contributes to the bigger wealth of nations (Smith, 1776). Meaning of the innovations in economic development was also seen by List (1856). He stated that the production potential depends not only on natural resources but also on the non-material capital. The concept of innovation was introduced at the beginning of XX century by Joseph A. Schumpeter (1939). He did highlight that innovations are the main factor of growth and basis of business cycle. According to him the economic growth is the result of new combinations of production means (Schumpeter, 1960). He stated that that entrepreneur who is active is making two types of changes. He withdraws the existing products, changes the way of acting, production and transport forms, forms of organization to introduce the brand new which is the process called „creative destruction“. New actions are to develop the growth of production, sale and profit. It leads to the development of enterprise. The essence of the business of entrepreneur is to create the innovations which are contributing to the economic development. Borts and Stain (1964) as well with Richardson (1973) took notice that technological innovations are an exogenous factor in the economic development of the regions. An important scientific concept about the studies of the connection between innovativeness and regional growth is the model of economic development proposed by Porter (1960). In consist of 3 phases: growth drawn by basic production factors (factor-driven), development based on investments (investment-driven) and development based on innovations (innovation -driven). Author did highlight however that the ability for the assimilation is the basic factor of diversity of competitiveness of regions and the source of differences in their economic development. Modern theoretical conceptions (ex. Lundvall, Johnson 1994, Freeman 2006, Soete

¹ malgorzata.juchniewicz@uwm.edu.pl

² economic development includes, besides quantitative changes in basic macroeconomic values, the quality changes, which may be defined as a civilization progress; it was assumed that it means achieving a sustained growth rate of per capita income to enable the nation to expand its production at a rate faster than the rate of population growth (Todaro, Smith, 2012).

2008, Freeman and Soete, 2009) emphasize even more the necessity of including the innovations in shaping of the diversity in regional development.

Theoretical connections between innovativeness and economic growth are confirmed by empirical studies¹. Results of considerations of factors of economic growth of EU countries (*Sprawozdanie...*, 2018) point out that among previous decades it was a result (mainly, about two thirds) from the innovative activity. Europe which is inhabited with only 7 % of world population generates about 20 % of world investments in research and development, publishes one third of world high class scientific publications and has a dominant position in such industries as: pharmacy, chemicals, mechanical engineering and fashion. The report shows also that expenditures on public investments for innovative activity in EU are below target level of 3 % of GDP and are unevenly distributed between EU regions with its highest concentration in Western Europe. It is also accentuating the necessity of support the less developed countries of EU in their efforts to usage all of the national potential in a range of scientific studies and innovations on a regional basis. Regional aspect of innovative activity is also highlighted in many modern elaborations about such issues (Asheim et.al, 2006, Koschatzky, 2006). Klepka (2005) sees that the growing meaning of regional approach in creation of innovations results from the spatial dependencies and their surroundings. Adds also that it is caused by nearness from the one side and from the other, the bigger trust among partners coming from the same region, professing the same values and shaped by the same cultural factors.

In the policy of endogenic growth of regions, the particular role is played by the enterprises localized on their territory. Adamik (2013) points out that by the local dimension of their activity, they influence its growth. Olejniczak (2015) notices that the stable and long-term improvement of competitiveness of business entities relates to their innovative activity. It has a special meaning in case of peripheral regions, poorly developed. It was the premise to conduct a research, that the main aim was evaluation the innovative activity of enterprises working in braniewski county which is one of the less developed regions in Poland. Empirical studies were conducted using diagnostic survey with the use of questionnaire. It was addressed to the representative group of 220 subjects. After verifying of completeness of gathered data, the analysis was made based on 199 questionnaires. Structure of studied group was convergent with the real structure of enterprises, localized in the analysed region. In this study, the Focus was put on the most important issues connected with the innovative activity of the enterprises, mainly: information about the present innovative actions, plans of conduction of innovations, influence of innovations of functionality of enterprises and the most important barriers in the process of conducting the innovative actions. Attention was also paid on the possibilities of usage of aid funds from EU funds in creation of innovations. In this article created a thesis that the limited range of innovative activities of enterprises located in peripheral regions has a negative impact on their long-term development.

Research results and discussion

Manifestation of undertaken by industry enterprises innovative actions is innovative activity, which basic indicator is the percentage of innovative subjects in total number of enterprises. In conducted research 35 % of respondents declared that they realise the innovative actions in their enterprises. Most of them did not implement innovations. Poplawski and Polak (2011) highlight that

¹ some of the authors claim that it is not so clear; Denison (1962) points to the fact that significant expenditures on research and development causes only the mild, nothing significant benefits; Huebner (2005) shows that development by innovations, especially with breakthrough has stopped, and even ended; analyses presented in "The Economist" (2013) levers these hypotheses.

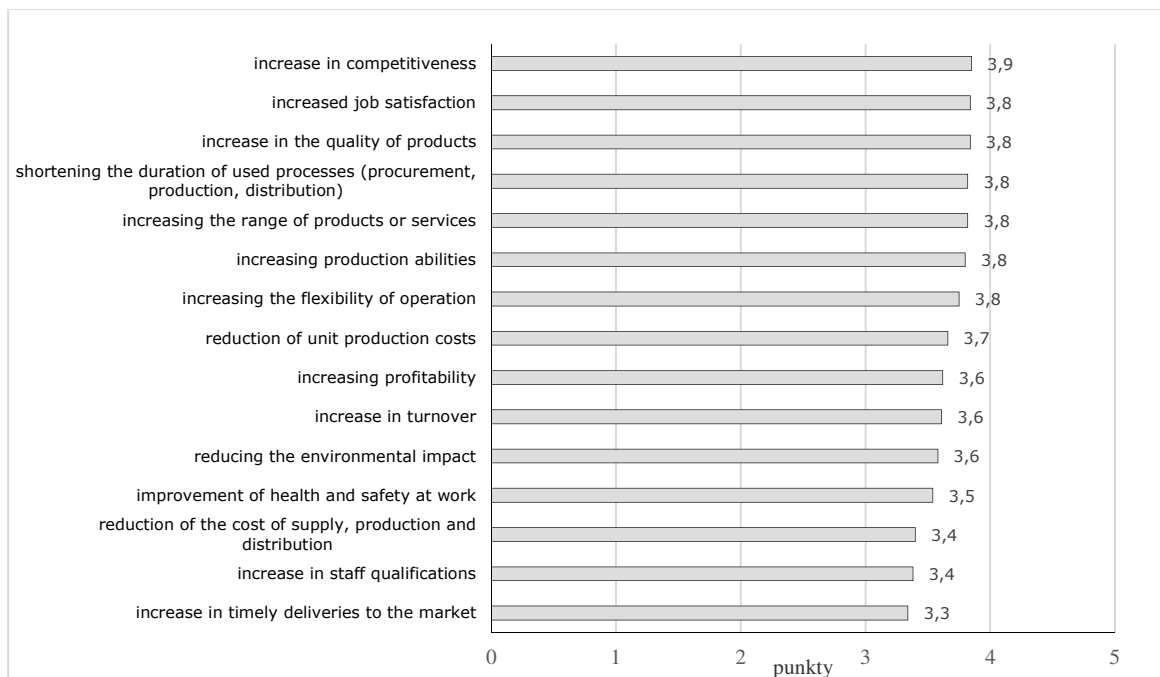
the lack of innovativeness significantly limits the competitiveness of enterprises and thus the possibilities of development of regions in which they are localized. It is also confirmed by previous studies of microenterprises localized in warminsko-mazurskie voivodeship (Decyk, 2015). Gathered by the author results show that with the growth of level of innovativeness of enterprises, their competitive position is getting better. Similar conclusions come from the studies of Sipa (2011). Lack of activity in terms of innovativeness in enterprises of braniewski county may in future limit their competitive position. This also results from the report of Ministry of Enterprise and Technology in which it was stated that „*polish enterprises are subjects which are less and less innovative, involving actively in research-development works and more and more willing to establish cooperation*” (Przedsiębiorczosc..., 2018). These analyses point out also the growing tendency for taking the risk by enterprises which is a complementary element of innovative activity. Goksoy and others (2013) indicate that running an innovative business is connected with two most important aims of betterment of enterprises competitiveness – improvement of product quality and technological quality. Consequently, innovations are factor which enable the correction of their productivity and ability of adaptation to the changing market conditions. It should be connected with the high indicators of entrepreneurship rate and establishment of new enterprises. Entrepreneurship indicator in the braniewski county determined by number of subjects inscribed in REGON registry in conversion on 10 thousand of people in general and 10 thousand people in productive age was slightly smaller than in warminsko-mazurskie voivodeship but significantly smaller than in comparison with the regions which are most developed in Poland¹. It relates to the economic structure of analysed region, resulting from the scale of conducting the economic activity and the branch structure of analysed subjects. They were entities classified mostly to the sector of micro-, small and medium enterprises, low technology and acting on the local scale. In such context, the intensity of structural changes leading to the creation of economy of knowledge should depend from the initial level of development of region economy. It means that there should be two types of recommendations, one for the regional policy in developed regions and the second for the others. Hospers (2005) adds that when supporting traditional sectors does not seem a viable solution maybe a recombination of the „old” with the „new” could create a more appropriate direction of policies.

Type of introduced innovations reflects the strategy of competition accepted by the enterprise. Innovations which are realized in braniewo county are mostly technological (66,7 % of indications) and/or product (59,4 %). It is visible the limitation of organizational innovations which should be particularly significant in smaller enterprises. Usually in smaller economical subjects there is a bigger dynamism of action, better motivation to work, flexibility and high market orientation (market niche strategy). Companies such as this are established by inventors, being characterized by simple organizational structures with non-formal bonds and fast communication. Results of studies are convergent with the one from the scale of the whole country. According to the latest studies about innovativeness economic subjects in Poland (*Dzialalnosc innowacyjna...*, 2018) it follows that the biggest meaning had the process and product innovations.

Disturbing is the fact that nearly 58 % of entrepreneurs from braniewo county do not plan the innovative actions in the future. As a source of such doing, the entrepreneurs were saying that there is No need to conduct any new innovative solutions. According to the data presented in the report of National Polish Bank (*Potencjal innowacyjny...*, 2016) it is the main premise not to conduct future

¹ <https://bdl.stat.gov.pl>

innovative actions by the economic subjects, not only from braniewo country but in the whole country. In the context of very low level of innovativeness in Poland and its various regions it is a very unfavourable phenomenon. It is worth to mention however the high level of awareness of entrepreneurs about the benefits coming from innovations (Figure 1). Representatives of the companies from the braniewo country in the first place highlight that innovations influence the level of competitiveness of their companies. Innovations have also a favourable (motivational) influence on the growth of satisfaction from work with innovative products and technologies and within the innovative system of production (services). Similar level of evaluation was also obtained by the consequences of such innovative actions as: growth of product quality, reduction of time of used processes (supply, production, distribution), increase of the proposed assortment of products or services, enhancement of production abilities, increase of the level of flexibility of operation. With the innovations, entrepreneurs also associate main economic categories such as: opportunity for lowering the unit costs of production, increasing profitability of conducted activity, increase in turnover. Entrepreneurs also pay attention to the elements which are in less grade direct economic goals of their companies, being also the relevant effects of innovative actions ex.: reduction of harmfulness to the environment, improvement of health and safety at work. According to the respondents the lowest influence of innovations has on the increase in timely deliveries to the market, reduction of the cost of supply, production and distribution, and increase of personnel qualifications.

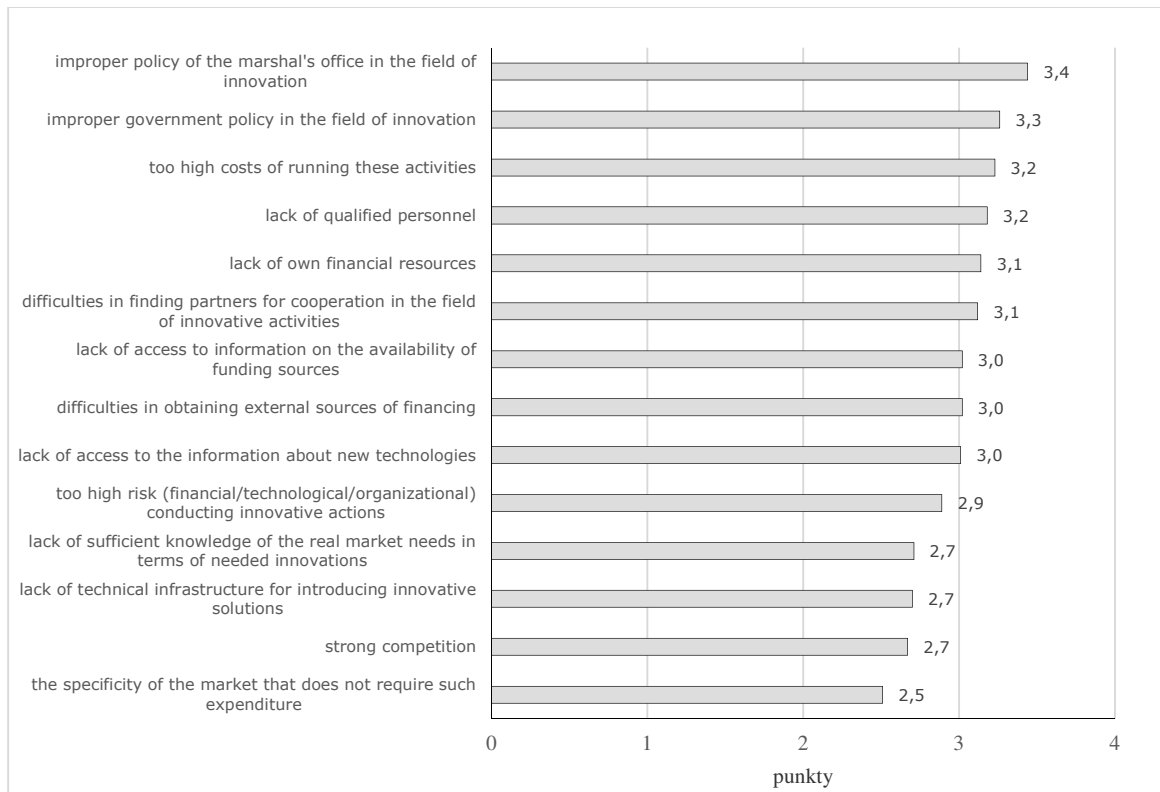


Source: author's elaboration

Fig. 1. Influence of innovations on the elements of enterprise functioning (1 – low, 5 – vary big) (average of points)

The most important obstacles in conducting the innovation activity which were pointed out by entrepreneurs from braniewo county are among many the wrong policy of marshal's office and government in the field of innovation (Figure 2). The owners of the enterprises did evaluate negatively the too high costs of conducting the innovative actions. It was pointed out also on the fact of lack of qualified personnel and the lack of enough financial resources. In the range from 3,2 to 3,0 point were evaluated also: difficulties in finding the partners for cooperation in range of innovative activity, lack of access to the information about new technologies, difficulties in gaining the external

sources of funding, lack of access to the information about availability of funding sources. Less critically, was approached to the high level of risk (financial, technological, organizational) taking innovative actions. In the group of the least important obstacles in running an innovative business, the respondents gave answers: specification of market which do not require incurring expenditures, strong competition, lack of technical infrastructure for introduction the innovative solutions, lack of sufficient recognition of real market needs in terms of needed innovations.



Source: author's elaboration

Fig. 2. The most important barriers in running innovative activity (1 – low meaning, 5 – vary big meaning) (average of points)

The source of funding of innovative activity within the analysed enterprises was among others own sources (80 % of indications). In such context the relevant is evaluation of possibility of usage by companies the aid funds from many types of EU funds. The biggest group of entrepreneurs (27 %) was applying for help under Regional Operational Program Warmia and Mazury. This program concentrates on the warmian-masurian economy and education of staff, enhancement the situation on the labour market, increasing the availability to the public services, overcoming the region's energy exclusion, improving the quality of the natural environment, filling gaps in the transport system, revitalizing cities and reducing poverty in the region. Some over 16 % of respondents pointed out with an interest to the support programs realized by labour office. Such programs have mostly activation and supportive character of employment by the one who are looking for work in various regions. Programs which aim is to develop activity of the companies, did support mainly the investment needs, consisting of: buying the new equipment, infrastructure development and so on. These expenditures do not have to be connected with big innovations but should be a part of developing the production or range of the services and influence in positive way on the competitiveness of the company within the market. They occurred mainly in the form of loans. Interest in such programs of support was declared by some over 15 % of studied entrepreneurs from braniewo county. Another important program of EU, which was also in an interest of braniewo county

companies was the program called Knowledge Education Development Program (some over 12 % of indications). This program aim is to support above all the activation of young people, higher education, society innovations, mobility and transnational cooperation, as well with the reforms in areas of employment, social inclusion, education, health and good governance. Efficient and effective usage of external funds should be priority for both growing enterprises which want to develop and the local government to take care of general conditions for the socio-economic development of the region. According to the opinion presented by entrepreneurs, the big meaning has efficiently working institutional system, which in significant part is responsible for usage of the EU funds. Most often accented barriers connected with gaining the EU funds by entrepreneurs from braniewo county were excessive bureaucracy and formalization of proposals and limited access to the information about the programs. Efforts for EU assistance was also impeded by the lack of information about the possibility of usage and the range of support programs as well, the cost of developing the application. Presented data confirms the thesis by Todtling'a and Tripl (2005), who state that in peripheral regions there is a low level of absorption of public funds for innovations. Oughton and others (2002) define it as „regional paradox of innovations“. It refers to apparent contradiction between higher need of expenditures on conducting the innovative processes in less developed regions and their relatively small ability to use the public funds for investment in innovations compared to the more advanced regions.

Conclusions, proposals, recommendations

- 1) Conducted analyses point out the fact of small range of innovative activities done by the economic subjects which are localized in studied region. In such context we may assume their limited influence for its long-term development.
- 2) Analysed enterprises are more interested in gaining the material technology (process innovations) than in generating or gaining fresh knowledge. It can be understood as in context, when trying to overcome technological gap which can divide regional and national companies from the enterprises that are from high developed countries. Such actions are rational as the economic growth of peripheral regions is determined by the scale of adaptation and implementation of new technologies used in leading regions and countries.
- 3) Disturbing fact is the one, that people are not interested in foreign capital in funding the innovative activity, besides the fact that lack of it is pointed out as one of the main barriers of implementing the innovations. It is caused by the lack of tradition of investing in innovative activity of economic subjects localized in peripheral regions and their small interest in gaining the funds from EU.
- 4) Unfavourable phenomenon is the lack of participation of studied enterprises in regional systems of innovations resulting from the limited trust to the public government, both at national and regional level. Inappropriate policy of the Marshal's Office and the government in the field of innovative activity are pointed out as two, main barriers which are limiting the conduction of innovations in business entities.
- 5) Regardless of subjectivity of pointed by the respondent's sources of limitation of innovation implementation, it must be highlighted that the innovative policy at the national and regional level (especially in peripheral regions) is the main impulse for the changes in this area. It means that in case of proper support from the point of institutional surroundings, it is possible to

develop the innovative actions of business entities and as a consequence their bigger influence on regional growth.

- 6) Regarding to the activities taken by the enterprises it should be mentioned among other, the necessity of proper preparation of innovation strategies of individual organizational units (innovations in practice often have limited range and more even more often they result from the current economic situation rather than from strategic analyses). Enterprises should not consider only the changes against the background of competitors, but as well with the elements which favour more dynamic innovative activity that can be the bigger mutual integration of business entities with other enterprises or other subjects from their surroundings.
- 7) In case of regional innovative policy, it should be strived to the bigger usage of institutional relations for implementation of the innovative strategies. In this context it is worth to take notice for the disturbingly weak focus on the use of technical and economic consulting by the owners of studied enterprises and the cooperation with institutions of local government units. Using the perceived awareness of respondents, that the building of competitive advantage on the market should be based on quality actions connected with implementation of innovations, the support is needed from the institutional environment. It may in long-term perspective strengthen the perspectives of development of various regions.
- 8) Summarizing the conducted considerations, it is needed to highlight that both the level of development of peripheral regions and the level of innovativeness of enterprises which are located within them is determined by economic structures. It results from many factors, which are: natural, social or historical conditions. In most of them there are sectors and branches of so-called low technology which are naturally less innovative. It does not mean however that they should be not implementing the innovations, but when it comes to the comparison analyses (which always have relative character) we should examine the results with some caution.

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