THE WAY OF DEFINING INNOVATION IN THE CONTEXT OF REGIONAL GOVERNANCE

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Abstract

This article is aimed at the topic of defining innovation. The author presents innovations in theoretical dimension. He also reveals sources of innovations and their connection with the policy of the European Union, as well as innovation in the context of contemporary theories of regional development.

Key words: innovation, innovativeness, regional governance, competitiveness, governance.

Introduction

Present day is characterized by numerous changes in the approach to regional governance. The last decade has shown clearly these changes, because regions have begun to compete with each other. Material resources have ceased to play a central role, because knowledge and new technologies based on intellectual potential have set a new trajectory of changes called a *knowledge-based economy*. Innovation has become one of the most important determinants of development and competitiveness of the region.

Educating new generations we must take into account the information society. Acquisition and processing of knowledge is a key skill of *knowledge-based society*. Information is treated here as immaterial resource, equal or even more valuable than material goods. That definition should be taken into account together with the development of services such as transmission, processing and storage. As it was pointed out by Joseph A. Schumpeter, "innovation is a function consisting of creative thinking and action."[2]

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[2] J. Schumpeter, *Teorie rozwoju gospodarczego* (Theorie der wissenschaftlichen Entwicklung, 1912), Warsaw 1960, p. 44.

The idea of governance is a new look on the modification in relations between the public and private sectors. In the context of ongoing changes due to globalization, innovation, as well as political, economic and civilization transformations a new trend of multi-level governance has clearly emerged. The idea of regional governance implies that the regions become fields of action, which compete with each other. Thus we can clearly identify a model of collective action based on networking, regulation, multilateral agreements, etc.

Theoretical dimension of innovations. The attempt to clarify the term

The concept of *innovation* comes from Latin innovare, what means "creating something new." Thus, in the process of conceptual deduction it can be specified that this term is a process of converting the existing norms, principles, knowledge in order to introduce them again to practical use in society.

Władysław Janasz and Katarzyna Kozioł propose such a definition of innovativeness: "Common understanding of innovativeness means something new and different from existing solutions; it is associated with the need of changes for the better and often is used as a synonym for change."[3] It should also be added that innovation can also be classified as follows: *technical innovations* are the ones that are created through science and technology, and *organizational* or *institutional innovations* are associated with the development of entrepreneurship.

The Organisation for Economic Co-operation and Development (OECD) has developed a term *innovation* as follows:

- Product innovation: is the introduction of a good or service that is new or significantly improved with respect to its characteristics or intended uses. This includes significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics.
- Process innovation: a new or significantly improved production or delivery method. This includes significant changes in techniques, equipment and/or software.
- Marketing innovation: a new marketing method involving significant changes in product design or packaging, product placement, product promotion or pricing.

[3] W. Janasz, K. Kozioł, *Determinanty działalności innowacyjnej przedsiębiorstw*, Warsaw 2007, p. 11.

- Organisational innovation: a new organisational method in the firm's business practices, workplace organisation or external relations.[4]

It should also be noted that *innovation* is an interdisciplinary term and a network process, because it joint not only science or knowledge but also technique. *Innovativeness* has been a quite popular and fashionable term recently that derives from the economy. This concept is introduced to economics by Austrian economist Joseph Alois Schumpeter (1883-1950). By creating a theory of economic development he became one of the most prominent economists of the twentieth century. In his work dated 1911 he proved that the main force of economic development comes from inside not from outside.[5] In the theory of Schumpeter it is important to fulfil the following three conditions. First, the existence of creative entrepreneur, who is also a force of innovation. The second are innovations themselves, which are placed on the market by such entrepreneurs, as new solutions, products, etc. The last condition is to take a loan, because, as it was described by the author, the entrepreneur is not obliged to use its own source of funding. Of course, in this sense, this theory criticized the neoclassical approach. The force that supports the innovation is energetic management process.

The term *innovativeness* can be heard on TV and mentioned in the press relatively often. Jan Fagerberg and Bart Verspagen indicate that innovation is the word on everyone's lips.[6] It is important to perceive this term in a proper way. Firstly, it should be considered as a result which relates to goods or services. The second meaning of this term is ongoing processes understood as a phenomenon of innovation, which includes its meaning not only as the final result, but all actions that leading up to it. The competitiveness of the region and most of all its success are provided by a series of interactions from the creation of the idea, through implementation, to achieve the desired goal.

The research of the American economist Michael Eugene Porter (born in 1947) must also be mentioned in this article. Porter believes that the wealth of a nation are neither inherited natural resources, the potential labor force nor a strong currency. Wealth is generated through the generations. This comprises the ability to create and acquire knowledge, and thus develop innovation. Porter considers that development is dependent on innovations and a high level of innovation leads directly to high standard of living.

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[4] OECD, Eurostat, 2005, O*slo Manual. Guidelines for collecting and interpreting innovation DATA*, Third edition, p. 46-52.

[5] See: J. Schumpeter, op.cit.

[6] Cf. J. Fagerberg, B. Verspagnen, *Innovation studies – The emerging structure of a new scientific field*, "Research Policy" 2009, vol. 38, no 2, p. 218–233.

Sources of innovation – an attempt of classification

A source of innovation "includes impulses, causes and places (institutions, groups of people) of creation of new technical knowledge and factors determining this process."[7] The first classification of sources of innovation was made by Peter Ferdinand Drucker (1909 – 2005), who lists seven sources of innovation. They are: the unexpected event that can be understood as a success or failure. The second one is a mismatch between reality and imagination about her. The third is innovation, which stems from the need to process, and the next are changes in the structure of industry or market. These four sources are located within the organization. The other three sources are external: demographics, changes in perception, and new knowledge in science.[8]

M. Osęka and J. Wypijewski list determinants of innovation sources according to the following classification:

"The external (exogenic) source of innovation include:

- innovative projects developed by the Polish Academy of Sciences and universities,
- innovative projects developed by governmental institutes in collaboration with universities,
- innovative projects developed by industrial institutes, experimental centres or design offices,
- development of new products design supplied under license,
- specialized centres organizing conventions, fairs, exhibitions, issuing literature and magazines.

Internal (endogenic) sources of innovation are:

- innovative projects developed by the organizational units of technical facilities,
- innovative projects submitted by enterprise employees, such as inventions, utility models, refine and improve the organization of work. "[9]

[7] K..B. Matusiak (ed.), *Innowacje i transfer technologii. Słownik pojęć*, Polska Agencja Rozwoju Przedsiębiorczości, Warsaw 2005, p. 190.

[8] Cf. P.F. Drucker, *Innowacja i przedsiębiorczość. Praktyka i zasady*, Państwowe Wydawnictwo Ekonomiczne, Warsaw 1992.

[9] M. Osęka, J. Wipijewski, *Innowacyjność przedsiębiorstw. Ekonomiczne i organizacyjne determinanty*, PWN, Warsaw 1985, p. 24-27.

Innovations and European Union

"The modern perception of innovation moves away from a single event and focuses on complex processes, phenomena and events creating new models, goods and technologies in the sphere of production and services. Innovations occur both in a given space and connection system which is called an innovation system. It consists of production and scientific-technical subsystems, institutional solutions and relations as well as the relationships between them. They describe the level of innovation of the given region."[10]

Innovations require a lot of work, knowledge and concentration, as well as the involvement of an innovator. "The drive to make better use of existing capacity, including work, knowledge and capital, as well as building new forms of competitive advantage through an increase in spending on development activities, ie. research and development, education, infrastructure, information society and methods of their effective use for economic purposes is the only right solution. Therefore, an opinion that for the EU member states innovation is the basis for sustainable economic growth and improving economic and social conditions has been expressed more and more often. It is assumed that state aid in the field of research and innovation can contribute to a more innovative economy, both by preserving product market competition as a stimulator of innovation, but also by establishing a framework to help Member States to develop effective forms of support for innovation."[11] In the EU, innovation is regarded as a necessary priority to the development of the whole Community. So, developing this idea, it should begin in the regions and goes through the states up to the Community.

Regional policy has become closely linked to innovation policy under the Lisbon strategy. Since 2000, for the following 10 years, Europe had set itself the goal of a dynamic and competitive politics.[12] In terms of the European Research Area this is especially illustrated in the Article 179.[13] The European Union was to become an effective developing region in the world utilizing innovation on a larger scale than the United States. Finally the initial assumptions was not implemented effectively, because "[...] the

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[10] T. Markowski, *Konkurencyjność i innowacyjność polskich regionów wobec akcesji do UE*, [in:] *Ekonomiczno-organizacyjne uwarunkowania rozwoju regionu*, Wydawnictwo Uniwersytetu Łódzkiego 2004.

[11] E. K. Chyłek, *Problematyka innowacji w Unii Europejskiej*, Financing Polish Science, Herba Polonica, vol. 52, 2006.

[12] Cf. M. J. Radło, *Wyzwanie konkurencyjności. Strategia Lizbońska w poszerzonej Unii Europejskiej*, Instytut Spraw Publicznych, Warsaw 2003.

[13] „Journal of Laws" 2004.90.864/2 – *The Treaty on the Functioning of the European Union* – consolidated text incorporating amendments introduced by the Treaty of Lisbon.

Lisbon Strategy adopted in 2000, which had assumed that Europe would technologically overtake the US, ended in a spectacular failure."[14] Despite the hardships in achieving the objectives of this strategy, the EU aims to continue to achieve their goals. The Lisbon Strategy has been replaced by a new long-term program for 2010-2020: *Europe 2020 – A strategy for smart, sustainable and inclusive growth*. The new strategy opened a debate on the challenges and trends of developing economy. Of course the regional development, which is envisaged as a dominant and competing with other economies, was not missed.

Decentralization has contributed to a clearer display of the region as a place of innovation. The regions are the most appropriate level of management to popularize the research and development. The activities of regional policies should focus primarily on the use of local potential in order to stimulate growth and the already mentioned competitiveness.

Innovation Policy

According to Peter Niedzielski innovation is "a feature of business entities or economies, meaning the ability to create and implement innovations, as well as their absorption, connected with an active engaging in innovative processes and taking measures in this direction. It also means involvement in the acquisition of resources and skills necessary to participate in these processes."[15] Innovation policy is characterized by a components of science and technology policy. It supports economic innovation and it is an essential part of the network environment of partners, especially small enterprises. Its main objective is to reduce the level of risk and uncertainty for companies introducing innovations. Innovation is measured by the number of introduced innovations and size of spending for this purpose, therefore it is related to well-defined resources.

"Modern innovation policy is:

- a policy promoting broadly defined innovation and technology diffusion;
- a policy which treated innovation as a network process, affecting many correlative actors. It is focused on improving the ability of companies

[14] Cf. W. Lorenc, *Chiny gonią Zachód w nauce. I wkrótce go prześcigną*, „Rzeczpospolita", 27.01.2010 r., http://www.rp.pl/artykul/2,425224_Chiny_gonia_Zachod_w_nauce__Wkrotce_go_przescigna.html [22.04.2015].

[15] P. Niedzielski, *Rodzaje innowacji,* [in:] K. B. Matusiak (ed.), *Innowacje i transfer technologii. Słownik pojęć,* Polska Agencja Rozwoju Przedsiębiorczości, Warsaw 2005, p. 74.

to adapt to not one, but many different technologies through instruments such as technical and research support, information programs as well as expansion of business services;

- a policy of "soft" support for technology users, including support for consulting, training, information and promotion, the flow of people between the companies and the various cooperating institutions, etc. Intermediary innovation institutions have to play a crucial role;
- a policy in which the state acts as a coordinator and a facilitator who creates the institutional framework for self-regulation of innovation and and its diffusion;
- a horizontal policy (cross-sectoral) to an increasing extent, in place of the previously dominant approach focuses on the sectoral issues (eg. technical infrastructure, the sphere of science and technology) and support companies and institutions involved in the innovation process. An important goal was to gain public acceptance of science and technology;
- the domain of regional policy in most developed countries. This stems from the fact that innovative structures are primarily regional in nature. Therefore at this level there are the most suitable conditions and factors for creation a climate for entrepreneurship and innovation;
- a policy essentially aimed at small businesses, although larger entities may also benefit from the effects of many projects undertaken by this policy. State support for small businesses in the field of innovation is justified by the need to compensate for market, systemic and regulatory imperfections. They cause many limitations and obstacles which impair the absorption capacity of companies, access to the necessary knowledge and other resources, much more acutely experienced by small than larger companies. Because big companies have necessary resources and skills, as well as more developed contacts with the environment, they are considered by politicians as quite well prepared to innovation. Possible state aid addressed to this group of companies may involve support of their own research programs, and collaboration with smaller companies."[16]

[16] E. Stawasz, *Polityka innowacyjna*, [in:] K.B. Matusiak (ed.), *Innowacje i transfer technologii. Słownik pojęć*, Polska Agencja Rozwoju Przedsiębiorczości, Warsaw 2011, p. 198-199.

Innovation and modern theories of regional development

In the literature, regional development is defined in many ways. Ryszard Brol[17] emphasizes that three definitions by Jacek Szlachta, Tadeusz Kudłacz and Andrzej Klasik are most synthetic. They define the regional development as:

- systematic improvement of the competitiveness of business entities and the standard of living, as well as the growth of economic potential of regions, contributing to the socio-economic development of the country;[18]
- permanent increase of the standard of living and economic potential in the scale of a particular territorial unit;[19]
- sustainable growth of three components: economic potential of regions, their competitive strength and the quality of life in the context of sustainable growth conducive to the development of the entire national community.[20]

Most of modern management theories concentrate much attention on issues related to innovation and cooperative network connections. Among theories to be mentioned is the growth poles theory, as well as growth theory and the new economic geography, which gives rise to the concept of endogenous regional development.

The growth poles theory was created by a French economist François Perroux in the middle of the twentieth century, and it assumed that the development in the region is stimulated by the so-called growth poles. This theory was visible especially in metropolitan areas, which became dominant in relation to the rest of the region. Some companies that were developing and growing dynamically, as well as numerous network connections, but also local communities especially innovative and entrepreneurial ones may function as mentioned poles. The set of poles generated impulses for the development of the region. Developing pole interacts with the others,

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[17] Cf. R. Brol, *Rozwój regionalny jako kategoria ekonomiczna*, [in:] D. Strahl (ed.), *Metody oceny rozwoju regionalnego*, Wydawnictwo Akademii Ekonomicznej im. O. Langego, Wroclaw 2006.

[18] Cf. J. Szlachta, *Główne problemy polityki rozwoju regionalnego Polski na przełomie XX i XXI wieku*. [in:] *Strategiczne wyzwania dla polityki rozwoju regionalnego Polski*, Friedrich-Ebert Stiftung, Warsaw 1996.

[19] Cf. T. Kudłacz, *Programowanie rozwoju regionalnego*, Wydawnictwo Naukowe PWN, Warsaw 1999.

[20] A. Klasik, *Koncepcje rozwoju regionalnego Polski na tle zróżnicowań regionalnych*, Stenographic record of the seminar *Rozwój regionalny jako element integracji europejskiej*, Sejm, Warsaw 22.04.1997.

stimulates innovation and ultimately leads to regional development. However, it should be mentioned that the given unit can play an important role, if it meets the following conditions:

- it is of sufficient size, which is able to exert direct or indirect impact on the economy and its development;
- it represents an innovative and dynamic field of business;
- it has numerous and extensive links with other areas of economic and social activity.[21]

That theory was popular especially in the second half of the twentieth century in Western Europe.

Innovations spread in the appropriate hierarchy. At the earliest they go to the biggest centres – cities that are linked together by a number of network systems and cooperate with each other. Then they go to the smaller towns until they disseminate throughout the region as a result.

The new growth theory, also called endogenous theory of regional development, which appeared in the 90s of the twentieth century was opposed to the earlier, traditional neoclassical models. This theory assumed that the well developed regions are more likely to develop faster and further than the poorer ones. This theory initiated by Paul Romer[22] presented a dominant influence of human capital and technological innovation for the development of the region, which had not been included in the neoclassical models. Romer provides for the possibility of cumulative growth (scientific and technical knowledge and human capital), which resulted in the development durability and led to maintain or extend the differences between regions. To talk about the economic development it should be submitted the following components:

- first of all knowledge;
- learning by doing;
- the spread of knowledge and skills (knowledge spillover).

The New Economic Geography of Paul Krugman was launched in the 90s of the last century. This theory refers to larger areas – regions. Example of eastern and western Länder in Germany demonstrated how strong force is the shaping of developed agglomeration in contrast to the underdeveloped regions.

The new growth theory and the theory of economic geography have been used in the concepts of regional policy. Economic development in the

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[21] J. Parysek, *Podstawy gospodarki lokalnej*, Uniwersytet Adama Mickiewicza, Poznan 1997, p. 63.

[22] Cf. P. Romer, *Endogenous technological change*, "Journal of Political Economy" 1990, vol. 98, no 5, p. 71-102.

region is created on the basis of material and social resources. Effectively implemented policies at regional level creates a number of opportunities that support investment in innovation, research and development and in the broadly defined new education. Actions taken within the region should be based on cooperation and networking, as well as the formation of human and social capital for learning and developing regions.

Conclusions

One of the basic features that characterizes the modern economy is undoubtedly the reorientation to knowledge and modern technologies. Regions in the 21st century will compete among themselves not only through the use of their material resources. Their greater advantage will be assets based on knowledge and technology. The knowledge-based economy (KBE) is a new type of economy based on four pillars, namely:

- legal and administrative environment,
- **innovation,**
- information infrastructure,
- education and training as a source of skilled workers.

More and more often the fifth pillar of the lifelong learning also appears. As it was emphasized by Philip Drucker, "knowledge will not be indeed the only source of competitive advantage, but the most important."[23] Most of all, the KBE creates conditions for the growth of creativity, innovation and competitiveness in the region.

For Joseph A. Schumpeter, mentioned in this article, innovation is a function consisting of creative thinking and action. So dynamic, interactive model of innovation can be defined as a series of interactions since the creation of the idea of innovation to its implementation and dissemination with thee purpose of product, technological, organizational and social change. This process is characterized by a new way to apply science and technology, providing market success.

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[23] P.F. Drucker, *Społeczeństwo prokapitalistyczne*, PWN, Warsaw 1999.

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