

THE AREAS OF REGIONAL INNOVATION POLICY INFLUENCE ON INNOVATIVENESS OF COMPANIES: A CASE STUDY OF THE SILESIAN VOIVODESHIP

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Introduction

Innovation policy constitutes one of the elements of economic policy and includes science, technical and industrial policy. It is carried out on the above-national level (including the European Union), national and regional levels, and in the professional literature this concept appeared in the 1980s of the 20th century regarding the government's activity. E. Okoń-Horodyńska (1998, pp. 47–48) defines innovation policy as every kind of policy the aim of which is to create conditions for innovativeness development and increase technological knowledge as well as competitiveness of companies. Innovation policy, apart from scientific-technical and industrial policy, is formed also by actions, including those in the area of education, land management, regional policy, influencing the innovative potential of subjects.

Detailed aims of innovation policy depend on the development level of the country and/or region. Generalising, it can be stated that the aim of innovation policy is to eliminate generativity, absorption and diffusion barriers of innovation through facilitating organisations the access to the sources of innovative potential and removing their risk connected with implementing innovativeness. The goal of innovation policy is to form an innovativeness-friendly environment through creating a system of institutions providing pro-innovative services, appropriate legal regulations facilitating innovativeness, promoting innovative culture and the significance of innovativeness for the contemporary social and economic development (Kamińska, 2017a).

Nowadays, a region and its resources significantly decide on the level of innovativeness of the companies operating within its area. A region facilitates building a pro-innovative climate and activation of local society towards carrying out innovative endeavours.

In the author's opinion, the role of self-government authorities in stimulating innovative activity is not sufficiently appreciated, both by the world of science and economic practice.

The aim of the article is to present the role and key areas of regional innovation policy influence on innovative activity of companies in Silesian Voivodeship. Based on the results of own research conducted using the CATI (*Computer Assisted Telephone Interview*) method on a sample of 259 companies in the Silesian Voivodeship allowed an overview and presentation of opinions of entrepreneurs on select aspects of the regional innovation policy.

Regional innovation policy

An innovation policy is the key element of regional policy. Conducting a comprehensive regional policy became possible in Poland only after introducing the territorial reform in 1999. The significance of territorial government increased, which resulted from striving to meet the constitutional rule of power decentralisation, which resulted in obtaining legal personality and financial independence by self-governments. All the self-governments of voivodeships were obliged to develop strategies of voivodeship development, which would include the aims of raising the level of competitiveness and innovativeness of economy and stimulating economic activity of voivodeships.

The Act on voivodeship self-government specifies the objectives of self-government in carrying out social-economic development policy, which consists, among others, of creating conditions for economic development, including creating the job market, supporting and conducting actions for increasing the education level of citizens, supporting development of science and cooperation between the sphere of science and economy, fostering technological progress and innovativeness, maintaining and expanding the social and technical infrastructure of voivodeship meaning (Dz.U. 2016, 486). Carrying out all the enumerated objectives contributes to regional innovation policy and determines innovative activity of companies in Poland, and according to the Act it should take place with the participation of higher schools and research and development units.

Companies, research and development units, self-government authorities, innovativeness centres are called “actors of regional scene of innovativeness” and constitute the regional innovativeness system, and innovativeness of companies and regions depends on their cooperation, mutual relations and trust. The key instrument used by self-government authorities to increase the innovativeness level of companies is the Regional Innovation Strategy, which specifies the areas of influence of regional innovation policy and obliges the self-government authorities to support innovative development of organisations and regions.

Regional innovation policy includes actions conducted by regional authorities within the scope of stimulating the development and implementation of innovativeness,



especially by small and medium-sized companies, activity development of research and development centres and institutions supporting innovativeness of companies, carrying out endeavours aiming at effective diffusion of innovativeness and building a pro-innovative culture in the regions.

The European Commission includes, among others, the development of intelligent specialisations strategies in order to concentrate resources in perspective areas of competition advantage, facilitating access of companies to financial innovativeness through a wider use of financial engineering instruments, including soft loans, loan guarantees and venture capital funds, wider use of interregional cooperation and frame programs for the development of research and innovativeness, increasing the scale of public orders of innovative products and processes in the main forms of activity within regional policy contributing to the increase of innovativeness and meeting the goals of intelligent development according to the “Europe 2020” strategy (European Commission, 2010).

Areas of regional innovation policy influence

S. Borrás and C. Edquist identify the following instruments of innovation policy:

- regulatory ones – among others, legal regulations regarding means of financing research, functioning of higher education, intellectual property protection, which remain mainly under control of the state and national innovation policy,
- economic ones – including mainly tax allowances for companies conducting B+R activity, subsidies for the purchase of modern technologies transfer, public support for research and development institutions,
- so called “soft” ones which constitute a completion of the first two groups – among others, public-private partnership in public services, traineeships for managers in public research and development institutions (Borrás, Edquist, 2013).

The enumerated activities stimulating innovative processes in a region can be divided into two groups: direct support e.g. in the form of subsidies for companies and indirect support – provided for, among others, business related institutions supporting innovativeness of companies, which contributes to the construction of pro-innovative environment (Romanowska, 2016, p. 30).

Broadening the scope of regional policy influence, it could be stated that supporting innovative endeavours at the level of the region may have the following forms of support:

- institutional – in the form of creating and help from self-governments in research and development centres functioning, science-technological park innovativeness centres, technology transfer centres, innovativeness centres,
- legal – implementing legal regulations referring to pro-innovative actions as priorities for the regions economy,

- financial – using tax allowances, subventions for companies implementing innovations, support in purchasing new technologies with the use of the Union resources,
- organisational – engaging companies and innovation centres in innovative projects, placing public orders for innovations, organising conferences, fairs,
- information – organising workshops, information centres for business, interregional meetings, studio visits.

In the author’s opinion, a regional innovation policy includes the following areas:

- institutional, legal, financial, organisational and information support for innovative activity of companies and various types of subjects operating in the region,
- influence on relations between the subjects, strengthening cooperation of science, business and self-government authorities, stimulating the development of the network of cooperation and clusters,
- constructing and strengthening non-material elements of region’s innovative potential, including human and social resources, building pro-innovative culture of a region,
- strengthening and developing material resources of a region – development of appropriate infrastructure facilitating carrying out innovative endeavours, increasing the demand for innovations through improving economic situation of the citizens.

From the point of view of increasing the innovative abilities of companies, every kind of financial support in the form of tax allowances or loans is especially important (Kamińska, 2016). An essential element of a regional innovation policy is allocation of owned financial resources and obtained resources by self-governments from the European Union within Regional Operational Programs. Self-governments are responsible for decisions on the kind and range of innovative activity of companies and other subjects. Self-government authorities initiate also creation and influence the financial conditions of loan and guarantee funds, which enable small and medium entrepreneurs to finance innovative endeavours.

Innovativeness and entrepreneurship centres play a major role in dynamising the innovativeness in a region. They include, among others, technological and science parks, technology transfer centres, technological incubator, innovation centres, academic incubators of entrepreneurship. Their task is to provide counselling services, training services, support in knowledge and technology transfer from science to business, support in research results commercialisation, and initiating international cooperation of companies. Financing the creation of innovation centres is the most common display of self-governments activity in the area of innovativeness stimulating.

Within actions aiming at improving cooperation between regional actors, it is essential for regional authorities to stimulate the development of networks which are considered effective organisational forms of cooperating companies, facilitating improvement of their organisational efficiency, costs reduction, synergy of benefits, and consequently increasing of innovativeness and competitiveness (Skowronek-Mielczarek, 2015).

Self-governments influence the quality of human and social resources through creating appropriate research and development background, expansion of B+R sector and science sector. The role of regions in constructing transport and tele-information infrastructure, which are the basis of efficient operation of companies, is extremely important. The enumerated examples of a regional innovation policy intervention do not exhaust all the possibilities of a region in constructing a regional innovative environment and the author's aim is not a detailed characteristics of selected tools of regional innovation policy, but notifying immensity of possibilities of influencing mezo-environment at the level of innovativeness of companies and highlighting the importance of regional innovation policy in stimulating innovative activity of companies.

An important instrument of regional innovation policy are Regional Innovation Strategies developed by all the voivodeships. They oblige self-government authorities to support innovative development of companies and regions. Among numerous challenges which regional innovation strategies face, the need to strengthen cooperation between science and business seems to be crucial. Insufficient knowledge on scientific environment, the demands of business, maladjustment of the offer to the market demands, lack of cooperation between companies and engagement in research results are major barriers of cooperation in the area of science and business.

The essential goal of Regional Innovation Strategies is to construct regional systems of innovativeness, which constitute a collection of regional actor and mutual relations between them. Within the systems of innovativeness network, connections are initiated between companies, business institutions and public sector, which, as mentioned earlier, facilitate the exchange of knowledge, experience, information and technology, which leads to innovativeness.

Opinion of entrepreneurs on selected aspects of regional innovation policy in the light of own research

The empirical research was conducted on 259 small, medium and big businesses of Silesian Voivodeship in 2016 using CATI (*Computer Assisted Telephone Interview*) technique. The research was entrusted to Public Opinion Polling Centre CEBOS. The survey had been prepared by the author, and the results presented in the paper are only a part of the discussed research (Kamińska, 2017b).

Silesian Voivodeship is considered one of the most innovative regions in Poland, and according to the Regional Innovation Index 2016 it was classified as one of regional moderate innovators and takes the 4th position in the country (RIS, 2016). In the Silesian region energy, medicine and ICT were chosen as the leading specialisations (Brzówska, 2014).

The empirical research was conducted on the representative sample according to the size (according to the number of employees) and the kind of activity (PKD section). The people interviewed were the representatives of senior management, including presidents and directors or owners and

co-owners of companies. The examined sample of respondents consisted of approximately even number of owner and co-owners of companies (36.2%) and people managing the whole company (34.8%). Senior managers constituted 28.9% of the respondents.

According to the economic profile of Silesian Voivodeship, in the group of examined companies the largest group constituted industrial companies (41.7%), next were service companies (32.4%), commercial (22.4%) and mixed-activity companies (3.4%). The most numerous was the section of industrial processing (24.5%), wholesale and retail trade (23.0%) and construction industry (14.8%), of which the biggest part takes specialised construction (7.2% of the whole sample). In the group of the examined industrial companies, the largest group consisted of metal ready products manufacturing (4.7%), food industry (4.2%) and clothing industry (2.0%).

In Silesian Voivodeship small companies constituted 85.5% of the examined sample, medium ones 12.3%, and large ones 2.2%, which corresponds to the structure of the whole population. Taking into account the organisational and legal form, the largest part of the sample consists of limited liability companies (46.3%), next entrepreneurs owning individual businesses (23.9%), general partnerships (8.5%), whereas the lowest part take civil partnerships, namely 3.8%.

The respondents reacted to presented statements referring to regional determinants in company innovativeness by choosing their own assessment from the group of responses: I agree entirely, I mostly agree, difficult to say, I mostly disagree, I disagree entirely. The results of the survey are presented in Table 1.

Almost half of the respondents do not agree with the statement that Regional Innovation Strategies do not influence the innovativeness of regions because they are poorly implemented (48.7% responses: I disagree entirely, I mostly disagree). Simultaneously 38.7% of the respondents agree with the statement or mostly supports it. Therefore there is still a lot to do in the area of practical implementation of innovation strategy, which is consistent with the conclusions emerging from professional literature, which says that regional innovation strategies are not consequently implemented in regions and do not show factual influence on innovation policy (Strahl, 2010), and their biggest success is the educational aspect, because preparing strategy of innovativeness demands "learning of innovativeness" (Plawgo et al., 2013, pp. 84–86).

Almost half of the respondents (47%) recognize the need to evaluate the effects of implementing Regional Innovation Strategies and innovative programs, which should result in raising the level of innovativeness of companies and regions. A considerable number of people (18.4%) do not have an opinion on the subject. It means that the knowledge of entrepreneurs on the significance of monitoring the effectiveness of conducted endeavours leaves much to be desired and education on the subject is needed.

Innovative awareness of entrepreneurs was tested with the statement: "Apart from external conditions, a number of internal factors, including entrepreneurs' awareness of

Table 1. Opinions of enterprises on selected aspects of regional innovation policy

Number of employees	Selected aspects of regional innovation policy	I agree entirely		I mostly agree		I mostly disagree		I disagree definitely		Difficult to say		Altogether	
		N	%	N	%	N	%	N	%	N	%	N	%
10 – 49 persons	Regional Innovation Strategies do not influence innovativeness of companies and regions because of their poor implementation	22	9.9%	69	31.1%	46	20.9%	56	25.5%	28	12.7%	222	100.0%
50 – 249 persons		4	11.5%	4	13.6%	13	40.9%	7	22.3%	4	11.7%	32	100.0%
250 and more		0	.0%	2	27.2%	2	32.2%	2	27.0%	1	13.6%	6	100.0%
Altogether		26	9.9%	75	28.8%	61	23.6%	65	25.1%	33	12.6%	259	100.0%
10 – 49 persons	In order to raise the level of innovativeness of companies and regions, it is necessary to evaluate the effects of implementing Regional Innovation Strategies and innovative programs	50	22.5%	48	21.7%	40	17.9%	43	19.4%	41	18.4%	222	100.0%
50 – 249 persons		9	27.1%	10	32.1%	3	9.6%	4	12.1%	6	19.0%	32	100.0%
250 and more		3	54.2%	2	32.2%	0	.0%	0	.0%	1	13.6%	6	100.0%
Altogether		62	23.8%	60	23.2%	43	16.5%	47	18.1%	48	18.4%	259	100.0%
10 – 49 persons	Apart from external conditions, a number of internal factors, including entrepreneurs' awareness of the significance of innovativeness, influence innovativeness of companies	105	47.3%	90	40.8%	23	10.5%	2	.9%	1	.6%	222	100.0%
50 – 249 persons		11	34.7%	16	51.1%	5	14.2%	0	.0%	0	.0%	32	100.0%
250 and more		3	56.9%	1	20.5%	0	.0%	1	9.0%	1	13.6%	6	100.0%
Altogether		119	46.0%	108	41.6%	28	10.7%	2	.9%	2	.8%	259	100.0%
10 – 49 persons	Innovative programs carried out by voivodeship self-governments should be more adjusted to the needs of companies	98	44.0%	120	54.2%	1	.3%	2	.9%	1	.6%	222	100.0%
50 – 249 persons		14	44.5%	17	53.6%	1	1.9%	0	.0%	0	.0%	32	100.0%
250 and more		1	21.5%	3	45.8%	1	10.1%	1	9.0%	1	13.6%	6	100.0%
Altogether		113	43.6%	140	53.9%	2	.7%	2	.9%	2	.8%	259	100.0%
10 – 49 persons	Improvement of efficiency of operating innovation centres will influence innovative activity of companies	29	13.1%	95	42.8%	45	20.1%	22	10.1%	31	13.9%	222	100.0%
50 – 249 persons		7	21.1%	13	41.9%	7	21.2%	1	1.9%	4	13.9%	32	100.0%
250 and more		1	18.0%	3	45.8%	1	13.6%	1	9.0%	1	13.6%	6	100.0%
Altogether		37	14.2%	111	42.7%	52	20.1%	23	9.1%	36	13.9%	259	100.0%

Source: own research

the innovativeness significance, influence innovativeness of companies”, which 46.0% of respondents agree entirely with, and 41.6% mostly agree. It is a positive result, showing the high awareness of the innovativeness essence among entrepreneurs from the Silesian Voivodeship. However, still every tenth respondent has a different opinion on the subject, therefore information and educational activity concerning the conditions and role of innovativeness in the development of companies, regions and countries is still necessary.

The respondents expect a better adjustment of innovative programs carried out by self-governments to the needs of companies (97.5% indications). Also more than a half (56.9%) are convinced that improving the effectiveness of operating centres of innovativeness will positively influence innovative activity of companies. Almost every seventh respondent (13.9%) did not have an opinion on the subject, which indirectly reflects non-sufficient knowledge of respondents on the subject of activity of innovative centres.

Discussing the respondent answers depending on the size of company, it can be stated that large companies (employing 250 and more people) have a better opinion on the subject of implementing Regional Innovation Strategies in comparison with small businesses (10–49 people). Small companies, on account of a limited potential and inconsiderable financial capabilities, have larger demands from self-government authorities regarding support for innovative activity. Because of that almost all the small and medium companies support the need for a better adjustment of regional programs to their needs.

Large companies more often recognize the necessity to control the effectiveness of carried out innovative programs, which shows greater knowledge on this subject. Similarly, they more often appreciate the significance of internal innovative potential and the entrepreneurs' knowledge at implementing the innovativeness. However, as to the opinion on the influence of improving the effectiveness of operating innovative centres on innovative activity of companies, the various categories of companies do not differ so significantly in their opinions.

Conclusions

The aim of the article was to present the key areas of influence of regional innovation policy on innovativeness of companies. The task of regional innovation policy is to create favourable conditions for the development of innovativeness, education, research and development activity and strengthen connections between actors of regional systems of innovativeness in order to increase the level of innovativeness of companies, regions and countries. Innovation policy carried out by regional authorities should be complementary in relation to the European Union's and the national innovation policy.

A number of possible areas of regional innovation policy influence on the level of innovativeness of companies have been identified, including financial support, actions stimulating the development of network between subjects, construction and development of material resources of a region, including tele-information and transport infra-

structure, the use of regional resource and increasing the investment attractiveness of a region. Extremely important are also actions increasing the non-material potential of a region, such as construction of human and social capital, forming enterprising attitudes, or raising innovative awareness among the citizens of a region. Every region, as well as company, should form its own innovative culture of a region constituting its competitive advantage.

Regional, as well as national, innovation policy demands conducting systematic analyses and evaluations on account of efficiency, righteousness of using selected tools, which should be systematically adjusted to the needs of organisations and changing environment.

The conducted by the author research shows that the current regional innovation policy carried out by self-government authorities of Silesian Voivodeship needs better adjustment to the needs of companies, wider, more complex implementation of the Regional Innovation Strategy, as well as constructing strong innovative culture of the region expressing the entrepreneurs' knowledge on the significance of innovativeness.

The examples presented in this paper do not constitute a complete list of a region in the area of stimulating the innovativeness of companies. They, however, present a multitude of possibilities, which constitute a chance of improving the level of innovativeness of companies, regions and the country. All the actors of regional systems of innovativeness should jointly use the chances, as co-operation based on trust, exchange of information is the basis of innovative changes and development.

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Obszary oddziaływania regionalnej polityki innowacyjnej na innowacyjność przedsiębiorstw

Streszczenie

Artykuł przedstawia istotę regionalnej polityki innowacyjnej, która stanowi kluczową część polityki regionalnej. Celem niniejszego artykułu jest zaprezentowanie roli oraz najważniejszych obszarów oddziaływania regionalnej polityki innowacyjnej na działalność innowacyjną przedsiębiorstw w Polsce. W oparciu o wyniki badań własnych przeprowadzonych metodą CATI na reprezentatywnej, pod względem liczby zatrudnionych osób oraz rodzaju działalności, próbie 259 przedsiębiorstw województwa śląskiego zaprezentowano opinie przedsiębiorców na temat wybranych aspektów regionalnej polityki innowacyjnej. Z badań empirycznych wynika, że aktualna regionalna polityka innowacyjna wymaga lepszego dostosowania do potrzeb przedsiębiorstw, szerszego, bardziej kompleksowego wdrażania Regionalnej Strategii Innowacji, poprawy skuteczności działania ośrodków innowacji, a także budowy silnej kultury innowacyjnej regionu.

Słowa kluczowe

regionalna polityka innowacyjna, Regionalna Strategia Innowacji, innowacyjność