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Abstract

Innovations are considered to be one of the most progressive determinants of socio-economic growth, also in the regional and local perspective (compare Petrariu, *et al.*, 2013; Priede & Pereira 2013; Sternberg & Arndt, 2001). The high level of innovation has a positive impact on productivity at the firm level (business performance, see, e.g. Bhaskaran, 2006) and consequently also on the economic results at regional or national level (economic performance, see, e.g. DiPietro & Anoruo, 2006).

The aim of this paper is to contribute to a greater understanding of the research on institutional support system for SMEs innovativeness in the Podkarpackie region. In analyzing this case, we raise the following two questions: (1) what are the types of innovation strategies of SMEs in Podkarpackie?; (2) what are the factors affecting innovation and potential barriers to further use of institutional support system aimed at the implementation of innovation in enterprises.

The study was qualitative interviews (*in-depth interviews* - IDI) with key individuals in SME's, R&D units, business environment institutions, regional and local authorities. Based on the opinion of entrepreneurs and others, evaluated programs and projects dedicated to innovation and identified barriers encountered by entrepreneurs limiting the implementation of innovation. Made in this way to assess the effectiveness of institutional support system.

The results of our research show that institutional support system mitigate negative consequences of peripheral localization of the enterprises, where specific innovation strategy has no influence on SMEs assessment of innovation effectiveness. The innovation is too costly and SMEs are too weak in peripheral region, therefore there is great need for reasonable and flexible institutional support system. However, peripheral situation influences this institutional system itself, strengthening the mechanisms of self-cenzorship.

Introduction

The aim of this paper is to contribute to a greater understanding of the research on institutional support system for SMEs innovativeness in the Podkarpackie region. In analyzing this case, we raise the following two questions: (1) what are the types of innovation strategies of SMEs in Podkarpackie?; (2) what are the factors affecting innovation and potential barriers to further use of institutional support system aimed at the implementation of innovation in firms.

Podkarpackie Voivodship is a region of low level economic development. Podkarpackie's efficiency-driven manufacturing industry was considered to be dormant, however in terms of innovation it ranked quite high – 65 place in the RIS 2016 (Regional Innovation Scoreboard 2016), which surveyed 214 European regions. When it comes to innovativeness The Podkarpackie region is a Moderate Innovator. Innovation performance has increased (+3%) compared to two years ago.

The relative strengths compared to the EU28 are in Non-R&D innovation expenditures, Tertiary education attainment, and Exports of medium and high tech products. The relative strengths in the regional innovation system are Exports of medium and high tech products, Tertiary education attainment, and Non-R&D innovation expenditures. Relative weaknesses are in SMEs with marketing or organisational innovations, Public R&D expenditures, and EPO patent applications.

Method of the Research

The article is based on analysis of 16 structured in-depth interviews (IDI) conducted with the representatives of: innovative SMEs (4 interviews), business environment institutions (BEI – 5 interviews), research and development entities (R&D – 5 interviews) and local government (LGs – 2 interviews). The interviews were financed in 2014 within research project titled "The Study of the Impact of Investments in Innovation on the Competitiveness of the SME sector in Podkarpackie Voivodship".

Each interview had been double-listened and then the fragments of statements regarding the six areas (understanding of innovation, benefits of innovation, costs of innovation, barriers to innovation, cooperation in innovation and problems of cooperation with environment) had been independently transcribed. In the second step of analysis, the transcriptions had been transferred into Atlas.ti software, and once again independently, coded. All codes had been discussed and double-checked with citations and then nodes and links had been created (matrix, along with the models, is available from the authors).

The analysis are of qualitative character – they rather show specific perspective and way of thinking/argumentation line resulting from subjective perception of the problem. In this meaning, the results are not representative in any aspect. We concentrate on better understanding of the phenomenon, trying to present different perspectives of main process participants. In our opinion, we show major differences in perceiving innovativeness of small and medium enterprises that reveal fundamental problems in supporting innovation in peripheral region.

Innovation strategy in SMEs perspective

The very core of SMEs perspective is the dyad of "profit" and "costs". Of course, the interviewed representatives of innovative SMEs stated that innovation, especially understood as "a breakthrough", is their "niche" of business. However, they also stressed that "long-term potential profit" and "need for profit" are also crucial barriers to breakthrough innovations, because of the costs: the need for "internal resources and capabilities" (understood as own design departments or own laboratories etc.) and "costs of implementation" (such as calculating market prices, clients' interest, building production lines etc.). One must remember that it is small and medium enterprises' perspective, showing crucial internal contradiction: on one hand innovativeness is main source of income but in the same time it needs great amounts of expenditures that could lead to the risk of bankruptcy due to long-term and potential profit from the innovation.

This contradiction has been solved by introducing one more party to the whole model: the client. Our interviewers stressed that they concentrate on the clients as "source of innovation" – becoming contractors of someone else's ideas. Such solution allows to use (and finance) "internal resources and capabilities" and transfer the "risk of potential failure" along with "costs of implementation" to the client. For small and medium enterprises it means in practice that they do not pay for the risk and they can sustain the "resignation flexibility" (meaning the resignation when the innovation is impossible to introduce into profitable activity).

Pragmatism of small and medium enterprises' representatives goes much further beyond the relation with the clients. The innovation is perceived as "long-term process" where the mentioned "flexibility in resignation", especially when the planned innovation is impossible to introduce to practice after two-five years of expensive research, is the only mechanism to prevent from major loss that could threaten the existence of the SME. This pragmatism leads to skepticism about strict formalities of public financial support such as the EU funds on innovativeness. In SMEs perspective the formal frames of programs to support innovation, especially the

order to implement innovations in declared terms, is the source of problems.

In practice it results in conscious resignation from public financial support and financing the innovation from own sources and along with the client. Therefore, when speaking of "cooperation in innovation", SMEs representatives concentrated on "no external financial support". Additionally, the regional system of innovation support is perceived by representatives of small and medium enterprises as not fully transparent and equal to all participants ("unreliable external financial support").

We do not evaluate the system itself – we just present how it is perceived by those who it is planned to support. The conviction about unreliable conditions might be the consequence of very strict formal requirements that often apply only to editing aspects of application.

There is also another consequence of close relation with the client – the innovation must be developed in strictly certified conditions if it is to be implemented in practice. During the interviews our respondents regularly emphasized that they were interested in cooperation with research and development entities or laboratories "based on competence and quality". That meant that SMEs are able to search for proper partner far out of region borders, regardless of the current regional financial support program.

In our opinion this combination of arguments explain relatively small amount of external financial support in development of innovations in small and medium enterprises in Podkarpackie region (Lewandowska & Stopa, 2016, pp. 8-15; Lewandowska *et al.*, 2014, pp. 785-797).

Innovation strategy in R&D perspective

Out of five interviewed R&D four are strictly connected with local universities (two with University of Rzeszow and two with Rzeszow University of Technology). The fifth one is public research institute localized in Podkarpackie region. Nevertheless, they all were quite similar in argumentation construction when speaking of innovation strategy.

In general, research and development units present wider perspective of innovation than it was in case of SMEs. For the last ones innovation was a source of profit, a niche of business activity. R&D perceive "innovation as development mechanism", both in economics and as social capital meaning. What we find really interesting is the fact that researched representatives of R&D think about innovation on two separate but still complementary levels.

The first level is more pragmatic – it is the level of cooperation with enterprises. Within this cooperation research and development units play often the role of subcontractor, sometimes the role of a partner for firms. In

this meaning R&D support for local and regional enterprises ensures their better competitiveness and therefore is a development mechanism (in opinions of researched representatives).

The second level of understanding the innovation is more ideological, where cooperation in innovation with enterprises, based on the newest technologies, allow to educate in practice future human resources that will trigger further innovativeness. What is worth to underline in this argumentation is that educational role is described only within practical cooperation with firms.

In other words, "internal resources and capabilities" of R&D are seen by them as tools for technological, economic and social development of the region. In that perspective, there can be only barriers and obstacles in fulfilling this way defined mission. And actually there are, at least interviewed representatives pointed such barriers: both internal and external. However, none of the researched R&D criticized their "internal resources and capabilities" themselves.

Among internal barriers to innovation the representatives of researched R&D mentioned costs of the research. That is why they do need cooperation with enterprises, "with any interested" that can finance the usage of R&Ds' "internal resources and capabilities". In other words, the costs of innovation are "transferred to the client". Such cooperation is perceived as "long-term process" – R&D usually have long-term cooperation agreements with their business partners. Of course, partners should afford on expensive research projects, therefore there is a "lack of entities" in the region that can cooperate with R&D, and there is "competitiveness" in cooperation with enterprises among R&D.

But, because of the fact that R&D are part of larger organisms (universities), such cooperation is blocked by "internal legal frames" or bureaucracy in practice. Though, it is not the greatest problem of cooperation with private partners. Universities' research and development units have been financed from public sources such as the EU funds, and therefore there is a five-year term of non-commercial usage of hardware and software. In our opinion it is most crucial internal contradiction in argumentation presented by researched R&D: without public financial support they would be unable to build their resources and laboratories, but because of that public financial support they are unable to use it commercially for at least five years.

In practice, R&D must swerve back and forth trying to build partnerships with enterprises that fulfill complex and rigorous frames of publicly financed projects, overcoming internal inertia of own bureaucracy structures at the same time. It is worth to add, that the opinion of public R&D on publicly financed projects is quite similar to ones formulated by representatives of SMEs – external financial support is "unreliable" in matters of

transparency and equality of participating units and that competing with public universities and their research and development units is really hard.

Innovation strategy in BEI perspective

In case of business environment institutions the argumentation line is not that consistent as in two earlier perspectives. Actually, it is possible to identify two main strategies that lead to two contradictory actions. The starting point of both of them is the assumption that the main domain of BEI activity is "entrepreneurship support". For some of the researched entities it is literally understood destination point, meaning in practice that they "lack the competences in innovation", and because of this "barrier" they have "no cooperation in innovation" at all. Interestingly, by "others" the respondents of this type meant research and development units in the region.

In the opposite situation, "main domain as entrepreneurship support" means the starting point in building new cooperation, as "response to the needs" of innovative enterprises. The main goal of such strategy is to "facilitate" the innovation process by "consulting" (due to "unreliable external financial support"), but mainly by offering "sophisticated services". This is the main reason why this type of respondents, representing BEI, have invested in laboratories, 3d printers, measuring machines or machining centers as equipment of their entrepreneurship incubators. They perceive themselves as support entities for enterprises that are already innovative.

Local authorities (LA) are of another category but still may be defined as institutions of widely understood business environment institutions. They do not fit in the model presented above. We researched local not regional authorities (the last ones are responsible for Regional Innovation Strategy therefore have proper, at least formal, tools to create and steer innovativeness on regional level). Local authorities may encourage specific economic activity by offering only developed investment areas or local tax reliefs. And these two interviewed in the project actually have been doing this but to encourage entrepreneurship generally rather than innovativeness itself. Such scope of the activity results directly from legal competences of local authorities in Poland. That is why we suppose that the offer addressed to innovative entities has been created by the way of creating more general offer.

Conclusions

The main goal of the article is to present perspectives of main parties of innovation process in peripheral region to identify obstacles in creating

more consistent and efficient solutions that can be applied in every-day policy-making. None of the interviewed entities had been accidentally chosen for the project: all of them have been active in widely understood innovativeness above the average in Podkarpackie region: by being innovation leaders (SMEs), by cooperating in innovation (R&D) or by supporting and financing innovation (BEI and LA). All of the interviewed entities had been well recognized within earlier research on monitoring and evaluating Regional Innovation Strategy in Podkarpackie Voivodship. In other words, the representatives of these entities have the most comprehensive knowledge on innovation strategies within their own areas of activity.

In our opinion, the general conclusion emerging from analysis of in-depth interviews leads to assumption that there is no subject responsible for innovation in the region and the innovation policy is dispersed by particular perspectives of the most active entities. We are fully aware that analyzed research is of qualitative character and gives no foundations for any kind of generalizations, however it allows to present the asymmetry of rationality in action (Staniszkis, 2003). In peripheral region such as Podkarpackie region innovativeness is rather pointly introduced than is a result of internal consistent culture.

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