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Factors of pro-innovation environment in Slovak and Polish business units

INTRODUCTION

Common Operational Programmes collect research capacities and help to achieve results, which could not be achieved by countries of the European Union individually. Innovation activities (as result of R&D) are a *driving force* of economic development in the EU, they develop possibilities of future competitiveness in form of new knowledge, increase the effectiveness and fighting power of economies mainly through small and medium enterprises (SMEs). These enterprises are considered to be the "spine of innovation potential" in *present day* Europe. According to many latest researches, there are pleasant barriers (micro, regional, macro) in business environment, which prevent European enterprises from implementing innovations. They make it harder, and in many cases stop the innovation process entirely, and thereby negatively influence the competitiveness, perspectives and the future of enterprises. This is also because of the current world economic crisis, which, besides causing problems, also creates opportunities for more effective activity of enterprises. In this particular period of time, there is a great opportunity to employ innovation potential in order to reduce the negative influence of recession on particular enterprises.

This paper is written within solving of the VEGA[1] project, which is aimed at innovation processes of SMEs during economic recession. The aim of this paper is to identify the factors of pro-innovation environment of Eastern Slovakia (Košice and Prešov Autonomous Region) and the Subcarpathian Voivodeship, to compare own survey results with previously realised surveys in this field (innovation activities, types of innovation, reasons for innovation, innovation barriers, contributions from realised innovation) and to verify the lingering of the same pro-innovation environment situation in enterprises of this area.

[1] VEGA 1/0425/10 Causal process innovation models of SMEs during economic recession.

PRO-INNOVATION ENVIRONMENT OF SLOVAK AND POLISH REGIONS

On the basis of the information from a research realised by MHSR [2007], it is possible to allege ***(assume?)*** that there still is no completely developed, favourable pro-innovation business environment in the Slovak Republic. This is why it is necessary to support the creation and growth of innovative enterprises in bigger rate. It is also required to develop human resources mainly in the area of innovation management. [MHSR, 2007]

Item	Survey results (MHSR, 2007)
Innovativeness of enterprises	Weak. no considered as source of competitiveness
Technological oriented business segment	Absence
Performance of enterprises in R&D as basis of innovation dynamics	Very low
Innovation culture	Weak development
(Risk) capital & capital markets	Lack. weak development
Availability of external capital	Lurking problems
Innovation finance resources	Mainly own
Expenditures on innovation	Mainly investments

Figure 1. Results of MHSR survey (2007)

Source: own work.

According to the information in the Regional Innovation Strategy [2008] of the Košice Autonomous Region (KAR) is an accompaniment of economic processes big pressure on growth of competitiveness in regions. That is why there is increasingly more attention paid to the key factors and determinants of competitiveness growth (innovations and education, ability to apply R&D results in business practice).

In general, mainly these following barriers of SMEs development were identified in KAR [Ťapák et al., 2008]:
– increase of prices of materials,
– competition,
– situation on the market,
– availability of qualified human resources,
– costs of energy and human resources,
– legislation.

In the future, innovation activity will be a base for gaining financial resources for specific development activities from the European Union. As written in the article of Pešáková and Pudlo [2010], this can bring an increase of the amount of innovation in a region, improvement of labour force, increase of the region's competitiveness and decrease of unemployment. Competitiveness of a

region, and of the companies operating in it, directly depends on the capability to use research and development results in practice.

Item	Survey results (RIS KAR, 2008)
Quality of human resources	Growing
Innovation motivation of enterprises	Adequate
Employers innovation skills	Accent
Potential of experts in technical areas	Quality
High school and university educational system	Widely developed
Situation for R&D (new systems, technologies, methods)	Fair
Realized technological innovation	Mainly in engineering enterprises
Management and realization of innovation	Mainly in „own" capacities
Technological planning of innovation	Also external capacities
Lack of financial resources	The most significant & frequent

Figure 2. Results of RIS KAR survey (2008)

Source: own work.

Innovation barriers	Survey results (IPA Slovakia, 2009)
Innovation culture	Deficient
Innovation as a key process	Undefined
Systematical access to innovation and innovation process management	Absence
Model of inovation process management	Inadequate
Mental persistence	Strong
Knowledge management	Deficient
Systematical methodology	Absence
Methods for generating of new possibilities	Inadequate
Strategy of finding problem solutution	Absence
Measurement and evaluation of innovation contributions	Unkept

Figure 3. Results of IPA Slovakia survey (2009)

Source: own work.

The Regional Innovation Strategy of the Subcarpathian Voivodeship [2004] introduces that enterprises also have innovation barriers, but their situation is better than that of Slovak enterprises, which do not have such good opportunities for their negotiation [Sobkowiak et al., 2004].

According to Smoleń [2009], in the Subcarpathian Voivodeship it is possible to find in the near future innovation solutions in the field of renewable energy resources and conditioning of energetic plants. The Regional Innovation System consists of two business elements: science and education sector, and

institutions supporting innovations (business innovation centres, business incubators, institutions organizing conferences and novelty fairs, autonomous organizations, special economic scopes).

Item	Survey results (RIS SV, 2004)
Own R&D, creativity	Mainly unconventional sector
Finding of new possibilities and own educated employees	Enterprises of traditional sector
Cooperation with R&D centres, universities	Good development, mainly in unconventional sector
Innovation culture	Medium development
Performance of enterprises in R&D	Medium low
Innovation finance resources	Own and external
Management and realization of innovation	Own and external
Knowledge management	Adequate
Systematical access to innovation and innovation process management	Absence

Figure 4. Results of RIS SV survey (2004)

Source: own work.

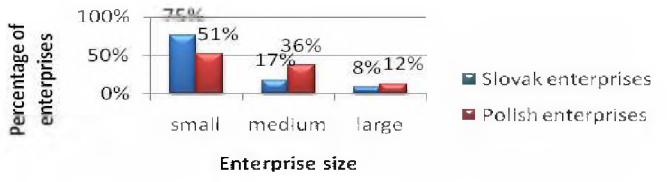
"Innovation creation process should be continuous, transversal, flexible, reacting on dynamic changes, on needs and on the possibilities of strong international competition. Innovation system is very important element of this Voivodeship ability to utilize economic integration and RIS, which are instrumental to building of the society and economy based on the science as the main element of obtaining and holding of competitive position not only in European but also in global understanding." [Smoleń, 2004, p. 288]

PRO-INNOVATION FACTORS AFFECTING INNOVATION ACTIVITIES IN CHOSEN REGIONS

Surveys on the factors of pro-innovation environment were conducted in the period from November 2009 to April 2010. The first survey was carried out in the Subcarpathian Voivodeship, and later in Eastern Slovakia. These surveys were aimed at identification of pro-innovation factors, collection of information from the innovation exploitation area and innovation management in the Eastern Slovak and south-eastern Polish enterprises. An additional aim was to identify the innovation barriers of these enterprises and to compare the results from chosen regions with previously conducted surveys. The first, shorter version of an on-line questionnaire, which contained 30 facultative questions was used in

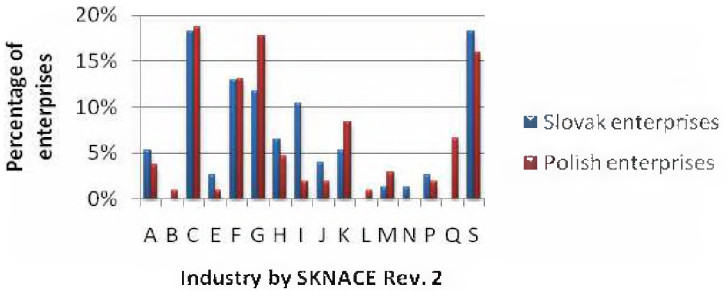
Poland. For a survey in Eastern Slovakia, an extended version of the same questionnaire was used, consisting of 40 obligatory and facultative questions. The questionnaire was directed at top managers, owners of enterprises, or leader employees in the innovation field of enterprise.

We have realised random choice of the sample from acquired collection of 120 Slovak enterprises, which represent 0,2% of all enterprises in the surveyed region. According to the Statistical Office of the Slovak Republic, Eastern Slovakia is a base for 19,9% of all enterprises (legal persons) and 24,9% of natural persons in Slovakia. 77 enterprises took part in this survey (0,13%), 58 of which were small (75%), 13 medium (17%) and 6 large enterprises (8%). Targeted choice was realised from 107 correctly filled-out questionnaires, this sample consists in numbers from 55 small (51%), 39 medium (36%) and 13 large (12%) enterprises. According to the REGON register (2008), 144 263 enterprises operated in the Subcarpathian Voivodeship (besides sole traders in agriculture) – 94,5% micro, 4,5% small, 0,8% medium, 0,2% large. The sample group of 107 enterprises represents 7,42% of all enterprises in the chosen region. The rate of return was 100% in both cases (SR and PL), thanks to a mutual agreement between the approached enterprises and the on-line version of the questionnaire. The results of the questionnaire were processed into transparent graphs, which visualize the percentages of answers to selected on-line questions.



Graph 1. Percentage of Slovak and Polish enterprises by enterprise size

Source: own work.



Graph 2. Percentage of Slovak and Polish enterprises by SKNACE Rev. 2

Source: own work.

From the whole number of Slovak enterprises which took part in this survey, the largest number – 18% – classified themselves to categories C (industrial production) and S (other activities), according to SKNACE Rev.2. Among the small enterprises, the largest number was reached by Slovak enterprises operating in categories S (12 enterprises – 20,7%), G (9 enterprises –15,5%), F and I (7 enterprises – 12,1%). Within the medium sized enterprises, in the survey participated Slovak enterprises classified in groups C (6 enterprises – 46,2%), F and S (2 enterprises – 15,4%). This survey shows the inability of Slovak enterprises to classify themselves to a certain group according to the SKNACE scale. Polish medium sized enterprises operating in industrial production (15 enterprises – 38,5%), wholesalers or retailers (8 enterprises – 20,5%) and other activities (6 enterprises – 15,4%). The largest percentage of large enterprises included Slovak enterprises from group C (2 enterprises – 33,3%) and Polish enterprises (3 enterprises – 23,1%).

Respondents were to answer questions about their innovation activities in the period from 2007 to April 2010. They were divided into 3 groups based on their answers (yes, partially yes, no). Innovations were implemented in 53 Slovak enterprises (69%), but in 24 of them (31%) only partially. No innovations were implemented in 24 enterprises (31%) in that period. A positive discovery was that 84 Polish enterprises (79%) implemented innovations in the mentioned period and 18 enterprises (17%) did so only partially. The situation is better among Polish enterprises than in case of Slovak enterprises, as only 5 out of 107 Polish enterprises (5%) did not implement innovations.

Table 1. Slovak and Polish enterprises by innovation activity

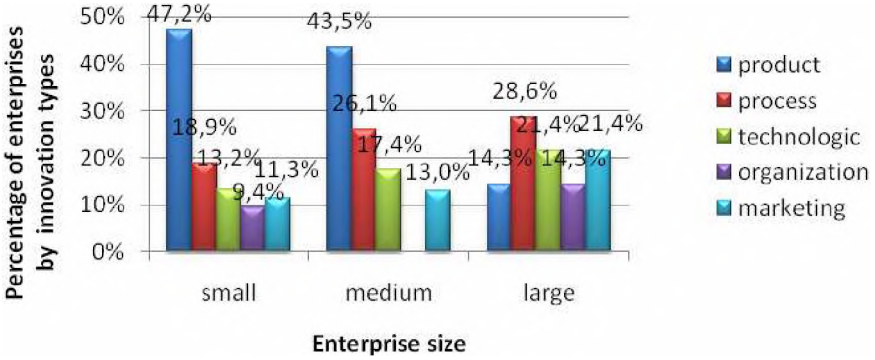
Enterprise size	Innovation activity (2007 – 04/2010)	Slovak enterprises	Polish enterprises
Small	yes	27,6%	65,5%
	partly yes	34,5%	27,3%
	no	37,9%	7,3%
Medium	yes	61,5%	92,3%
	partly yes	30,8%	5,1%
	no	7,7%	2,6%
Large	yes	83,3%	92,3%
	partly yes	0%	7,7%
	no	16,7%	0%

Source: own work.

Medium and large Slovak enterprises implemented innovations in a larger ratio than small enterprises in the chosen sample. Concerning any innovation activity was noticed in medium and large Slovak enterprises only in one case. Among large Polish enterprises were not noticed any unrealised of innovation activity. 5 of the sample large Slovak enterprises (83,3%) and 12 of medium Slovak enterprises (92,3%) have implemented some types of innovation in that

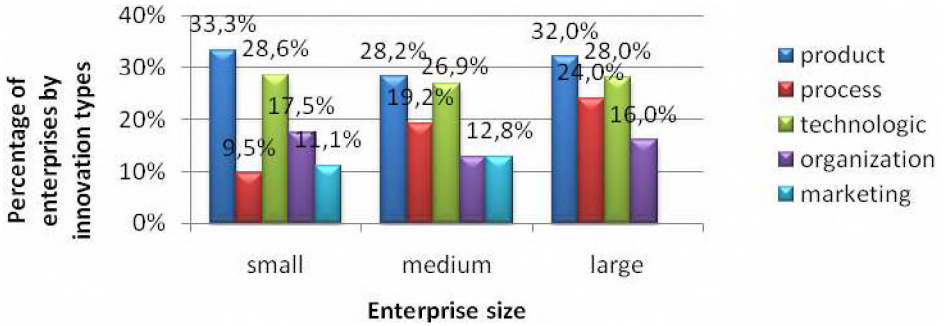
period. Within the sample of small Slovak enterprises, 36 of them (62,1%) have implemented innovations, and 22 (37,9%) have not. Among small Polish enterprises the result was more successful, as 51 enterprises (92,7%) have implemented innovations, and only 4 enterprises (7,3%) have not. These variances were caused by various barriers or factors, which are further presented below. However, within the Polish sample, the innovation activity was proportionally higher in the surveyed period. 38% of small Slovak enterprises have not implemented any innovations with only 7% of Polish. 97% of large Slovak enterprises have not implemented innovations while all of the Polish ones have.

Detection question related to the type of implemented innovation was oriented at detection or identification of implemented innovations types. The largest percentage was achieved by product innovation, which was implemented by 37 Slovak enterprises (39%) and 51 Polish enterprises (31%). The second largest percentage (21%) was achieved by process innovation, which was marked by 20 enterprises among Slovak respondents implementing innovation in the surveyed period. In case of Polish enterprises, this type of innovation was implemented in 27 enterprises (16%), what is good, because in the majority of enterprises technological innovations are understood as process innovations. Concerning Polish enterprises was recorded the second largest percentage noticed by technological innovations (46 enterprises – 28%). 14 Slovak enterprises (15%) have partially implemented technological innovation and 12 enterprises (13%) marketing innovation. 7 Slovak enterprises (8%) have implemented organizational innovation. Polish enterprises have implemented more organizational (25 enterprises – 15%) than marketing innovations (17 enterprises – 10%) in the surveyed period.



Graph 3. Slovak enterprises by type of realised innovation

Source: own work.

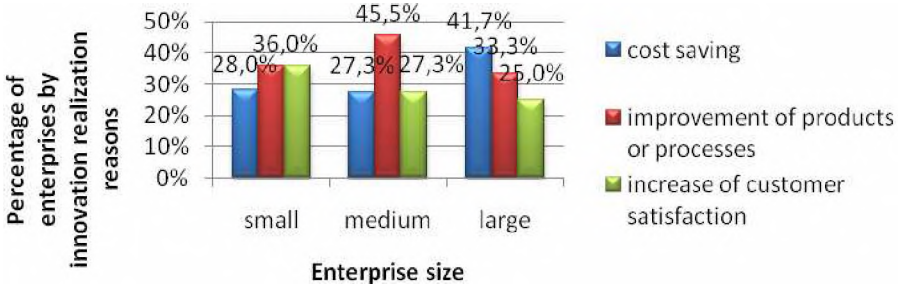


Graph 4. Polish enterprises by type of realised innovation

Source: own work.

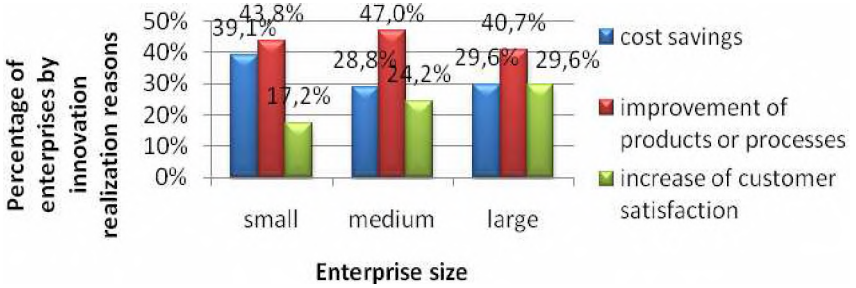
Only medium Slovak enterprises have not implemented any organizational innovations. Polish enterprises have implemented each type of innovations in the questionnaire, except for large enterprises, which have not marked marketing innovation. Results obtained from this survey are very similar between medium and small Slovak enterprises, which implemented mainly product innovations (47,2% – 25 enterprises) and in the second largest percentage process innovations (43,5% – 10 enterprises). Small Polish enterprises have implemented mainly product (33,3% – 21 enterprises), technological (28,6% – 18 enterprises) and organizational innovation (17,5% – 6 enterprises). Also, in case of medium Polish enterprises technological innovations (26,9% – 21 enterprises) were more common than process innovations (19,2% – 15 enterprises), which is opposite to the situation of Slovak enterprises. In case of large Slovak enterprises, more of them implemented process (28,6% – 4 enterprises) than product innovations (14,3% – 2 enterprises). This is also typical for common trends in management. Large Polish enterprises were in a situation similar to small and medium sized Polish enterprises, because product innovations (32% – 8 enterprises) were implemented more often than technological or process innovations (28% – 7 enterprises). The situation is opposite to that of large Slovak enterprises. Technological innovations were implemented more often in Slovakia (24% – 6 enterprises).

Also very interesting are the reasons for implementation of innovations. The question relevant to this topic was directed at enterprises which have fully or at least partially implemented innovations. Most of the Slovak enterprises (19% – 32 enterprises) answered that the reason for their innovations was improvement of product or process quality. The second most important reason among the Slovak respondents (16% – 27 enterprises) was increase of customer satisfaction. The most common reason of innovation implementation in Polish enterprises was also improvement of product or process quality (39% – 70 enterprises), further cost saving (29% – 52 enterprises), and increase of customer satisfaction (19% – 35 enterprises).



Graph 5. Slovak enterprises by innovation realization reason

Source: own work.



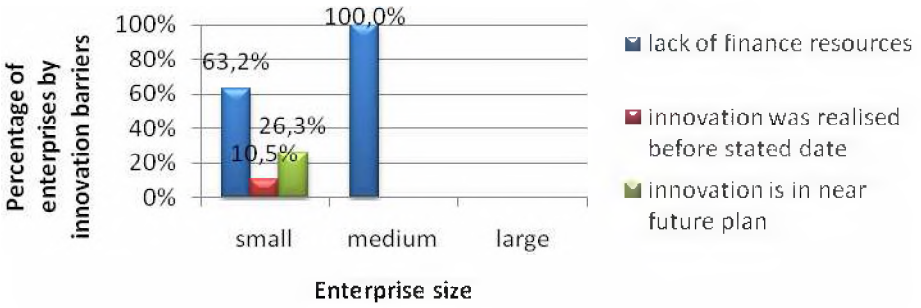
Graph 6. Polish enterprises by innovation realization reason

Source: own work.

The reason for implementation of innovation in small Slovak enterprises was mainly the increase of product or business process quality and increase of customer satisfaction (36% – 18 enterprises). Among medium Slovak enterprises it was also increase of quality (45,5% – 10 enterprises), increase of customer satisfaction and cost saving (27,3% – 6 enterprises). The large Slovak enterprises as the innovation reason primarily mentioned cost saving, or increasing of product or process quality. Polish enterprises of all sizes pointed at increase of quality (28 small, 31 medium, 11 large enterprises), cost saving (25 small, 19 medium, 8 large enterprises) and increase of customer satisfaction (11 small, 16 medium, 8 large enterprises) as main reasons. In Poland was remarkable more quality of product and processes than customer satisfaction. In Slovakia is on the first place quality of products or business processes, customer, incomes, cost saving and also competitiveness.

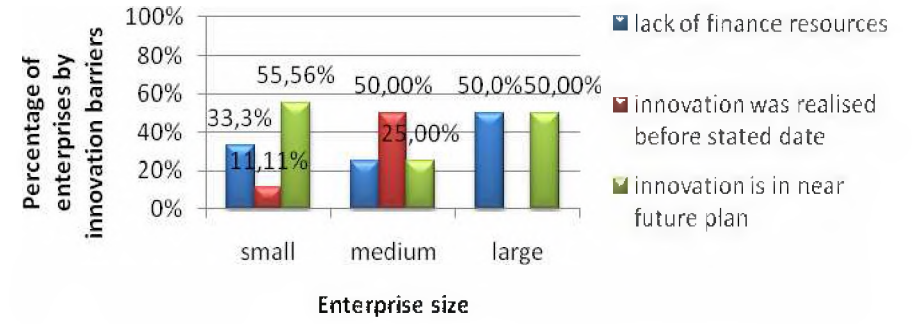
The survey was also oriented at identification of innovations barriers. Only 16 of 24 Slovak enterprises (66,7%) and 5 (4 small and 1 large) of 107 Polish enterprises (5%) answered this question, what is considered a better result. 23% (13 Slovak en-

terprises: 12 small, 1 medium and any large enterprise) mentioned that the reason for not implementing innovations was the lack of financial resources. 44% of Polish enterprises (12 of 27 enterprises which answered the question) pointed at the fact that the innovations are in plan for near future as the main barrier. The second most common innovation barrier among Polish enterprises (30% – 8 enterprises) was lack of financial resources for their implementation and realization.



Graph 7. Slovak enterprises by barriers of innovation realization

Source: own work.



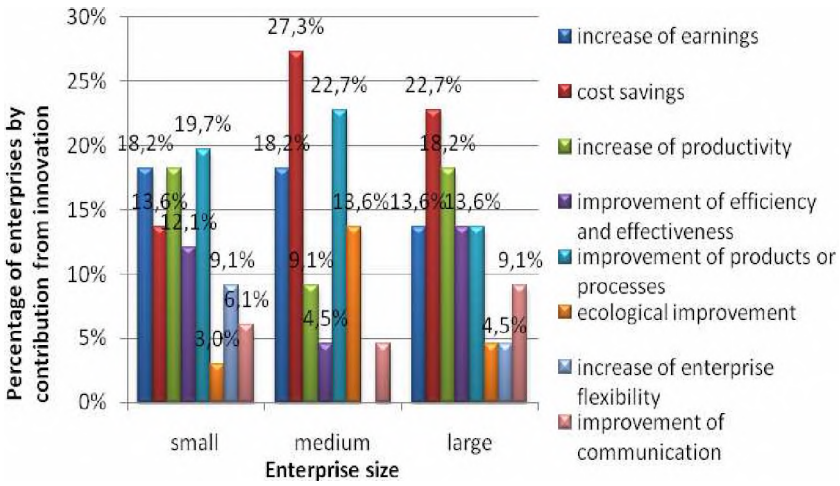
Graph 8. Polish enterprises by barriers of innovation realization

Source: own work.

Large Slovak enterprises indicated only the following barriers, which inhibited them from implementing innovation in the surveyed period: the lack of time for long-term planning, the lack of time for new innovation ideas, and weak creativity of employees (33,3% – 1 enterprise from each possibility). 50% of large Polish enterprises (100% from 3 possibilities) indicated the lack of financial resources to be an innovation barrier, while Slovak enterprises have not mentioned it in any case. Also, 50% of Polish enterprises are planning to implement some innovation. That was also reason of their absence. Polish enterprises employ-

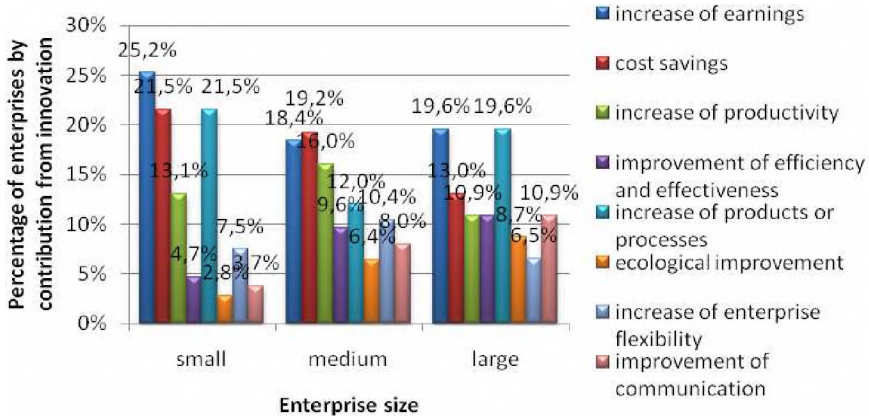
ing from 50 to 249 people indicated the fact that innovation was implemented before stated date to be the biggest barrier of innovations (40% – 2 from 5 enterprises; in shortlist to gain 100% enterprises to compare). The majority of small Slovak enterprises (63,2% – 12 enterprises) admitted, that their innovation barrier was the lack of financial resources, similarly to the case of Polish enterprises, among which this barrier reached the second biggest percentage (33,3% – 6 enterprises), after innovations planned for near future (55,6% – 10 enterprises). Identified barriers possible to consider as internal or external factors of pro-innovation environment, in which cause surveyed enterprises. In Slovakia there also is bad experience of cooperation with other capacities as well as conservative suppliers or customers.

For comparison of the reasons of innovations with the advantages of their implementation, some possible advantages were also included in the on-line questionnaire. The majority of Slovak respondents chose increase of earnings and increase of customer satisfaction (12% – 23 enterprises). Then such advantages as cost saving and improvement of product or process quality (11% – 20 or 21 enterprises) were pointed out. Among the Polish enterprises, it was mainly increase of earnings (18% – 59 enterprises), cost saving (16% – 53 enterprises), and increase of product or process quality (15% – 47 enterprises). 5% of Polish enterprises also chose ecological factors within falls on environment. The comparison of Slovak and Polish advantages is difficult, because the questionnaire addressed to the Polish respondents included various advantages achieved after implementation of innovations. For this reason only the consistent possibilities of answers were considered.



Graph 9. Slovak enterprises by contributions recorded after innovation

Source: own work.



Graph 10. Polish enterprises by contributions recorded after innovation

Source: own work.

Small Slovak enterprises, after implementation of their innovations, pointed mainly at increase of (products or processes) quality (19,7%), increase of earnings (18,2% – 18 enterprises), similarly to the Polish sample (25,2% – 27 enterprises). Small Polish enterprises as advantages of innovations also consider cost saving or increase of quality (21,5% – 23 enterprises). Among the medium Slovak enterprises the most substantial advantage was cost saving (the same case for medium Polish enterprises – 19,2%). Other important advantage of implemented innovations among medium enterprises of east Slovakia were increase of quality and increase of customer satisfaction (12,5% – 5 enterprises). The biggest number of large Slovak enterprises (22,7% – 5 enterprises) hit off the point, where innovations were contributed in cost saving. 4 large Slovak enterprises (18,2%) also marked increase of productivity as their innovation advantage and 3 of them (13,6%) increase of earnings, improvement of efficiency and effectiveness, and also increase of product or business process quality.

Discussion

On the basis of the information overview about pro-innovation environments, which were obtained from Regional Innovation Strategies and own survey results, it is possible to identify some groups of factors, which influence enterprise innovation activity. In some cases or opposite situations can be negative factors of environment threats, but also opportunities for given business unit. From the management theory of business environment we can divide the factors identified as result of comparison of surveys into macroeconomic, regional and microeconomic.

Factors of macroeconomic business environment, which influence innovation behaviour of Slovak and Polish enterprises in chosen regions, are for example:
– conservative thinking, and reluctance towards change of customers and others,
– educational and age structure of the available labour force,
– deficient support of R&D and new technologies, decrease of expenses on innovation,
– decrease of purchasing power, increase of tax burden, changes in the availability of financial resources, increase of unemployment,
– changes in the reserves of natural raw materials or in energetic costs,
– changes in legislation, reserves in government tools for the innovation support.

Cooke et al. [Cooke, 2007] writes that, according to the Regional Innovation System approach, various support organizations and policy actions may promote learning and innovation at the regional level. The setting up or expansion of universities and research institutions, science parks, innovation centres, technology transfer agencies and educational institutions can stimulate and enhance the production, diffusion and application of knowledge. Other important organizations supporting innovation-based growth include venture capital firms, business angels, standard-setting bodies and development agencies. The regional innovation system approach highlights, that regional authorities can shape local learning and innovation process in a significant way by providing R&D infrastructure and educational infrastructure, supporting academic spin-offs, enhancing human capital and encouraging the formation of social capital. The presence of barriers is not supple, but we can anticipate or eliminate them by adequate management. The factors of regional business environment show themselves mainly by commercialization of products and services in other regions, and affect the level and quality of innovation capacity in business unit. Some of the important regional factors are identified in Eastern Slovakia and the Subcarpathian Voivodeship:
– deficient access to (risk) capital,
– weak structure of support institutions,
– regional separateness and lockout,
– infrastructure and educational level of regions,
– clusters and other types of networks,
– situation on the market etc.

Pro-innovation business environment in chosen regions should be determined by:
– innovation support system,
– regional policy of the EU,
– state infrastructure (Operational Programmes),
– stability and transparency of economic government policy,
– legislation,
– correct and justice competitive etc.

Microeconomic environment	
Internal factors	External factors
• skills, number & education system of employees • creativity & competence of management & employees • ability to finance an innovation activities • systematical accumulation of innovation impulses • new knowledge as the result of R&D activities • degree of innovation culture • team work or work in groups of employees • high innovation costs • project approach • approach to innovation management & management of innovation processes • measurement & evaluation of contributions from innovation • motivation rate of employees to innovate • average of number of patents on total income	• external cooperation and networking • cooperation with universities and other institutions • availability of qualified employers • information availability about technologies & markets • demand for innovated products & services • existence rate of innovation opportunities • rate of customer satisfaction • correctness & justice of home & foreign competitive

Figure 5. Factors of microeconomic environment

Source: own work.

The Slovak and Polish Republics have created strategic documents, regulations and recommendations of the European Union ***(Słowacja i Polska STWORZYŁY dokumenty, przepisy i zalecenia unijne?)*** with the aim to proceed with their implementation and to change the unfavourable evolutional trends in this field ***(what field?)***. In general, the proceedings oriented at the support of pro-innovation environment should include mainly tools which can influence the behaviour of enterprisers ***(albo enterprises albo entrepreneurs)***, their motivation and easiness to risk.

CONCLUSIONS

Previous survey results, obtained from Regional Innovation Strategies of Eastern Slovakia and the Subcarpathian Voivodeship, present a better situation of innovation culture in Polish enterprises. The performance of enterprises in R&D is also more developed in Poland. The chosen regions are in a very similar situation regarding systematic access to innovation and innovation process management. Polish enterprises use innovation financial resources mainly from the EU funds. Knowledge management, which is related to the impulse or creation of innovation, is more systematic in the Subcarpathian region. External cooperation between enterprises in the areas of management and implementation of innovation is more common among Polish companies. Own survey results con-

firmed the results of previous surveys on innovation activity, where 38% of small and 17% of large Slovak enterprises did not implement any innovations. Among small Polish enterprises it was only 7%, and among large - 0%. 50% of medium Polish enterprises answered that the reason why they did not implement innovation in the evaluated period of time was that they were implemented before.

All of the mentioned factors influence enterprises directly or indirectly, and they also create different opportunities and threats for companies. These factors can play an important role by decision of top management. In order to eliminate wrong decisions, all alternatives should be submitted to deep analysis of external and internal business environment. Innovations are in this case a matter of business units, the state can mostly help to create and support favourable pro-innovation business environment. The sample selection used in this study might be considered as a limitation. Further surveys should be conducted on a bigger group of enterprises, including more detailed questions, in order to identify the pro-innovation factors affecting innovation activities and processes in enterprises.

LITERATURE

Cooke P. et al., 2007, *Regional Knowledge Economies:* Markets, Clusters and Innovation. Cheltenham, Northampton: Edward Elgar Publishing, 2007, 328 p., ISBN 978 1 84542 529 6.

IPA Slovakia. 2009. [online]. 2009. [cit. 22.07.2009]. Available on internet: <http://www.ipaslovakia.sk/udalost_view.aspx?id_u=201>.

MHSR. 2007 *Innovation strategy of SR from year 2007 till 2013.* [online]. 2007. [cit. 30.08.2009] Available on internet: <http://www.economy.gov.sk/>.

Pešáková P., Pudło P., 2010, Inovačná aktivita slovenských a poľských podnikov. In Podniková Revue. ISSN 1335-9746, 2010, roč. IX, č. 20, s. 23–40.

Smoleń M., 2009, *Processes of developing changes in economy of Subcarpathian region* Difin SA, Warszawa. 2009. 396 p. ISBN 978-83-7641-116-3.

Sobkowiak A. et al., 2004, *Regional innovation strategy of Subcarpathian Voivodeship on year 2005–2013.* Rzeszów: Politechnika Rzeszowska. 2004. 95 p. ISBN 83-7199-340-4 Available on internet: <http://www.rsi.podkarpackie.pl/pliki/reg_str_innow_2005_2013.pdf>.

Takáč J. et al., 2008, *Regional innovation strategy of Prešov Autonomous Region.* Texinfo vyd. 1. Prešov: Prešov Autonomous Region, 2008. Available on internet: <http://www.po-kraj.sk/sk/samosprava/vyzvy-granty/projekty-psk/ukoncene-projekty/ris-presov.html>

Ťapák P. et al., 2008, *Regional innovation strategy of Košice Autonomous Region.* Texinfo vyd. 1. Košice: Košice Autonomous Region, 2008. ISBN: 80-969559-X-X. Available on internet: <http://www.vucke.sk/APIR/sk/Pre_Podnikatelov/Investicne_prostredie/regionalnainovacnastrategia/Documents/RIS.pdf>

Streszczenie

Celem artykułu było ukazanie najważniejszych czynników innowacyjności w skali makro i mikro. Głównie skupiono się na proinnowacyjnych środowiskowych czynnikach w regionie, które wpływają na aktywność innowacyjną regionu wschodniej Słowacji oraz województwa podkarpackiego. Każdy z identyfikowanych czynników wpływał na przedsiębiorstwo pośrednio lub bezpośrednio, różny ich wpływ przejawiał się jako groźba lub szansa. Badania przeprowadzone w przeszłości przez innych autorów wskazują na to, że stan innowacyjnej kultury jest lepszy w polskich przedsiębiorstwach. Podobna sytuacja w badanych regionach dotyczy systematycznego dostępu do innowacji oraz innowacyjnego zarządzania procesami. Polskie przedsiębiorstwa przy finansowaniu innowacji korzystają głównie ze funduszy UE. Ponadto na podstawie badań można stwierdzić, iż zarządzanie wiedzą jest bardziej systematyczne w województwie podkarpackim. Porównanie polskich i słowackich przedsiębiorstw odnośnie zewnętrznej współpracy zarządzania oraz realizacja innowacji wskazuje na ich lepsze wykorzystanie w polskich przedsiębiorstwach. Wynikiem analizy zaprezentowanej w niniejszym artykule było również porównanie wyników badań własnych z innymi wynikami badań prowadzonych w obszarze działalności proinnowacyjnej.

Summary

The aim of the paper was executed through identification of important macro, micro and regional pro-innovation environment factors, which cause innovation activities in Eastern Slovakia and Subcarpathian Voivodeship. Every of identified factors influences on enterprise directly or indirectly and it also creates for company different opportunities and threats. Older survey results from other authors in examined region confirm better situation of innovation business culture in Polish enterprises. Very similar situation is in chosen regions with systematic access to innovation and innovation process management. Polish enterprises use finance resources mainly from EU funds. Knowledge management is according to respondents more systematic also in Subcarpathian region. External cooperation of management and realization of innovation between enterprises is more used in Polish companies. Comparison of own survey results with older realised surveys and verification of pro-innovation environment situation lingering in enterprises of this area was also the result from this analysis.