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The Journal of Education, Culture and Society nr 1, 257-270

2015

Artykuł został opracowany do udostępnienia w internecie przez Muzeum Historii Polski w ramach prac podejmowanych na rzecz zapewnienia otwartego, powszechnego i trwałego dostępu do polskiego dorobku naukowego i kulturalnego. Artykuł jest umieszczony w kolekcji cyfrowej bazhum.muzhp.pl, gromadzącej zawartość polskich czasopism humanistycznych i społecznych.

Tekst jest udostępniony do wykorzystania w ramach dozwolonego użytku.

DEVELOPMENT OF ABSORPTIVE CAPACITY IN A REGIONAL INNOVATION SYSTEM: EXPERIENCE OF LITHUANIAN REGIONS

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ABSTRACT

The importance of innovativeness and competitiveness is rising and it is the essential condition for the survival in a global market. Especially it is vitally important for small countries (and their regions), which do not have the exceptional situation and position in the market, acknowledged products (services) or resources, even stable long-term traditions of innovation culture, etc.

The present paper focuses on absorptive capacity, its development issues in regional innovation systems and well-being creation in a small country's regions. For the purposes of the research, analyses were carried out, identifying reasons (or barriers), promoting (or limiting) innovative activities, impeding organizational propensities and desire to develop activities of knowledge access, anchoring and diffusion at the organizational and inter-organizational level. This paper reveals the experience of Lithuanian regions from the point of view of experts, representing institutions of science, business, innovation and business support. This paper represents the experience of partnerships (successful and failed) for the knowledge absorption in Lithuania and their connection to subsequent directions of organizational behavior and decisions. Furthermore, the author suggests main aspects for managers, seeking to maintain (gain) organizational absorptive capacity, corresponding to requirements and speed of the modern market.

Keywords: absorptive capacity, knowledge access, anchoring, diffusion, regional innovation system.

INTRODUCTION

The main factor guaranteeing regional competitiveness in the global market, is the regional innovativeness, determined by the absorptive capacity of actors (institutions of science, business, innovation and business support), performing in a regional innovation system. Developed countries consider absorptive capacity as essential for innovations in regions. Small countries taking first independent steps in the innovation sphere still try to identify the means of the absorptive capacity's conception, to understand its peculiarities and to adapt examples of good experience, promoting processes of knowledge absorption.

However, absorptive capacity can become one of the greatest challenges for institutional actors at a regional level. Despite all efforts and investments for the strengthening of regions' innovative activities, absorptive capacity of small countries such as Lithuania and their regions still do not gain acceleration. According to this, the purpose of the paper is to present results of an empirical study of absorptive capacity's development in a regional innovation system with emphasis on the role of regional innovation system's actors in processes of knowledge access, anchoring and diffusion on the basis of regions from Lithuania as a small country.

ABSORPTIVE CAPACITY: CONCEPT AND ROLE

A capacity can be perceived having individual, organizational, regional or national characteristics, occurring by peculiar dynamics of necessary knowledge, skills and abilities, which determine the success of certain activities. Over the last 25 years absorptive capacity has become one of the most important objects for innovation management science. Scientists discuss it in various contexts and the concept is operationalized and cited in hundreds of publications. In Lithuania the role of absorptive capacity started to examine innovation management processes only in the last 10 years, leading to both theoretical and empirical construct approaches.

The modern concept of absorptive capacity consists of three main components: " (1) the capacity to access international networks of knowledge and innovation; (2) the capacity to anchor external knowledge from people, institutions and firms; (3) the capacity to diffuse new innovation and knowledge in the wider economy" (Mahroum, Huggins, Clayton, Pain & Taylor, 2008, p. 4). This construct of absorptive capacity includes not only individual (organizational) ability to learn and acquire a new perception of knowledge, but motivation to do so (Mahnke, Pedersen & Venza, 2005, p. 12) and willingness to share best practices as well. Zahra and George (2002), Döring and Schnellenbach (2004), who examined and operationalized absorptive capacity at the organizational level, faced the problem of versatility (multi-dimensionality) of this concept.

Despite different absorptive capacity's analysing aspects, the author of this paper emphasizes the importance of three levels of its application – individual, organizational and regional. Individual absorptive capacity as person's ability to absorb, adapt and share information and knowledge influences his/her ability to become involved in problem solving, other activities of groups, value creation processes in an organization (Soo, Devinley & Midgley, 1999, p. 4; King & Lakhani, 2011, p. 5). Usually, this individual level is intertwined with organizational level. Organizational absorptive capacity is an organization's policy and procedures, encouraging individual employees' absorptive capacity and determining the organizational unit's ability to combine their knowledge with innovation and learning from external sources of knowledge (Soo, Devinley & Midgley, 1999, p. 4; Cohen & Levinthal, 1990; Tsai, 2001). This interaction for learning purposes can

become one of the most important assumptions for the development of regional absorptive capacity as the ability to learn and accomplish technologies and concerned practices from developed countries (Narula, 2004, p. 5). This level reflects not only particular regions', but often an entire country's ability to create value and competitive advantage in the global economy.

Absorptive capacity can be analyzed not only vertically (through the three levels), but also horizontally (with respect to the covered areas), as the absorptive capacity depends not only on investment (R&D costs), but also on the prior knowledge embodied in human resources (basis of their knowledge and skills), the organization (where it lies in the organizational structure, management practices) and its interaction with the environment (practice with external partners, other business companies, universities, public institutions, etc. This is important for processes of absorptive capacity's development in a regional innovation system, which consists of different types of organizations and various connections between them. This statement may be argued with different scientific approaches on assumptions necessary for absorptive capacity's development in regions.

Development of absorptive capacity can be influenced by various factors: the technology gap between absorbing regions (small countries) and developed countries, human resource skills and level of education, financial sector development and institutional structure (Krogstrup & Matar, 2005, p. 8); technology assimilation (not only organizations or regions, but countries may differ in their efforts to assimilate new skills and technologies) (Kneller, 2002, p. 1); R&D and its emphasis on innovations, absorptive capacity or learning, developing organizational capacity to identify, assimilate and use external knowledge (Kinoshita, 2000, 1). It is also possible to determine the direct links between organizational learning and absorptive capacity: an organizational learning creates preconditions for developing of absorptive capacity, and the capacity increases the productivity of the organizational learning. The interdependence is confirmed by other authors (Jones & Craven, 2001, p. 21; Dixon & Day, 2007, p. 728) and their insights that the knowledge, created through absorptive capacity activities, knowledge management and the learning organization are main constructs, defining organizational learning mechanisms. That leads to the idea, that absorptive capacity is a prerequisite for organizational learning and transformation.

In summary, the term development is used to identify a dynamic process, which allows complying with the environmental changes, improving the current situation, contributing to the growth and positive changes in a specific area. Thus, the development of absorptive capacity is perceived as the acquisition, nurture and strengthening of capacities to access, anchor and diffuse knowledge, liberating potential of existing knowledge, realizing the potential opportunities, integrating learning into behavior. The development process leads to a better use of existing knowledge and allows the generation and implementation of innovative ideas in innovation systems.

CONCEPTION OF REGIONAL INNOVATION SYSTEM IN THE CONTEXT OF KNOWLEDGE ABSORPTION

Despite the globalization scale, large attention from various national and international institutions is still paid to regions' abilities to acquire and preserve competitive advantage. The majority of such decisions, policies and activities is oriented to the attraction of investments, the guarantee for economic and social welfare and for regional (and even country's) society. We understand, that these abilities must be typical not for separate actors, but for the whole regional innovation system as such. This goal could be reached by enabling an effective resolution of innovation management activities in a regional context, based on knowledge creation and exploitation, possible on the basis of effective knowledge absorption processes. The main factor, guaranteeing regional competitiveness, is regional innovativeness, which is determined by absorptive capacity of subjects, acting in the regional innovation system.

The concept of the regional innovation system is based on System theory, where the system is understood as a group of two or more inter-related items, interacting with each other for a common goal, each element makes impact on the total systems' functioning and it is influenced by other elements of the system at the same time, and the system is more than the sum of its separate parts (Hjørland & Nicolaisen, 2005; Ackoff, 1981, p. 15-16; Vaicekauskienė, 2009, p. 182-183). System must have: interrelated components (different types of operating system members: individuals, organizations, universities, research institutes, etc.); communications (market-based and not based on the interface between the members of the scheme); attributes (system interfaces between the participants and their properties, characterizing the system itself) (Carlsson, Jacobsson, Holmen & Rickne, 1999, p. 3-4). Therefore, a regional innovation system must have certain common goal-oriented actors, interrelated and closely linked with specific attributes. But it all depends on the region in which the innovation system is acting.

Regional innovation system's (RIS) "concept in its essence is close to the concept of national innovation systems" (Petraite, 2009, p. 16), sometimes RIS perceived as a smaller-scale version of the national systems, where socio-economic activities are carried out by using internal and external resources (Doloreux & Parto, 2004, p. 13; Uyarra, 2011, p. 170; Burbulytė, 2005, p. 21). So, here is an important region, which is perceived as a "historically formed individual and unique complex, formed by the interaction of natural and social systems, and defined by contractual integral boundaries" (Kilijonienė, 2010, p. 6). The common goal of RIS can be identified as innovative activity through inter-organizational interaction, or scientific and technological development, leading to the regional economic growth (Yoon & Hyun, 2009, p. 2; Seo, 2006, p. 4). Thus, the **regional innovation system** (RIS) is perceived as the network of cooperation between different institutions (public and private formal institutions and other organizations), based on organizational and institutional arrangements, relationships and contacts, contributing to knowledge generation, use and diffusion processes, thus increasing the region's innovation and competitiveness. Results of particular RIS depend on its actors and their interactions.

In order to identify actors and their connections in an innovation system of a particular region, we refer to the well-known **Triple Helix model**, which was unique for several reasons: distinguished three dimensions “University-Industry-Government”, particular emphasis on the university as a leader in innovation, focused on the role of communication and expectations network reformulating institutional arrangements between universities, industry and government agencies (Etzkowitz & Leydesdorff, 2000, p. 109). Organizations, according to their inertia or slow changes, can promote or block innovative activities, and this is the essential reason, why all actors in an innovation system must act purposefully. For the better identification of institutional (organizational) actors in a regional innovation system, Triple Helix model was adapted to the context of a regional innovation system (see Fig. 1) and main components were identified:

“University” converted to “Academy”, which means a broader coverage of scientific and educational organizations. Not only higher education institutions (universities) are important to RIS. The other relevant authorities, such as colleges, vocational and continuing training institutions provide development and application of knowledge, support for business by human and intellectual resources (knowledge and skills).

“Industry” converted to “Business”, which integrates not only industry, but also other business organizations, such as private companies, international companies, banks and financial institutions, presupposing preconditions for economic development of the region and involving in promoting knowledge absorption and diffusion processes.

“Government” was not converted, but now this component includes not only governmental authorities (local, regional, national and international), which plays a crucial role in determining the policies, but institutions, implementing those policies, as well (municipalities’ administrations, tax authorities, etc.).

There is also an additional fourth component model, which conceptually is an integral part of the three above-mentioned spheres, but should be visually depicted separately – “Other institutions”. This component includes: clusters, connecting institutions, public laboratories, technology transfer organizations, joint research institutes, patent offices, training, development organizations, innovation (academic and business) support institutions, state research institutes, universities’ research institutes, state research institutions, science and technology parks, integrate science, study and business centers (valleys), education information technology centers, agencies and innovation centers, business incubators, business centers, etc. (Kriaucionienė & Jucevičius, 2000, p. 20–21; Petraitė, 2009, p. 16; Putkienė R., 2008).

The Triple Helix model reflects not only the structure of regional innovation system, but shows emphasized processes of interaction (circulation) between different spheres (sectors).

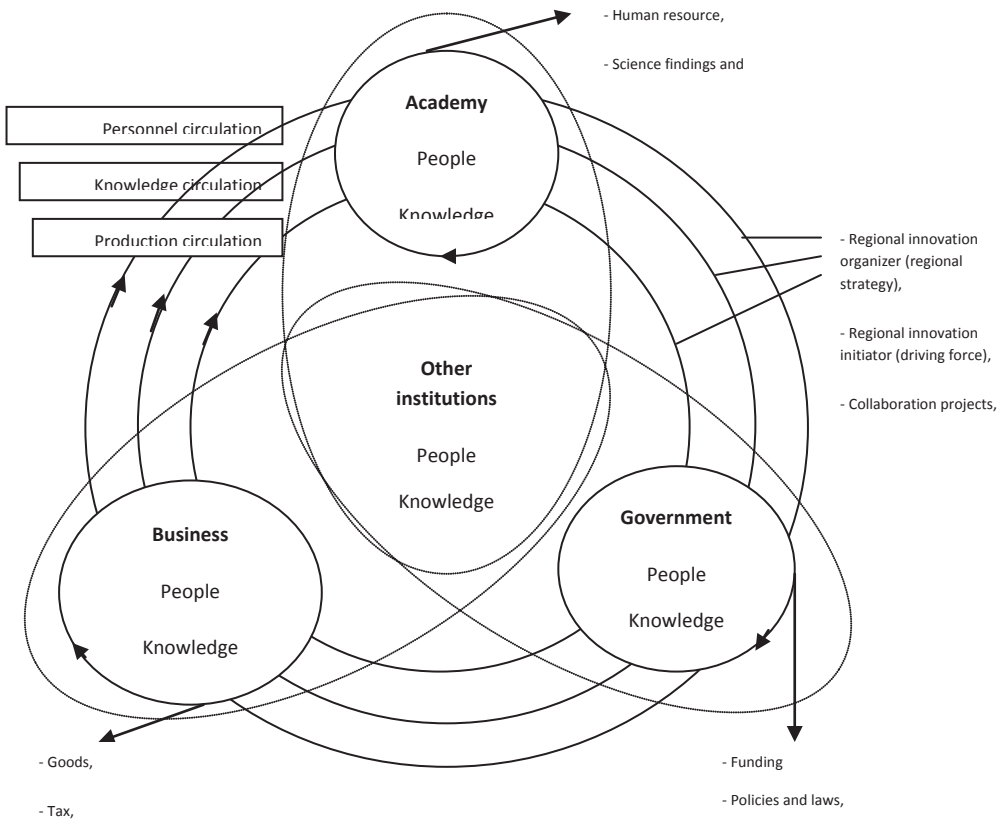


Fig 1. Triple Helix circulation at regional level
 Source: adapted from Etzkowitz, 2007.

Each group of institutions (organizations) also has certain absorptive capacity and influences the development process. At the same time all the actors are interdependent. The disruption of one component's activities, hangs all the circulation (and thus development) process. There are no clear boundaries between the individual components; therefore, efficiency depends largely on the quality of cooperation between organizations. Regional innovation system must become kind of smart social system, which is described by intellectuality, enabling to understand the environment and its changes, as well as the rules and regulations, which establishes relations and communication in the system, enhanced innovation and creativity in making and implementing decisions (Gaulè, 2014, p. 374). In such intelligent system, having the social profile, people are interacting, receiving the necessary information and resources, are able to critically assess environmental factors and make the right decisions for common goals of the system at the appropriate time (Jucevičienė, Jucevičius, 2014, p. 916). The development of absorptive capacity in such social system is the task not for one particular organization, but for all the regional innovation

system and its actors. This justifies the need to carry out the empirical research, revealing the situation of absorptive capacity in a particular region and possibilities for its development, disclosing the experience and future prospects.

EXPERIENCE OF LITHUANIAN REGIONAL INNOVATION SYSTEMS IN DEVELOPING ABSORPTIVE CAPACITY: RESEARCH METHODOLOGY

Basis of the Empirical Research. *According to the international organizations' classification, smaller countries are considered to be indivisible regional units.* It is argued, that the development of absorptive capacity and raising problems in some countries, particularly smaller ones, are similar. However, differences between smaller regions exist, even in small countries, and governments provide significant financial contributions to reduce such disparities. Lithuania – a country, which corresponds to criteria of „small country“: small territory (65.3 thousand sq. km), small population (2.97 million), creating GDP about 34.5 billion euros was chosen for the research context.

The European Union undoubtedly has big impact on political, social development and existence of the continent. According to the EU, Lithuania is one indivisible region (with reference to NUTS classification, it is the NUTS II type region). There are smaller sub-national units in Lithuanian territory – counties (NUTS III type regions, according to the EU typology), despite the fact, that this division is not actual for international institutions in terms of social and economical cohesion.

Despite international practice, Lithuanian regions still feel big differences in all areas of life, therefore, regional policy with various instruments implemented, and differential impact on regional social and economic development is made, seeking to reduce social and economical disparities of regions. Important disparities and peculiarities, typical for small country's regions, require separate and original research for its absorptive capacity and development.

The purpose of this empirical research was to investigate assumptions and barriers for the development of absorptive capacity. This research is based on views of experts who represent organizations from two different Lithuanian regional innovation systems.

Regional Sample. In accordance with the case study strategy and the method of criterial selection, two regions were selected for the research: one – successfully carrying out, and the other – insufficiently successfully carrying out innovative activities regions (respectively Kaunas and Šiauliai regions), which differently seek for economic growth, competitive advantage and development of absorptive capacity. 22 geographical, social (demographic), economic, institutional and infrastructural criteria were applied for the selection of successful and insufficiently successful regions.

Sample of Institutions and Experts. For the qualitative research the method of focused (semi-structured) individual interviews with experts was used. The

sample of research was argued according to the principles of Triple Helix model: the research includes experts, representing regions' academy, business and other (science, research and business support) organizations, so that the research problem would be fully integrated and reflected⁵⁸. The identification and sampling of institutions and representing experts were based on the method of criterial selection in accordance with the Triple Helix model and selected regions (18 institutions and 18 representing experts were involved).

Criteria for selection of "academy" organizations: (1) regional location; (2) main activity – science and studies; (3) right to provide a doctoral degree; (4) position in top 10 Lithuanian universities rating list 10 album. Selected sample – 4 universities: Kaunas University of Technology, Vytautas Magnus University, Lithuanian University of Health Sciences (representing Kaunas region), and Šiauliai University (representing Šiauliai region).

Criteria for selection of "business" organizations: (1) regional location; (2) main activity – industry or/and services; (3) innovativeness must be approved by a certain level of recognition (award of *Innovation prize*, *Knowledge Economy Company of the Year*, prize of *Innovation Herald*). Selected sample – 4 organizations: Selteka JSC and Rubedo sistemas (representing Kaunas region); Rūta and Šiauliai plius (representing Šiauliai region).

Criteria for selection of "business and innovation support" organizations: (1) regional location; (2) main activity – support for business and innovations; (3) diverse range of institutions. Selected sample – 10 organizations: KTU Regional Science Park, Technopolis, Lithuanian Energy Institute, Kaunas Regional Innovation Center, National Innovation and Entrepreneurship Center (representing Kaunas region); Šiauliai Business Incubator, Šiauliai District Tourism and Business Information Center, Sustainable Development Institute, Šiauliai University Management Innovation Center, Social Innovations Center (representing Šiauliai region).

Criteria for selection of experts, representing organizations: (1) occupy position, which would represent not only personal, but also the institutional approach; (2) practical experience in the field (work for the institution or in the field for at least 5 years); (3) directly encounter with the knowledge access, anchoring and diffusion issues and/or activities. All experts have responsible positions in organizations (directors, vice-rectors, senior specialist), directly involved in such activities as decision making, mentoring, evaluation, expertise, reporting, maintaining etc.

Analyzing the sample of experts, we revealed that the average of their age – 47.5 years, average of working in the position – 7.5 years, average of working in the organization – 13 years, average of experience – 24 years.

Method and Instruments. In order to examine the assumptions and obstacles of absorptive capacity's development in regional innovation systems, we have chosen the qualitative survey – directed (partially structured) individual interviews with experts. Using this method we obtained more comprehensive, struc-

58 This paper eliminated views of experts, involved to the research and representing national *governmental* institutions and national business and innovation support organizations. It is made seeking to reveal particular results on regional experience.

tured data, but at the same time to be able to interact with informants (in this case – experts) in conversational form and/or ask additional questions.

Before the research three guidelines for questionnaires were prepared – for experts from universities, business and regional innovation and business support organizations. Guidelines were formulated according to three logical incisions: structure, components of absorptive capacity and sectorial (specifics of Triple Helix model components and specialization of activity).

Interviews were accomplished in March–May of 2014.

Data analysis. Answers were codified according to the requirement of confidentiality: experts from academy (A1–A4); experts from business (B1–B5); experts from innovation and business support organizations (S1–S9). The analysis of research data was carried out under the forms of: “classification” (topics that reflected problems of the research were identified and detailing visualizing interview quotes were presented), “interpretation” (insights of the author were based on research results). The open coding was used in the research data analysis: conceptual codes were not known from the beginning of the research (guidelines according to the theoretical model issues were only identified, but the categories were created while conducting the qualitative content analysis). The analysis was carried out on different logical sections: activities of the absorptive capacity’s development in institutions, institutional interaction and peculiarities of regional development.

The analysis of data was made in May–August of 2014.

EXPERIENCE OF LITHUANIAN REGIONAL INNOVATION SYSTEMS IN DEVELOPING ABSORPTIVE CAPACITY: RESEARCH RESULTS AND DISCUSSION

Research results highlight the idea, that the task of getting the access to external knowledge is not difficult in today’s society: “Nowadays communication is not difficult, despite the place you are” (S3). Representers of academy organizations see the benefit from scientific events: “The advantage of the conference is that you are listening to others and translating your created knowledge” (A3). Experts from business argue, that “The most reliable thing is direct communication with people from science” (B3); and “Other resource – as working with science, [...] we make common projects with scientists. There comes particular experience” (B2). During the research, experts emphasized two essential sources for accessing external knowledge – interpersonal communication and project activities (they emphasize the role of individual and organizational networking). They identified the main problem for effective knowledge access – it is the lack of professional training courses in regions: “All training is held in the Capital (Vilnius) or abroad” (B5). There would be the need for good quality specialists, who could give training, courses, and seminars in regions.

The essential factor for effective knowledge access is personal motivation, which is identified as the determining factor for knowledge anchoring as well.

Good specialist education and keeping it in the regions is one of the most important knowledge anchoring guarantees. Organizations try to create attractive conditions for their good employees:

Favorable micro-climate (“We are acting like community – doing various events, traveling, making sports” (S6); “Comfortable, safe, democratic working environment” (S8); “Constantly moving in a young, evolving, creative environment” (S5); “Promoting for good works in public” (S3)).

Involvement and promotion (“You show initiative – you get responsibilities respectively with the salary” (B2); “We are learning to involve people in the rationalization movement – promoting for ideas” (B3); “We use opportunities for self-realization, appropriate atmosphere of work and team, financial measures” (B5)).

According to experts, obstacles to the proper knowledge absorption are formed by the lack of financial and technological resources and human resources, willing to grow and having enough experience. Experts from support institutions emphasize, that it is necessary to use the education system for individual innovativeness development to strengthen the internal communication in institutions as well. This education system (maybe involving support organizations from national level) should be oriented to the preparation of specialists, having skills not only to understand scientific ideas, but knowing how they should be commercialized.

The effectiveness of knowledge diffusion mostly depends on the intensity of interpersonal communication using formal and informal channels, acting in networks or clusters: “Professional networks, personal networks are one of the most important moments, as if you are invisible – you’re useless” (S5). To enable the potential of absorptive capacity, appropriate domestic culture is needed, but according to results of the research, Lithuanian society’s attitude to the need for innovations is changing, but not so quickly as it should be, because of its multidimensional cultural structure – awareness of the need for innovation varies depending not only on the nature of the activity, but also on the personnel (directors, leaders, managers) status (age, social groups and so on.). Academy expert, representing Kaunas region, hesitated “In Lithuania I do not see much difference between the regions. [...] I see a greater difference between social classes or certain professional groups, their activities” (A1). Despite a dominating pessimistic approach of traditional business to changes and the need for innovation, innovative companies do not see another way for their activities: “We have our exceptional aspect – guarantee of quality and always searching for something new” (B4); “Our innovation <...> tied to the fact of producing something more interesting” (B3); “I do not see that it could be enough to copy and adapt in the Lithuanian market” (B5).

Despite the still existing lack of innovation culture, innovation and business support institutions’ experts pointed out that the situation is improving (especially in respect of support programs and measures). The new generation of business people, more gifted and fast in adapting, are changing the market, introducing innovation as an integral component of their activity. Innovation is geared towards originality or quality, but because of necessary resources, their prices and risk-taking, these processes are going to slow.

According to the Triple Helix model, all actors of the regional innovation system should interact constantly. Only two experts in the research (Kaunas region's business and academic institutions) identified science and business interaction as a stable and strong relationship. Experts see benefits from recruiting human resources from an academy (best students), making common projects, and inventions: "There is trust, earned by the quality of science and studies" (A3). Šiauliai region's business expert observed that their cooperation with science has more profound things: "Collaboration in the preparation Laboratory" (B3). Kaunas region's business community also stressed the need to ensure the usefulness of mutual cooperation, for example, that the experimental results must be combined with scientific insights and publicized in the scientific community: "For example, what was created in science, all rights are transferred to the Company, because the company financed it, but we allow publishing their research papers. Cooperation must be of mutual benefit" (B2).

On the other hand, experts say, that cooperation between business and science is complicated because of inadequate expectations (one from another). An expert from the region's innovation and business support institution noted that "some companies want to get a lot for very little money, and then start the »friction«" (S5). Besides, "business is already more open to buy global achievements, than to hire scientists, that they manufacture anything by themselves" (A4). In addition, "there is no tradition to invest in science at the Lithuanian level" (A4). One of experts, representing regional innovation support institution, said that such unsteady relationship is influenced by the specifics of institutions' operational: "In the business you are like a fireman – you have to extinguish fires. Science is a little bit different. [...] Still a scientist has to think, he cannot create a product after some time. [...] He must try ten directions. [...] So, symbiosis of such people [...] is difficult. [...] These are different lifestyles" (S3). Experts expressed their opinion, that the biggest obstacle for good cooperation between the scientific and business institutions is the human factor: the lack of professional consultants, the lack of knowing procedures, lack of the need to organize all procedures in institutions, fears conditioned by the culture.

Experts reveal opinion about regional development issues. They emphasize, that absorptive capacity's development is stronger in three Lithuanian regions: Vilnius, Kaunas and Klaipėda, because of bigger concentration of good specialists (graduated from regional universities), which enables human potential realisation in various activity spheres, including innovative business. Nevertheless, a regional innovation and business support institutions expert noted that "the regional exclusion is huge and it just increases" (S6). Kaunas region has bigger absorptive capacity, because of its strengths: society's trust in regional universities and supply of specialists. The main weaknesses for Kaunas region are linked with problems typical for the whole country: emigration numbers and lack of knowledge-intensive business. Šiauliai region, despite its social and economic potential, still is less developed; the main weaknesses, describing it, are: the lack of bigger business organizations and industries, unfavorable attitude of the society and institutions to regional university and its graduates, mainly formed by the mass media, social problems of unemployment, emigration, lack of innovative culture, etc.

The analysis of a small country's peculiarities shows that despite all criticism directed at human factors in Lithuanian society, human resources, according to experts, is the biggest strength and main competitive advantage of Lithuanian regions. Another factor, promoting innovative activities in regions, named by experts – policy of the state, its direction and measures. Experts from universities, firms, business and innovation support organizations still emphasize, that there should be some changes in state policy in such fields as: strategic orientation, political systematic, continuity of innovation policy, regional and financial policies. Experts accentuated that even support from Lithuania and European Union can make negative affect on the development of absorptive capacity because of the inflexibility of project support and inappropriate competition in it, the uneven distribution of funding, or the lack of it and consequences.

CONCLUSION

The development of absorptive capacity in a regional innovation system should be strengthening in all Triple Helix model actors. The circulation of knowledge, production and people, which is implied by an intense interaction between academia, business, government and other (business and innovation support) organizations in the region and outside it, increases the accessibility of the knowledge, and helps to assimilate knowledge and to diffuse it more than at the organizational level, i.e. it strengthens processes of the absorptive capacity's development. In this case, all actors of the regional innovation system are relevant, because of their possibilities to integrate to processes of initiation, realization and enhancement of the knowledge access, anchoring and diffusion, which depend not only on the organizational (including as well individuals, operating in those institutions) properties, but also on the geographic area, identified as the region, its political, social, economic, technological situation and context. Therefore, the regional innovation system is the environment, where presumptions for knowledge absorption processes appear, while continuous organizational movement of resources and interaction is going on.

The empirical research has revealed that organizations, in order to strengthen the regional innovation system's absorptive capacity, assess the importance of not only their own, but of other participants of the innovation system and external influences as well. Academia and business organizations identify the lack of available finance, technical resources and the influence of human factor as greatest difficulties for processes of knowledge access, anchoring and diffusion. They still have a lot of problems, concerning partnerships regulations, results, division of final results, etc. In the context of all organizations' approaches, the interference for the knowledge absorption promotion can be identified, caused by the lack of an innovation culture in the society, unstable strategic operation at national and local levels and the lack of cross-sectoral cooperation practice. However, examples of those, who used the good practice, testify that those problems can be solved by enabling innovation culture and by fostering of inter-institutional trust, by growing the generation of professionals with innovative management competencies,

by ensuring the long-term direction of the state innovation policy and by strengthening the materialization of favourable state's attitude to support forms.

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