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The role of the entrepreneurial University at formation of the innovation activities of SMEs in the region

The main purpose of this article is to demonstrate the approaches to the development of entrepreneurial qualities to enhance innovative activity and purposeful development of innovative capacity of Kharkov Region and Ukraine.

The approaches to the development of entrepreneurial qualities to enhance innovative activity and purposeful development of innovative capacity of Kharkov Region and Ukraine based on European practices are demonstrated in the article.

In this article is important to study the interaction of society, the university and SMEs to form the most favorable conditions for innovative activity in the region and the economy as a whole. The publication is devoted to the peculiarities of the formation of entrepreneurial, research and communication skills in the student community needs for SMEs. The survey of enterprises that was helped to get an understanding of existing innovation practices of enterprises in Kharkiv Region and to determine the role of universities in the innovation activities.

1 Introduction

The process of forming of entrepreneurship support infrastructure within the Eastern Europe countries is gradually being activated. At the same time there is still a considerable disparity in enhancement of small innovation entrepreneurship & forming of single elements of the support infrastructure within the majority of the regions of Eastern Europe. Today in these countries there are many factors restraining development of start-ups & academic spin-offs. Thus, the public studies carried out in post-soviet countries among university graduates showed that 80% of respondents concede a possibility of opening own enterprise not earlier than in 3-5 years. The main reason for such a result is lack of business running practice in correspondent areas. The following issues were mentioned as the principal ones in own business organization: consulting when choosing a competitive business idea, business plan elaboration, carrying out of marketing researches, a choice of organizational-and-legal form of business running, financial plan elaboration, running of bookkeeping & tax accounting.

Dynamic external environment makes it necessary to increase the speed of decision-making. Accordingly, for manager need to develop the ability to make management decisions primarily proactive character. Involves reactive response to a critical situation or problem that arises in the management process, this approach does not take into account the strategic objectives and prospects of development of the organization. The concept of a proactive management is the use of models and approaches foresight development of the organization and its members with an analysis of the current situation and making decisions based on the most accurate forecasts. It is important to the behavior of the organization and its environment in the interaction.

The knowledge economy is the economy, for which the - underlying growth factor is the potential, intended for the generation, spread and use of the new knowledge, as well as the activation of creativity. The raising and possession of the abilities to create, spread and use new knowledge, ideas and innovations in all areas of life, as well as the incessant raise of the economic efficiency with the acceleration and activation means of the science and technological progress are the underlying conditions for economic growth and modernization in the knowledge economy [1].

In general, preparation and implementation of appropriate strategies for creation of knowledge-based economy include strategies development of innovation potential.

The assessment of the innovation potential and possibilities and prospects of its further development is the basis for identifying and solving the significant social, economic and technological development problems. The discussion and solution of some particular problems have not been paid much attention [2]. Thus, modern theories of innovation management do not offer a comprehensive analysis of the ways of creating and implementing innovations aimed at achieving technological breakthroughs and qualitative changes in the significant spheres of life of the community based on various synergetic effects.

The requirements of global economic processes lead to the realization that higher education establishment is an innovative structure of the state, the innovation and the educational system for creation of innovative product. Innovative development of a country, construction of a national innovation system should be based on the interaction of innovation legislation and intellectual property market. They should be also ensured by appropriate human resources (HR). Moreover, there is a necessity for the innovative motivation for the authors of intellectual property and long-term mutually beneficial cooperation between the state, university and business.

Should consider the following questions:

- What are the key elements of the innovation potential and how you can develop this potential and improve its use among SMEs;
- What proactive approaches must be used to increase innovative activity;
- What problems should be resolved by the University for the development of innovative capacity of the region in the context of globalization.

2 Background

Innovation surveys within the European Union have given a lot of interesting for understanding the processes of generation and implementation of innovations.

In general, a concept of innovation potential in the European Union can be defined as an overall capacity of the European Union as a system to initiate, disseminate and implement various social, economic and technological innovations required for responding to new

[1] David, P.A., Foray, D. (2002), “An introduction to the economy of the knowledge society”, International Social Science Journal, issue 171, pp. 5-9.

[2] Melnikas, B. (2008). The knowledge based economy in the European Union: innovations, networking and transformation strategies. Transformations in business and economics 7, 3(15): 170 -192.

challenges and requirements under the conditions of globalization [3]. Innovation potential in the European Union as a system should be oriented at its sustainable and harmonious development and adaptation to the environment and global qualitative transformations.

The innovation potential should be oriented at innovations found in all spheres of social, economic and technological development.

To show multifaceted orientation of innovation potential need to allot in his structure the following basic elements:

- the infrastructure for supporting and promoting the innovations in various areas and the system aimed at the development of education, science, university and non-university investigations;
- an up-to-date material base for industrial development and provision of services as well as technological infrastructure and infrastructure required for research, experimental work and practical implementation of innovations;
- social, political, psychological, legislative and organizational environment for stimulating and developing innovations and management & administration infrastructure for supporting innovative activities have been created;
- in the structure of HR most of the resources are oriented at the creative activities of all kinds and various innovations and initiatives of entrepreneurship.

Thus, it can be noted that the diverse orientation and a complicated structure of the innovation potential reflect the main factors to be taken into consideration in solving the significant problems of activating and promoting innovations.

The importance of proactive approach has increased due to the need to prepare students for competition on the labour market, becoming them as future entrepreneurs.

In addition to entrepreneurship courses taught for business students, sense of initiative and entrepreneurship have become more widely viewed as a key competence necessary for all students (and society at-large) [4].

Attention should be particularly focused on the development of entrepreneurial skills, because they not only contribute to new business creation, but also to the employability of young people [5].

Enterprise education can be seen as opportunity recognition, marshalling of resources in the presence of risk, and building a business venture [6]. and as a collection of formalised teachings that informs, trains, and educates anyone interested in business creation, or small business development [7]. At a broader level enterprise education can be placed in a wider context than business preparing not only “an entrepreneurial person” who may become self-employed and an owner of an enterprise, but also a person who is able to pur-

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[3] Friedman, T. L. (2005), The world is flat: the globalized world in the twenty-first century – London, Penguin books, 660p.

[4] OJ L 394, 30.12.2006. Recommendation of the European Parliament and of the Council of 18 December 2006 on key competences for lifelong learning (2006/962/EC).

[5] European Commission (2008). Best procedure project: “Entrepreneurship in higher education, especially in non-business studies” final report of the expert group. March 2008.

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[7] Jones, C. & English, J. (2004). “A contemporary approach to enterprise education”. Education and Training, Vol. 46, No. 8/9, pp. 416-423.

sue entrepreneurship and innovation as an employee and/or be a person who exhibits "enterprising behavior" [8]. In this sense entrepreneurship is of relevance for modern career concepts such as the protean career, the boundary-less career, the post-corporate career, and employability [9] that emphasise flexibility and different possibilities to cope in the modern labour market.

3 The basic material research

EU experience is very important to assess the prospects for meaningful development and effective use of innovative potential, in terms of, the interaction of different cultures. The above processes characterize emerging innovations in all spheres of political, social, economic and cultural life and reflect the development of innovative capacity; conditions of use provided by existing intellectual and creative abilities of HR in the European Union and Ukraine. Size and structure of scientific and practical knowledge related to various spheres of life and activity; infrastructure for the use of innovative capabilities; conditions created by the political decision-making system used for further integration and organizational, legal, informational, and economic infrastructure.

In the investigation it was noted that for SMEs of the factors influencing the creation of innovation were identified: market research information, international sources of information and the transfer of knowledge.

Based on the European experience, it should be noted the key position of universities in the process of knowledge transfer. In our case, universities serve as consulting.

External financing is used by small innovative enterprises, reflecting primarily prevailing conditions in Ukraine.

The prevailing majority of innovative enterprises in Kharkiv region have regional and national level innovations, but there are a small percentage of radical innovations (a fact supported by the incidence of patenting activity).

The main problems faced by SME working with universities are getting the scientists to understand their need for financing and joint activities. Lack of knowledge about the university is the main reason that not based on engagement.

In higher education, there has been a move away from teaching entrepreneurship only in business schools towards introducing it across different fields. Since the development of entrepreneurial knowledge of individuals is a slow and incremental process, attempts to stimulate entrepreneurial activities through formal training and education are not likely to have any strong impact and, rather, educational efforts should primarily focus on developing creativity, critical thinking, and reflection among individuals [10].

Entrepreneurship courses at universities have taught the topic focusing traditionally on the development of students' knowledge about entrepreneurship. In recent years, researchers

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[8] Gibb, A. (2002). "In pursuit of a new `enterprise' and `entrepreneurship' paradigm for learning: creative destruction, new values, new ways of doing things and new combinations of knowledge". International Journal of Management Reviews, Vol. 4, No. 3, pp. 233–269.

[9] Collins, L. A., Smith, A. J. & Hannon, P.D. (2006). "Applying a Synergistic Learning Approach in Enterprise education". Management Learning, Vol. 37, No. 3, pp. 335–354.

[10] Politis, D. (2005). "The Process of Entrepreneurial Learning: A Conceptual Framework". Entrepreneurship Theory and Practice, July, pp. 399-424.

have suggested a more action-based education [11], encouraging students to generate experience in entrepreneurship in order to develop their skills and abilities [12].

While an action-based perspective on entrepreneurial education emphasizes "learning through entrepreneurship" rather than "learning about entrepreneurship", there is a need to bridge theories concerned with informal entrepreneurial learning and more formalized education-based learning theories [13]. This leads to questions regarding how educational design for entrepreneurial learning can be created and implemented, understanding the key components of how design and delivery contributes to learning, as well as how learning outcomes are accessed and communicated for both educational and social purposes. An education emphasizing "real" entrepreneurial action needs a context within which this action can be realized. In what way do the structures and organizations in and around an education influence the potential for entrepreneurial action, and as a consequence, how do they influence the possibility for students to develop their entrepreneurial skills and abilities.

4 Developing regional innovation ecosystem and Entrepreneurship Support

In our opinion in this connection, it is important to bring NTU "KhPI" experience gained during the implementation of projects. University was involved into active cooperation with enterprises of the region almost since its foundation. In the interview process, it was noted that the development of market relations has led to radical changes in all spheres of society and the state. The system of higher education is not an exception. The decisive factor in the transformation is changing the main customer and consumer graduates.

The survey of enterprises helped to get a comprehensive understanding of existing innovation practices of enterprises in Ukraine and to determine the role of universities in the innovation activities. The survey of 200 enterprises rendered through hierarchical cluster analysis (using the Ward method) should have the allocation of the three groups of enterprises: non-innovators, regional innovators and national/ international innovators [14].

The most prioritized areas regarding the needs for innovative processes in enterprises were: better quality, more efficiency and increased capacity.

The enterprises expect that the response of the university to their needs for developing and implementing innovative products will reflect such issues as: personnel recruitment needs, and market information and customer demands. In terms of innovative process/ technologies, the enterprises in both countries expect from the universities mainly help in dealing with technology constraints and provision.

Based on the results obtained during the research note the main features that characterize the innovative activity of Kharkiv region in Ukraine. In 2008 at the initiative of the

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[11] Rasmussen, E. A., & Sørheim, R. (2006). "Action-based enterprise education". Technovation, Vol. 26, No. 2, pp. 185-194.

[12] Cope, J., & Watts, G. (2000). "Learning by doing–an exploration of experience, critical incidents and reflection in entrepreneurial learning". International Journal of Entrepreneurial Behaviour & Research, Vol. 6, No. 3, pp. 104-124.

[13] Rae, D. (2006). "Entrepreneurial learning: a conceptual framework for technology-based enterprise". Technology Analysis & Strategic Management, Vol. 18, No. 1, pp. 39-56.

[14] Needs Analysis & International Best Practice - Innolab Project (http://www.innolabs.org/wp-content/uploads/2013/10/Needs_Analysis_Report-Deliverable-10.pdf)

Kharkiv Regional Centre for Investment and Development was an attempt to increase the efficiency of regional innovation infrastructure.

Cluster innovation infrastructure Kharkiv region formed by 21 March 2013 at the initiative of the leading scientific and educational institutions of Kharkiv, the existing institutions of the innovation infrastructure and individual experts in the field of innovation as an additional element to the cluster system of Kharkiv region, defined by the Board of domestic and foreign investors in the Kharkiv Regional State administration of 24 November 2011 on the transfer of the regional economy on cluster development model [15].

Based on the results of research, we note that some differences regarding the size of the enterprises involved in the three clusters (shown Figure 1); we can see also the dispersion picture of the groups of innovators/ not-innovators in product/ services and process/ technologies.

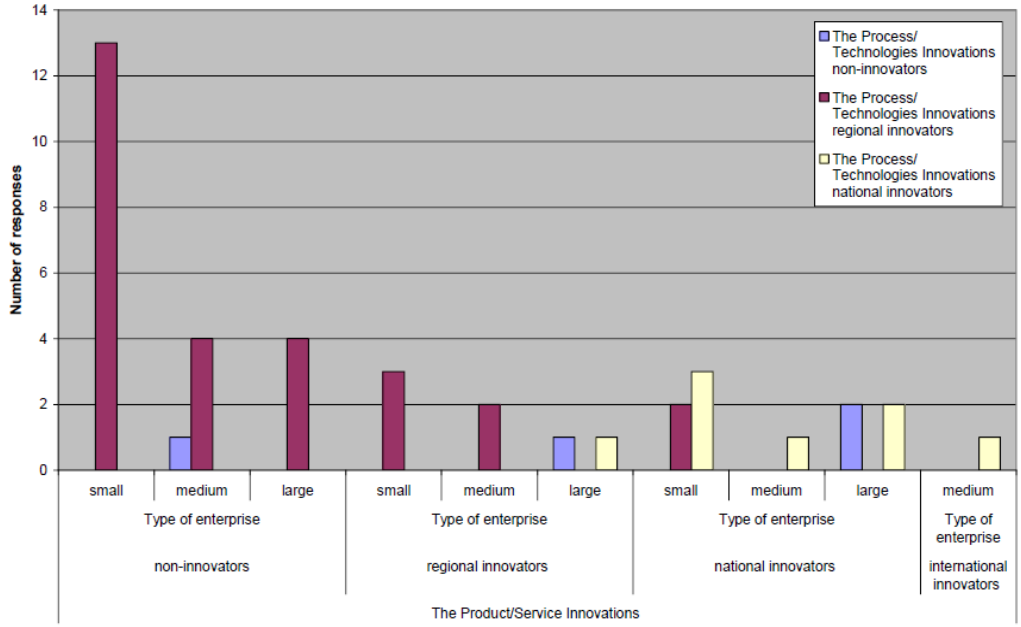

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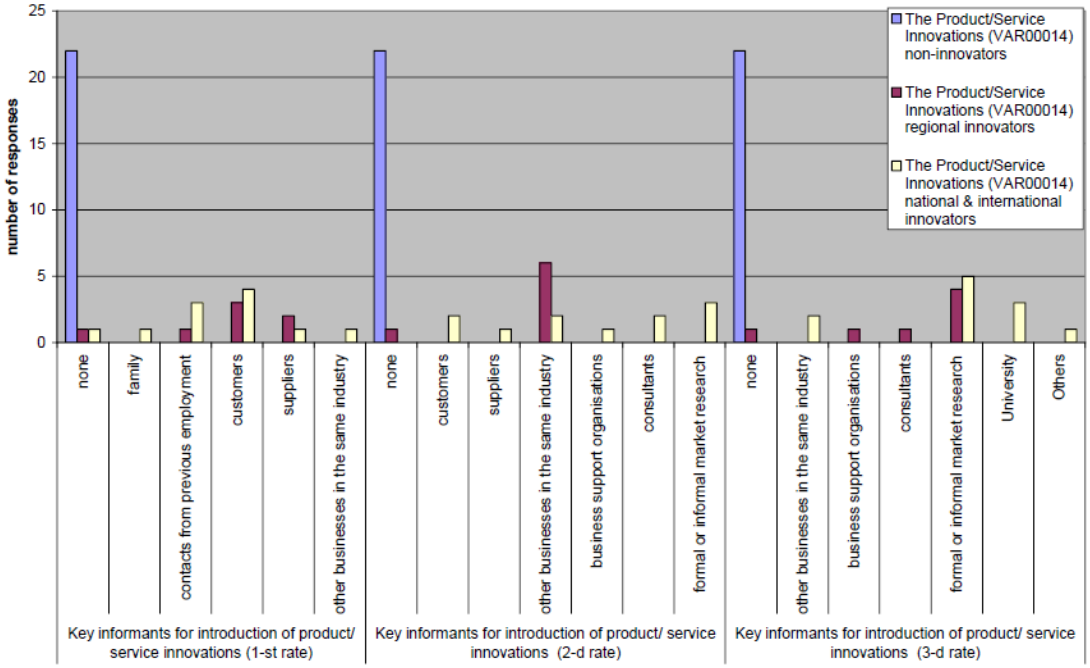
Figure 1: The Size Composition of different types of product/service innovation in Kharkiv, 2013

Non-innovators are divided between small enterprises (by 59%), and the rest almost equally between medium and large enterprises. For the regional innovators the biggest presence is in the small ventures (almost 43%), another 57% are divided by medium and large business. Surprisingly, for national product innovators, the biggest part is kept again in small business (50%), then in large enterprises (40%), and a small portion is the medium companies (10%). For international innovators all of enterprises are presented by medium enterprises (100%)? However, their number is not big. In total the small enterprises comprise 52,5% of the research sample, medium just – 22,5%, and large – 25%.

The foreign partners (market) and the tender requirements were shown as important for the regional innovators. Foreign partners (market) and the experience and market re-

[15] Olga Savchenko. A proactive approach in the formation of innovation activity of SMEs / Savchenko O., Poberezhnyi R. // L. Tampieri, M. Bianchi, M. Baseska, S. Ngo Mai, J. Verges (Eds) Beyond the horizon of Tempus projects. Theory and practice of project management, Il Ponte Vecchio ed., Cesena – 2014. – 456 p. – P. 379-390

search were shown as important for the national and international innovators. It is quite visible that the foreign partners (markets) as the source of idea generation are equally important for all types of innovators. However, there were some considerable differences in the sources of information sought in the introduction of the product/service innovation as shown on Figure 2 below.



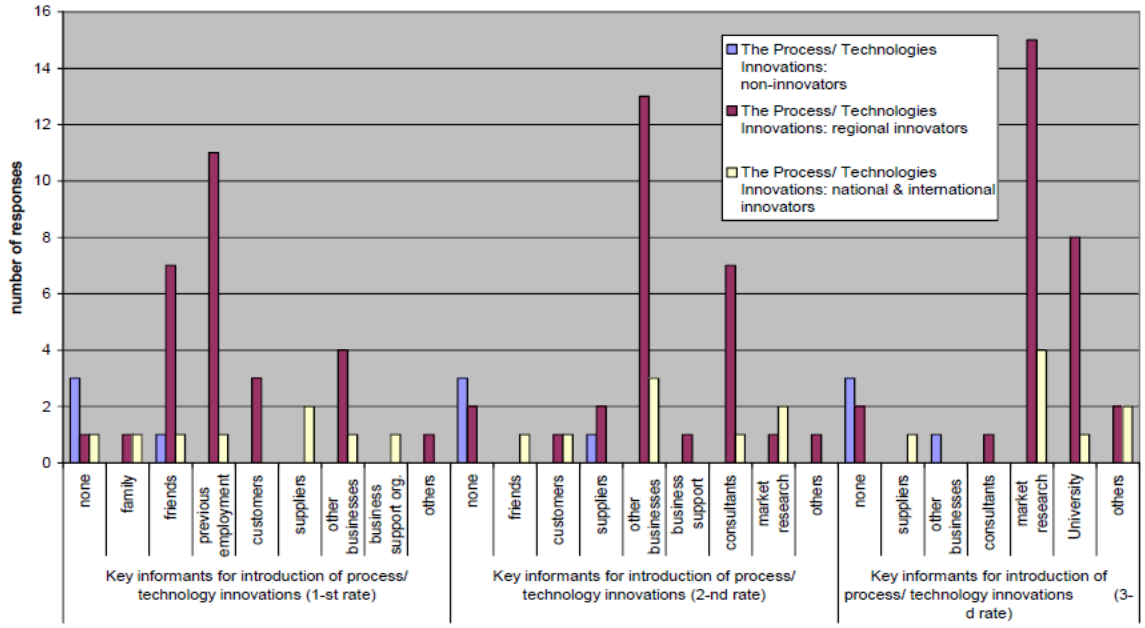
Source: own

Figure 2: The sources of Information for Product/Service Innovation Development in Kharkiv, 2013

The other businesses in the same industry were the most commonly sought source of information for regional innovators, followed by formal or informal market research, and customers. For the national innovators they were formal or informal market research, customers and other businesses in the same industry. There are some interesting findings regarding the geographical origin of information sources during product/service innovation. As one would expect, regional sources of information are particularly important for regional innovators (42% and 10%) enterprises as in the case of national innovators, and equal in comparison to the use of national sources information (42% and 42%).

For the regional innovators the biggest role is played by the foreign partners (market) (respectively 50%), and experience and market research (28,6%) and for the national the experience and market research (37,5%), foreign partners (market) and tender requirements (both by 25%). Thus, the most commonly identified sources were the foreign partners (market), experience and market research, just with different weights.

External sources of information were used in the process of introducing the process innovation by virtually all of the enterprises indicated they have the process innovations. Both the regional and the national innovators relied primarily on the other businesses in the same industry (respectively 60,7% and 50%) and formal or informal market research (respectively 57,1% and 75%) (shown Figure 3).



Source: own

Figure 3: The Sources of Information for Introducing the Process Innovation in Kharkiv, 2013

University was identified as sources of information for process innovation by regional and the national innovators (respectively 28,6% and 12,5%).

Creating a network of regional innovation ecosystem platform electronic (http://innolab.kh.ua) in each university partner region, allowing the university to manage relationships with companies with innovative laboratory and develop their innovation ecosystem further.

5 The main approaches to the formation of entrepreneurial university

The problem of insufficient activity of young people, their lack of confidence in their abilities and lack of practical knowledge, on the one hand, the opportunity to show them the importance of self-realization, on the other, led to the idea of creating special infrastructure, which is separately planned activities, step by step will show the benefits of entrepreneurship to students.

Consistently implementing the strategy of entrepreneurial university, NTU “KhPI” is carrying out a large number of international projects, now to held activation work of Consulting Centre “Bureau of Entrepreneurship Development”.

This structure helps to create and support educational hub by combining search and aspirations in the field of education, training and research. Consulting Centre develops and implements new educational forms and programs, paying particular attention to remote forms of cooperation, using modern information technologies, in particular, e-learning. Provides support for policy development in small and middle enterprises (SMEs), applied research, skills, creativity and knowledge transfer. It is authoritative leader in the consulting support of SMEs in the region, an agent of social influence and change.

Implementation of the Information and Consulting Centre goals involves a methodological approach based on the study and exchange of best practices, knowledge transfer and

pilot actions. This means the importance of finding a partner in the international academic environment with developed infrastructure consulting.

Active cooperation with representatives of business structures confirmed that the selection of qualified executors only a necessary condition for the implementation of teamwork. Need tactics, strategy, technology, training system of design implementation of the international remote of project tasks.

Another form of training entrepreneurs is providing executive education along the lines of LLL for people already engaged in entrepreneurship or looking for a career change. The topics included here could be developing a business plan and strategy, understanding accounting and managing finances, finding customers and markets, marketing and on-line marketing, managing projects, suitable IT applications supporting business activities, leadership and team-management. The target groups could include early stage entrepreneurs and experienced ones, those who export and those who do not, also innovative and non-innovative enterprises, high-growth enterprises and others. Considerable resources such as mentors and incubator facilities are needed to organize the programmer, and significant support from both the university and the local business community. Most the activities are very action-oriented, emphasizing a high degree of student involvement. The formation of knowledge management systems structure, conduct forecasting and analytical studies. Along with the tutorials and training programs, the external projects are acquired importance and the needs.

6 Conclusions

The main condition, ensuring future economic growth and fast scientific and technological development, is purposeful development and effective use of innovation potential. Innovation potential is perceived as complicated system accumulating possibilities of initiating, creating, disseminating and implementing innovations in all spheres of social, economic, scientific and technological development. Human and intellectual resources provide possibilities of activating innovations.

The following systems are important for activating innovations:

- development of entrepreneurship in all sectors of economy;
- complex operating, which are aimed at developing HR to satisfy the creative needs of knowledge based society for educational, scientific and technological development.

The importance of forming knowledge networks with universities and research institutes has increased and university-industry partnerships can range from small-scale, temporary projects to permanent, large-scale organizations. Knowledge exchange activities can be grouped around four categories: joint research (including joint publishing), contract research (including consulting, financing of university research), mobility (staff movement between universities and firms, joint supervision of students) and training (co-operation in education, training of firm staff).

In entrepreneurship education action research can be seen as means of making the teaching and learning environment similar to the environment where entrepreneurs act and learn by including supporting student startups, mentoring and incubator facilities, building networks between students, entrepreneurs and other stakeholders.

Thus, universities must take proactive position when preparing young professionals, they could to meet the needs of Regional Development and expectations of SMEs.

The universities, who should play a role of generators of young & innovative companies able to bring innovative ideas, up-to-date knowledge, & research outputs onto the market. They should serve as an agent of economic growth. A model of the university surrounded by affiliated companies, closely cooperating with the industry in the area of innovative developments application enables the university to be financially stable & independent. However, there are many problems & obstacles on the way of building a university entrepreneurial model. Let us highlight the main challenges of such process:

- insufficient experience & practice in entrepreneurial activity support at HEIs;
- weak relations among HEIs and business environment;
- lack of “stories of success” able to encourage research youth to enhance their leadership skills needed for implementation of existing business opportunities and to make the entrepreneurship an available carrier perspective.

Thus, the studio business competencies contribute to the solution of the main priorities for the development and implementation of innovative ideas in the production of goods and services that improve the quality of education, improve the environment for innovative entrepreneurship, providing opportunities to acquire new knowledge and skills.

Successful progress in this direction involves the development of infrastructure: the regulatory framework, financing sources, information and educational environment, internationalization.

That university can act as generators of young and innovative companies that are able to bring to market innovative ideas, knowledge and results of modern research.

The development of the university system to support business activities can accelerate the process formation of a favorable climate for business, technology transfer and enhancing entrepreneurship among students, alumni, academic staff and other stakeholders.

The main current activity in this direction is the development of an educational modules in the project 544202-TEMPUS-2013-AT-TEMPUS-JPHES “Acquisition of professional and entrepreneurial skills through education and consultation” (BUSEEG-RU-UA).

The formation of the knowledge-based economy requires a change in all the areas of social, economic, political and scientific life of Ukraine. At the same time, creating the knowledge-based society affects the content of the processes of globalization and the situation in the modern EU.

Thus, we will be able to contribute to forming and enhancing the elements of an entrepreneurial university model in Eastern Europe universities.

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