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ENTREPRENEURIAL FUNCTIONS OF BELARUSIAN UNIVERSITIES: ORGANIZATIONAL ASPECT

The article explains the specifics of entrepreneurial functions' development in Belarusian system of universities. Organization of innovatively active professionals training, knowledge transfer, generation and production of high-tech ideas, technology, innovation, commercialization (capitalization) of knowledge developments in the universities of Belarus is studied.

Keywords: university; entrepreneurial functions; knowledge transfer; innovations' commercialization; technology park; technology transfer center.

Peer-reviewed, approved and placed: 9.09.2016.

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ПІДПРИЄМНИЦЬКІ ФУНКЦІЇ УНІВЕРСИТЕТІВ БІЛОРУСІ: ОРГАНІЗАЦІЙНИЙ АСПЕКТ

У статті розглянуто сучасну специфіку розвитку підприємницьких функцій в системі діяльності університетів Білорусі. Досліджено організацію підготовки інноваційно активних фахівців, трансферу знань, генерування та виробництва наукоємних ідей, технологій, інновацій, комерціалізації (капіталізації) знань та розробок в білоруських університетах.

Ключові слова: університет; підприємницькі функції; трансфер знань; комерціалізація інновацій; технопарк; центр трансферу технологій.

Літ. 25.

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ПРЕДПРИНИМАТЕЛЬСКИЕ ФУНКЦИИ УНИВЕРСИТЕТОВ БЕЛАРУСИ: ОРГАНИЗАЦИОННЫЙ АСПЕКТ

В статье рассмотрена современная специфика развития предпринимательских функций в системе деятельности университетов Беларуси. Исследована организация подготовки инновационно активных специалистов, трансфера знаний, генерирования и производства наукоёмких идей, технологий, инноваций, коммерциализации (капитализации) знаний разработок в белорусских университетах.

Ключевые слова: университет; предпринимательские функции; трансфер знаний; коммерциализация инноваций; технопарк; центр трансфера технологий.

Introduction and problem statement. Today an intelligent component of socioeconomic structure of the society, based on the latest knowledge, becomes a key factor of sustainable development of Belarusian economy. It predetermines the capacity of the country to get commercial benefits from the use of the newest knowledge in the shortest time through its commercialization and ensure the maximum penetration of innovations into everyday life of the society.

Analysis of statistical data on Belarusian innovative activity for the period of 2011–2014 shows a certain slowdown. Thus, the amount of registered patents decreased by 494 items (from 1474 in 2011 to 980 in 2014), internal expenditures on research and developments decreased by 35,807 mln USD, the number of researchers with academic degrees decreased by 2,296 people, the number of R&D organizations decreased from 501 to 457. As a result, science share in GDP also decreased from 0.7% in 2011 to 0.52% in 2014 (www.belstat.gov.by).

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Universities play the critical role in the innovative sector of the country being the basis for knowledge generation system under market conditions, they determine the country's level of innovative development. Universities are now developing a completely new business function – an entrepreneurial one.

Literature review reveals that a range of foreign and Russian researchers (Clark, 1998; Etzkowitz, 2002; Konstantinov and Filonovich, 2007; Ropke, 1998) showed scientific interest in the conceptual principles of entrepreneurial universities. Development trends, problems of entrepreneurial universities' activity organization are also covered in the publications (Andryushkevich and Denisova, 2014; Djindjolia et al., 2015; Grudzinskiy and Bedny, 2009; Mkrtchyan, 2014; Naletova, 2007; Reznik et al., 2014; Shakhovskaya et al., 2015). Certain issues of science and business cooperation were researched by Belarusian scientists (Bogdan, 2015; Borzdova, 2013; Myasnikovich, 2013; Leonenko et al., 2016; Shimov and Kryukov, 2015), but the problems of entrepreneurial functions' formation by Belarusian universities did not get proper attention. Thus, the issues of contemporary entrepreneurial activity specifics of universities in Belarus still remain understudied.

The aim of the research is to identify and characterize organizational transformation processes of contemporary Belarusian universities in the direction of entrepreneurship.

Key research findings. Currently in Belarus in the conditions when innovative activity becomes the priority in development, there is a pressing need for increased entrepreneurial activity in the system of education-business-government integration. The key role in all integration structures belongs to university as a leading party in generation and commercialization of the newest knowledge. Entirely new functions are added to university activities: training of innovatively active professionals, knowledge transfer, generation of scientific ideas, production of high-tech ideas, technologies and innovations, capitalization of knowledge, attraction of investment, which leads to their transformation into universities of an entrepreneurial type. Entrepreneurial university builds its activities not only in the framework of its main social function, but also in such key areas as: training of innovatively active professionals which is reached through teaching disciplines of market and innovative character; production of high-tech ideas, carried out by research institutions within universities; production of innovative technologies and innovations and their commercialization (capitalization) of knowledge through technology transfer centers, technology parks and business structures (Andryushkevich and Denisova, 2014).

The present research focuses on the organizational aspect of universities' entrepreneurial activities. The study of higher education system of Belarus Republic with regard to transformation of higher education institutions in the direction of business activities by expanding their functionality shows the following.

For better integration into international educational and economic community Belarus joined the Bologna Process in 2015. A Road map was developed where an array of necessary measures was enlisted: structural changes in the system of higher education, increasing the role of students' self-government, as well as mobility programs for students and staff. Belarus shall present the results of this program fulfilment at the EAEU conference of the ministers of education in 2018. This predermines the major tasks set for Belarusian educational system: adaptation of

curricula and other basics of study process according to the Bologna Process requirements.

According to the information of the Ministry of Education of the Republic of Belarus in 2016 there were 33 universities, 8 academies and 10 institutes. Among them, there were 9 private and 43 state institutions. Overall, there are 62 higher education institutions (edu.gov.by).

Organization of innovative activities at Belarusian universities and their entrepreneurial initiative is governed by local legislation. In 2003 the Resolution of the Council of Ministers of the Republic of Belarus as of December, 24, 2003 No 1685 "On the measures of entrepreneurship development encouragement" was enacted. Same year, Resolution of the Council of Ministers of the Republic of Belarus as of August, 13, 2003 No 1065 "On affirmation of Regulations for scientific and technical projects, fulfilled in the framework of international agreements of the Republic of Belarus" was enacted. In 2012 the Law of the Republic of Belarus No 425-3 "On state innovation policy and innovation activity in the republic of Belarus" was adopted. In 2013 the Decree of the President of the Republic of Belarus as of February, 4, No 59 affirmed the Regulations of "Commercialization of the results of scientific and scientific and technical activity, created at the cost of the State". Resolution of the Council of Ministers of the Republic of Belarus as of May, 5, 2013 No 362 "On certain issues of involvement foreign specialists for the implementation of higher education curricula" determined the terms of salary payments and the system of reimbursement for those, who have progress in certain areas of activity, possessing innovative knowledge, methods and technologies for corresponding educational profiles. In 2015 the Resolution of the Council of Ministers of the Republic of Belarus as of March, 12, No 190 stipulated the priority directions of scientific research in Belarus for the period of 2016–2020.

Taking a closer look at the universities training specialists, bachelors and masters for real economy we find that in 48% of Belarusian universities training of market and innovation specialists is carried out at economic and sometimes engineering faculties. The following departments usually get involved: marketing, innovation management, world economics, marketing and investment, management and marketing, business administration, business, commerce and logistics, economic theory and marketing, international business and marketing, innovations etc. Within these structures teaching in the following fields is carried out: marketing, commercial activities, business administration, innovation, innovation management, project management of innovative industrial enterprises. Special attention should be paid to innovative orientation of the following universities: in Belarusian State University (BSU) – Department of Innovative Management, Economic Faculty, in Belarusian State Economic University (BSEU) – Department of Innovative Management, Management Faculty, in Belarusian-Russian University (BRU) – Innovation Department, Engineering-Economic Faculty, in Yanka Kupala State University of Grodno (YKSUG) – Faculty of Innovative Technologies in Engineering. Educational process is also carried out within centers and schools, such as: the center of Business Education at Belarusian Trade and Economics University of Consumer Cooperatives (BTEU), School of Marketing at Belarusian National Technical University (BNTU), Business School, School of Economics, School of Young Entrepreneur in the Institute of Entrepreneurial Activity (IEA) etc.

For the development of entrepreneurial initiatives Belarusian State Economic University, Belarusian State University, Belarusian State University of Informatics and Radioelectronics (BSUIR) created business incubators. It is planned that a business incubator will be created for the participants of the competition "100 ideas for Belarus", on the basis of Republican innovative unitary enterprise "Science and technology park "Polytechnic".

Adaptation of higher education institutions to the entrepreneurial environment under the conditions of innovative activity is carried out through the formation of market-oriented structural divisions. For example, marketing departments (centers) were created in Baranovichi State University (BarSU), Vitebsk State Technological University (VSTU), Vitebsk State University named after Masherov (VSU), Francisk Skorina Gomel State University (GSU), Department of Marketing and International Relations Private Institute of Management and Entrepreneurship, Department of Marketing and Advertising in Yanka Kupala State University of Grodno, Entrepreneurship Support Center in IEA, Department of Advertising and Information Support for Scientific Developments have good results in BSU, BarSU.

Research that ensures production of high-tech ideas is conducted on the basis of all the universities in Belarus. The universities set up separate departments: Department of Science, scientific-research section, research sector, scientific-methodical department etc.

To ensure the ongoing research universities create research laboratories. The number of such laboratories already goes over 230, including about 15 laboratories the activities of which are focused on innovation and entrepreneurship. They exist in the following educational institutions: YKSUG, Francisk Skorina GSU, BSEU, BSU, Institute of management and entrepreneurship, Belarusian State Academy of Agriculture (BSAA).

Organization and management of innovation activity as well as patenting (including commercial services) are carried out within such structural divisions as: BSU Engineering Center, Service for protection and management of intellectual property (VSTU), Research & Innovation Department and Department of innovation support and protection of intellectual property (BSU), Department of Intellectual Property and Innovation Management (BarSU), Regional centre for innovation in YKSUG, Patent information services division (GSTU named after Suhoi, BSUIR), Department of patenting and intellectual property protection BSTU, BSU.

Supplemental structural divisions were founded in the following universities: Certification body (GSTU named after Suhoi, BSTU, BelSUT), Accreditation and certification center in BRU.

Commercialization of scientific developments in Belarusian universities is carried out in technology transfer centers. Currently, 14 technology transfer centers, created to promote innovative entrepreneurship, expand international partnerships in the field of innovation and high-tech, implementation of research and introduction of universities' developments to the real economy of the country, are successfully working within the higher education system of the Republic of Belarus (www.icm.by).

The following technoparks were created on the basis of 3 universities: Republican innovative unitary enterprise (RIUE) "Science and technology park of

Vitebsk State Technological University"; RIUE "Science and technology park of Polotsk State University"; RIUE "Science and technology park "Polytechnic"; BSUIR and Belaus-Russian University are represented in the high-tech park of Belarus. Structures like these serve to facilitate research activity, knowledge and technologies' transfer, and also developments commercialization.

Conclusions. From all of the above we can see that Belarusian educational community acknowledges the necessity to create effective models of cooperation between education, science, business and the state, as well as the use of entrepreneurial tools by universities. This tendency is actively supported by the country's government through the development and enactment of the related legislative acts as well as constant modernization of this legislation.

It is evident that in response to challenges of contemporary economy the education system of Belarus should expand universities functions, which predetermine their transformation into the universities of entrepreneurial type. Chancellor of Belarusian State Economic University, V.N. Shimov states that the main idea of change in the model of organization and management of a classic university towards entrepreneurial one is to switch from state financing to multichannel financing on the basis of investment attraction by the university itself (Shimov and Kriukov, 2015).

By creating innovative structures, such as business incubators, technology parks, business centers, technology transfer centers etc., as well as carrying out paid educational services for knowledge commercialization and increasing budget revenues, universities are beginning to fulfill the role of business, thus retracting the classical paradigm of education and transforming into entrepreneurial universities.

This research also allowed us highlight certain problematic aspects in these changes. First of all, there exists the threat of undermining the academic basis of higher education (since income may become the priority) and as a result, there is some distrust to entrepreneurial activity of universities as such. Also those are difficulties with entrepreneurial thinking and entrepreneurial culture formation among teachers, students and all the related staff due to their reluctance to accept responsibility and risks for administrative decisions, small degree of academic freedom, which cause distrust of business in effective cooperation with universities. These and some other problems may be solved if a more rational approach is implemented and balance of interests among all participants of education, research, innovation and entrepreneurial activity is reached.

Integration processes in the educational system are a necessary precondition, since realization of innovative projects in the system of international university cooperation can overcome the current shortage in resources by getting commercial profit, thus securing maximal use of innovations in social life. We believe it is rational for Belarus to develop international entrepreneurial (research) universities, under closer integration of science, education, business and state. Such a model shall allow adapting the entrepreneurial functions to the realia of universities' environment in all participating countries.

University of entrepreneurial type is the main institute to secure the development of intellectual resources for further knowledge generation.

Acknowledgements. *The work was carried out in the framework of grant "BRFFI-RGNF-2015. No G15P-004 dated May, 4, 2015".*

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