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University Education: the Challenges of 21st Century

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Abstract

The article discusses the prospects for the universities development in the modern knowledge society. The main objective of the research is to determine the conditions for the universities transformation from relatively close knowledge-generating structures to the full-fledged constituents of the civil society. To this end, various factors are examined that form the external environment of universities and impact the establishment of their internal context. The research is conducted with the use of comparative analysis method which allows revealing the common and specific features in the development trends of American, European, and Russian universities. The state and market are considered as significant elements of the external environment. It is shown that in the democratic post-industrial society the state traditionally playing a key role in universities development delegates a number of its functions in terms of university management to the civil societies. The substantiation is provided for the necessity to form the universities' strategy in the market environment as a means for enhancing their competitiveness. The author further shows how such factors as globalization, internationalization and demography change impact the implementation of both the challenging task of establishing world class universities and the objective to implement the principle of equal opportunities in the educational field. Eventually, a number of conditions are defined that will allow making universities and higher education as a whole not only part of innovative economy but also the foundation for sustainable and fair society.

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1. Introduction

Nowadays the society's evolution is substantially determined by the quality of education. A special role in this respect is played by universities: their mission is to educate the decision-makers in all social spheres. However, a large number of universities in different countries are now experiencing a grave crisis. Academic and mass circles extensively discuss the issue on the universities' capability to play a fundamental role in the knowledge-based economy and social advancement. Therefore, it is necessary to investigate the universities' capacities and external threats throughout the world.

The aim of the article is to define social-and-economic and cultural factors for the universities' development in the early 21st century. In view of the set objective, it was implied to conduct the comparative analysis of the universities'

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activity external conditions, issues and emerging prospects for the educational internationalization in the national (Russia) and global context.

As a result, the conclusion was made that universities will be able to ensure their leading position in the society on the condition that they become an active driving force of the social advancement.

2. Review of related research

Universities, state, market

In the second half of the 21st century it became clear that universities had to follow the social changes. The struggle for the global leadership aggravated after World War II distinctly revealed the enormous knowledge potential for its achievement. This led the foundation for the formation of “knowledge societies” in the advanced nations. In such a society’s economy the added value grows mainly due to the application of knowledge and innovation-based technologies. Consequently, the society’s requirements to universities as “knowledge producers” were subject to changes. Based on the Schultz and Becker concept of human capital assets, the society suppose that the more the universities produce highly-qualified graduates, the more the economy will benefit. However, prior to obtaining the benefit, heavy expenses are to be incurred. By no means all states are able to financially support the system of higher education. This is the economic aspect of the issue.

The social aspect of the universities’ activity (inherently tied with the economic one) is determined by the opportunities of social and personal advancement provided by the higher education. Hence, higher education is regarded as a crucial component in the implementation of concept of equal opportunities. The available in the society wide access to the education makes universities a considerable force of social development and, on the contrary, the lack of such access isolates part of the society or even makes them hostile towards university education.

In consideration of the universities’ prospects, cultural factors are also to be accounted for. The academic community and society as a whole should answer a number of questions: does a modern university fulfil any cultural mission? Should a university bring up? And – even more emphatically – is the education provided by the university a value or a commodity?

Z. Bauman in his book titled *Individualized society* provides quite definite answers to these questions. In his opinion, the time of great ideologies and cultural missions passed with the decline of “modernity” age. The today post-modernist society exhibits pluralism, tolerance, and discredit of absolute values, therefore, the mentorship is likely to be condemned here. Market relations penetrate the university environment as well, and the choice of strategy for the adaptation to this new reality is the issue for the universities’ survival (Bauman, 2001).

Alongside with the significant differences, the periods of “modernity” and “post-modernity” both have the same feature: they are based on the modernity concept. The European Enlightenment project regarded time as a fetish – one should keep pace with time and be con-temporary. The university in its classical understanding is based on the concept of tradition: the knowledge accumulation is an evolutionary process. Too rapid changes do not allow forming the tradition and thus undermine the backbone of a university in its classic view.

Nevertheless, the surrounding reality is rapidly changing. In this context universities should determine their strategy: whether to be on the “catching up” position or bring its structure in compliance with the new reality.

In order to estimate the universities’ capacities in the reality of the 21st century, it is necessary to assess those external factors that will mainly determine their development. Traditionally, a crucial element in the universities’ external environment has been the state with its regulatory and supervisory functions. In the late 21st century in the developed countries such functions were limited and transferred to the civil institutes, including universities themselves. Experts underline that the universities’ autonomy is one of the significant factors for their growing competitiveness and, vice versa, the eagerness of politicians to elaborate the reforms in detail leads to the universities’ passive stand (Ritzen, 2011).

Meanwhile, the early 21st century updated the task of establishing world class universities, which implied a fundamental state support. A world class university, as per the definition of D. Salmi, an expert in higher education from the World Bank, is a university that educates specialists highly demanded in the global labour market, conducts

state-of-the-art scientific research, publishes the research results in the acknowledged scientific periodicals, and contributes to the technological innovations by means of patents or licenses (in case of an engineering university) (Salmi, 2009). Such universities are a crucial element of the tertiary education system and ensure the state's strong positions in the global competitive environment.

Salmi distinguishes three basic state strategies in establishing world class universities: modernization of the existing universities, their merging, and establishment of new ones. National states opt for the strategy based on the financial capacities, social-and-economic features of a region to allocate a university-to-be, peopleware, and other factors.

Taking into account that establishment of fundamentally new universities requires enormous expenses, the Russian Federation government applies the strategy of universities modernization or merging. In Siberia the examples of modernization are Tomsk National Research Polytechnic University and Tomsk National Research State University, and the example of merging is Siberian Federal University (Krasnoyarsk). The latter has incorporated four higher educational institutions.

One of the crucial factors for success in establishing world class universities is financing. Having studied the activities of European universities D. Ritzen draws the conclusion: the university's rank is as high as the expenses for educating a student (Ritzen, 2011). The US universities taking the top positions in the Shanghai and Times rankings spend about \$54,000 per year for the education of a student, and the EU universities – \$13,500 on average (Salmi, 2009).

However, the state support only is not enough for a university to take the leading positions. Another factor here is the market as an element of external environment. Universities gain income from the research conducted on a contractual basis for state and private companies. Thus, the success depends on the research valorisation. The challenge is the arising vicious circle: the condition for valorisation is the availability of advanced scientific-and-technological basis for research, and the creation of such basis requires financing. Russia is still characterized by poorly developed venture business integrating science and business, which is explained by high risk and low profitability at the initial stage.

Meanwhile, the US universities conduct their activities with a markedly practical orientation. In 2005 they received over 50% of patents from the overall number granted in the world. This was mainly due to the availability of the legal basis facilitating the acquisition of patents (Bayh-Dole Act) (Ritzen, 2011). Establishment of the similar legal framework in Europe and Russia will assist in elimination of one of the obstacles for the efficient valorisation of scientific research.

Practical implementation of research findings is to become a considerable contribution of universities to the social-and-economic development and ensure their outstanding position in the innovation economy. However, a number of authors question the consistency of commercialization and improvement of educational process (Bauman, 2001; Ritzen, 2011). The solution appears to consist in the further diversification of the tertiary education system. The system can comprise research universities, the universities oriented to the education only, and other educational institutions. This will allow concentrating the efforts of research universities on the education of researchers able to generate knowledge and create national innovation systems (World Bank, 2002).

Universities and equal opportunities

The globalization processes have become another challenge for the university education. European experts discuss the opportunities and issues of creating the unified European higher education space as a way to the leadership in the international labour market (Ritzen, 2011). In this respect the objectives of the European community have been defined in the Bologna Declaration and Lisbon Conference documents (2000). Over 50 countries have adopted by now the two-level system of higher education proposed by the Bologna Declaration.

The Russian Federation is also involved in the Bologna process. Europe and Russia have similar goals: graduation of specialists competitive in the global labour market. An important factor for the European and Russian educational policy in the context of globalization and education nationalization is demography.

The population of industrialized states grow older. According to the forecasts, by 2050 the number of European youth studying at higher educational institutions at the age of 20 – 24 years will have amounted to 35 mln. people. As compared to 2010, it will decrease by 15 mln. (Ritzen, 2011). Similarly, the population of the Russian Federation is predicted to be significantly reduced by 2050. The implication of unfavourable demographic situation will be the lack of qualified specialists for national economies. The lack of applicants will impair the position of universities.

The today's solution of the problem consists in the attraction of university applicants from developing countries. Their number is continuously growing: from 52% of the total entrants in 1970 it increased up to 75% in 2005 (Ritzen, 2011). The Russian universities also enhance the admission of foreign students. In 2013 at Tomsk National Research Polytechnic University 3,500 students were studying from 48 countries of Europe, Asia, Africa, and CIS. The majority is constituted by the students from the former USSR republics, but the number of students from far-abroad countries is growing (from 811 people in 2011 to 983 in 2013).

However, the only attraction of students and highly qualified teachers from abroad is not capable of solving the issues caused by unfavourable demography. It is necessary to create the conditions and incentives at a state level, which will prevent the "brain drain". The problem exists both in developing and advanced countries. Students and scientists from poor countries leave for the European and US universities, whereas the leading European countries experience problems with the "brain drain" to the US prestigious universities. In particular, in 2002-2003 half of doctoral students in the USA were foreigners (Ritzen, 2011). As for the "brain drain" from Russia, the size of the Russian academic expatriate community abroad (both students and top scientists) currently amounts to 150 - 200 thousand people. Intellectual migration from Russia is mainly directed to the countries of North America (30.4%) and Western Europe (42.4%) (Korobkov, Zaionchkovskaya, 2010).

The policy aimed at retaining the own experts and attracting the intellectual elite from abroad can be exemplified by the US government activities. First, financial incentives are used. The average salary of the US university scientists is reported by the EU to be about 63 thousand euro as of 2007. For the purpose of comparison: the average salary of European scientists amounts to about 53 thousand euro in Great Britain and Germany, 48 thousand euro in France, 39 thousand euro in Spain, and 34 thousand euro in Italy (EC, 2007).

Second, the governmental initiatives are adopted which are aimed at expanding and enhancing the system of higher education. Among them are a GI bill aimed at expanding the availability of education, the Marshall Plan implying a wide attraction of foreign students, etc.

Certain measures in this respect were also undertaken in West European countries and Russia. Thanks to the adopted concept of equal opportunities in 1970-1980s a number of students at European universities increased drastically. For 30 years (from 1950 to 1980) it has grown by 390% (Ritzen, 2011). In 1990s a considerable inflow of scientists to European universities was provided by the emigration from Eastern Europe and former USSR. The overflow of emigrants made the European governments restrict the entry to their states. So, immigration to EU countries fell by more than half already in the end of 1990s - from 1.5 million to 680 thousand. Persons (Mitchener, 2002). Nowadays the differentiated immigration policy is implemented, which allows receiving the most recognized scientists.

The Russian Federation is currently conducting the immigration-promoting policy. In the scientific-and-educational field it is expressed by the creation of favourable conditions for students, candidates for a master's degree, and scientists willing to study and work in Russia. However, the number of scientists and students among overall immigrants both in Russia and European countries is insignificant. Due to this, many societies share the same emerging threat: presence of a great number of people having low cultural and educational level and associated issues. The pivotal task now is a wider attraction of immigrant population to be educated. According to the World Bank's report *Constructing Knowledge Societies: New Challenges for Tertiary Education*, social benefits from getting the higher education consist in the enhanced social status of people, establishment of more consistent society, and reduced criminality rate (World Bank, 2002). All these refer to immigrants.

Nevertheless, despite the growth in number of immigrants' children who entered European universities, their number is significantly less than that of native entrants (Ritzen, 2011). Similar situation is observed in the Russian

Federation. One of the reasons for this fact (common for Russia and European states) is that uneducated immigrant parents often do not realize the value of education and cannot foster it in their children. Low level (or absence) of basic education, lack of finance and necessary information completely obstruct the immigrant children's way to knowledge acquisition. Thus, the countries with a growing immigration level that are unable to tackle the issue create a serious threat for the public security and wellbeing in the foreseeable future. Inability to get higher education by certain social groups shows how far the society is from the implementation of principle of equal opportunities. The problem can also be solved by the enhanced diversification of tertiary education and differentiated approach to the students' admission.

3. Conclusion

Universities can overcome the crisis associated with the exhausted resource of a classical university development. They will succeed subject to their active role in social advancement. First of all, it implies the universities' active efforts in cooperation with the civil society and the state in terms of implementing the principle of equal opportunities. As to institutes of higher education, it can consist in the following: 1) applying a more flexible approach to students' admission; 2) ensuring diverse curricula and expanding educational variability; 3) pursuing active policy in attracting the young to study at a university.

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References

- Bauman, Z. (2001). *The individualized society*. Polity Press.
- Ritzen, J. (2011). *A Chance for European Universities or: avoiding the looming University Crisis in Europe*. Amsterdam University Press.
- Salmi, J. (2009). *The Challenge of Establishing the World Class Universities*. The International Bank for Reconstruction and Development / The World Bank.
- The World Bank. (2002). *Constructing Knowledge Societies: New Challenges for Tertiary Education*. Washington, D.C: World Bank.
- Korobkov A.V., Zaionchkovskaya Zh.A. (2010). *The Scale and Social Impact of the Russian Intellectual Migration*. Association for Slavic, East European, and Eurasian Studies 42nd Annual National Convention. Los Angeles, CA, November 2010.
- Mitchener B. Prodi Says Fear of Immigration is Overblown // *The Wall Street Journal Europe*, 19.06.2002.
- EC (European Commission). (2007). *Remuneration of Researchers in the Public and Private sectors*. Research Directorate-General. Brussels: EC Publications.