

INTERNATIONAL COOPERATION IN HIGHER EDUCATION

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STRATEGIC DEVELOPMENT OF A UNIVERSITY IN THE RUSSIAN EXCLAVE

The article focuses on key characteristics of modern universities (global, scientific and entrepreneurial) ones. The authors discuss prospects of the strategic development of the university in the Russian exclave.

Key words: regional strategies, development corridor, geopolitical factor, Kaliningrad region, Baltic region.



Introduction

The federal policy and the role of modern university

Coming out of a long transformation period, the Russian Federation and its strategic partners in Eurasia are facing new global challenges of the post-Soviet era. These financial, technological, military, political and cultural challenges demand relevant response and new adaptation mechanisms from social and public institutions. The state policy aimed at the formation of an innovation-based economy (the knowledge-based economy) is one of such mechanisms.

The Russian Federation has experienced a serious economic lag in a number of key technology areas. That is why the state is taking urgent measures to re-establish the National Innovation System (NIS). The system includes priorities of the Russian Federation in the field of science, technology and engineering, and a number of adopted federal target programs¹. According to experts, the National Innovation System is established simultaneously at several levels, thus not only public authorities and relevant agencies but leading corporations, grantmaking funds, universities, hybrid institutions, small innovative companies, etc. should be involved in it. [14]

The main problems of the transition to the innovation-based economy are currently associated with those elements of innovation infrastructure that

¹ For example, the Federal Target Programs "Nanotechnology Infrastructure Development in the Russian Federation for 2008—2010", "Research and Development on Priority Directions of Scientific and Technological Complex of the Russian Federation for 2008—2010", "Scientific and Scientific-Pedagogical Personnel of Innovative Russia for 2009—2013", etc.

under the conditions of market economy have a certain degree of autonomy from the state.

The system of planned economy *has emulated* innovative features of the social market economy system, using the "pull" model of orders for research and development. The system of academic and sectoral research in the state where the social system was imitating a corporation had a relatively high concentration of resources in selected science and technology areas. It is extremely difficult to re-establish this system in modern society, and Russian transnational corporations meanwhile do not fulfill the "social order" for stimulating innovative activity [2]. Sharp increase in consumer diversity and the spread of consumer culture in developed countries under the influence of information technologies have made transnational corporations major customers of innovative developments along with the state and the military industrial complex.

In the innovation-based economy the role of modern universities is being changed. They compete with other social institutions that produce knowledge and have to perceive the key characteristics of research (entrepreneurial) universities to remain competitive.

The priority of research in Russia's universities is already recognized not only among the Russian academic community [see e. g. 3], but also at the state level¹.

The present article focuses on the issue of modern Russian universities adapting to the demands of the innovation-based economy. In terms of the applied approach it draws attention to the implementation of the federal mission in the course of the formation of a competitive university complex in the Russian exclave (the Kaliningrad region). For this purpose, a brief review of the scientific and education system in the region, its dependence on the historical development as well as the competitive advantages of the Kaliningrad region in terms of the formation of an innovation infrastructure is provided.

The global model of a competitive university

In a recent theoretical literature review regarding research universities eight characteristics forming *a new global model of* the research university in the 19th century (*the Emerging Global Model (EGM)*) are given. [12]. The authors define the following specific qualities of the EGM:

- EGM universities see their mission as transcending the boundaries of the nation-state and advancing the frontiers of knowledge worldwide;
- EGM universities are increasingly more research intensive with the use of scientific methods in disciplines outside the sciences;

¹ At the time when the article was being written, the network of national research and federal universities in Russia was being created. The decision to implement initiatives aimed at providing support to the leading research projects, cooperation programs between universities and enterprises and innovative infrastructure development was made.

— members of the university community, as producers of new knowledge, are expected to shift from traditional independent patterns of inquiry to becoming members of team-oriented, cross-disciplinary and international research networks, with research directed toward real-world problems;

— these universities diversify their financial base with funding from different sources;

— the universities create new relations with governmental institutions and corporations to advance economic development;

— the universities are implementing international recruitment strategies for students and administrators;

— EGM universities require growing internal complexity directed toward research, creating interdisciplinary centers, greater technological infrastructure for scientific research as well as integrating research elements in student training programs;

— the universities participate with international non-governmental organizations in support of collaborative research, student and staff mobility and international recognition of diplomas;

These eight characteristics of the EGM research university are closely connected to the characteristics of the entrepreneurial university stated by B. Clark in 1990 [10]: the strengthened steering core, the diversified funding base, the extended periphery of development, the promotion of academic achievement; entrepreneurial beliefs and values.

Global research universities¹ (as well as entrepreneurial ones) are only a subset of educational institutions diversity, a small part of them still complies with EGM. However, this group is not numerous, but leading and it attracts increased attention of the academic and political community.

Actually, it means that universities are required to significantly integrate the key characteristics of research and entrepreneurial university to justify their existence and fulfill a specific social function in a changing society (Table 1).

The trend towards concentration and mobilization of resources in the fields of science and higher education has been clearly defined in the Russian government's policy. The main federal policy challenges for higher education reform are to avoid a mechanistic concept of the concentration of university complexes as well as systematically and consistently adapt global criteria of modern universities to the situation in Russia. According to D. Aleksandrov, "one of the key points of Burton Clark's wonderful book about the organization of higher education lies in the fact that the old science

¹ The research university is generally defined as a university engaged in knowledge production as well as in training highly-qualified scientific specialists in different fields. Its mission is to produce scientific and technical knowledge. Research universities can provide mass higher education, offer services to the public and participate in applied research and technology transfer. Research institutions must provide access to research infrastructure, including libraries, laboratories and expert and administrative support. The EGM of the Research University is associated with the American Research University System, but it is being spread worldwide to a greater degree.

and higher education institutions are not transformed. They can change themselves gradually over 40—50 years due to competitive conditions, but for rapid reforms it is required to create new ones "[1]. As it was already mentioned, B. Clark's entrepreneurial universities as well as global research universities attract attention of researchers of modern science and education systems [10, 12].

Table 1

Differences between models of knowledge production

Mode 1 (industrial economy)	Mode 2 (knowledge-based economy)
Plans are worked out in the academic community	Plans are worked out in a wider context
Problems are solved in the academic sector	Knowledge is produced in terms of further application
Hierarchical organization	Horizontal, flexible organization
The system is based on permanent institutions	The system is based on temporary networks
Knowledge is produced in relevant institutions	Knowledge is produced in different sectors of the economy
Low level of responsibility for knowledge production	High level of responsibility and response
The peer review system includes only members of academic community	The peer review system includes various clients

Source: [2, p.126].

However, the possibilities of global universities are hardly reconcilable with the problems of most regionally-focused universities, which should design their own survival strategies, guided by the priorities of the regional (and macro-regional) environment. In his work "Managing Successful Universities" M. Shattok emphasizes the cumulative nature of development in the modern science and education system — the main "factor of success is success" [15].

Forced reforms of national science and education systems are a serious threat to the less successful institutions and organizations. The systems of peripheral education are primarily at risk-group. Global changes in the economy and society influence regional policies which use different incentives to mitigate the consequences of capital mobility. Globalization changes the labor markets. Flexibility and instability of employment contracts are increasing, demand for accelerated professional training is rising, which affects individual attitudes of employees (people are increasingly dissatisfied both with the education system and traditional methods of education).

These problems lead to re-assessment of the role of *regional universities*.

According to the latest Western models, a university is an institutional resource for local development due to the following characteristics:

— first, universities are not spatially mobile (especially under the conditions of the market economy in which university mobility is quite expensive,

besides, cultural heritage of the university closely associated with the area is a crucial component of university reputation);

— second, universities are progressive information and telecommunication infrastructure units (the concentration of electronic resources, databases and knowledge bases, a variety of software and certification centers in these areas);

— third, universities may have a complex technology base, that is eventually useful for the innovative development (but expensive to be maintained by companies);

— fourth, universities gather progressive young people, that contribute to the regional development in the fields of sport, culture, entertainment and recreation;

— fifth, universities are pluralistic in their character as they can offer a platform for the discussion of various social issues at any level of social hierarchy.

— A range of objective reasons and stereotypes as well as lack of experience of regional universities as development organizations hinders the recognition of the university as an institutional *resource for local development*:

— first, it is increasingly difficult for Russian universities to compete globally for *the most-qualified* academic and research staff (even due to financial and language difficulties);

— second, the traditional Russian system of science has significantly weakened the innovative capacity of universities (academic and educational activities are considered to be their priorities, which contradict modern needs);

— third, taking into account the material and technical infrastructure, many Russian universities cannot compete with the developing companies, or government bodies;

— fourth, rather rigid internal organization and institutional (primarily regulatory) restrictions hinder cooperation between universities, businesses and government bodies.

These factors taken together with traditional social problems (e. g. lack of housing for employees, low incentives for auxiliary university staff) enhance the risk of local universities to get into a "vicious circle" in their development.

At the same time, interdisciplinary regional universities can perform several social functions that affect regional *competitiveness*. In our opinion, the main directions of university modernization are as follows:

1. Universities should be the main institutional bodies responsible for the establishment of a flexible mass higher education system. It implies the formation of large integrated university complexes.

2. Universities should focus on master's degree programs of two types: — science, technology and engineering programs (graduates are in demand within the region and also outside);

— region-specific programs. Provided there is coincidence between regional and federal priorities, maximum synergy will be achieved.

3. Universities must maintain scientific, technology and engineering infrastructure development of the Russian Federation. In this respect, at the state level regional universities should be regarded as a main element of the *national* innovation system, which is not only a commercialization infrastructure, but also a *progressive human resources training area*.

4. To support the establishment of *local innovation systems* universities should be more autonomous in the creation of new organizational formats to promote innovation, using the Triple Helix, a platform for "institution formation," (e. g. Science Park). The globally competitive (not situational) incubator model in modern Russia assumes the availability of high-tech equipment.

5. A university may participate in the creation of a regional marketing system, fulfill the functions of cultural, information, sports and leisure center (to attract young people to the region and arrange public events).

6. A university must meet its region needs (including potential ones) in relevant information resources, reflecting the global state of science, technology and engineering (primarily maintaining electronic research libraries).

It is important to note, that traditional university does not fulfill the functions of the *entrepreneurial institution*. The boundaries between traditional universities, universities of technology and industrial research are disappearing. This fact results in the development of scientific and educational university complexes [3]. Methods of consolidation and restructuring of university assets is used in many European countries.

Special characteristics of the Kaliningrad region as Russia's exclave

The Kaliningrad region was founded¹ in 1945 when the Soviet immigrants developed the territory of the former Eastern Prussia and restored the infrastructure of the former Königsberg.

The Kaliningrad region is one of the successful national-scale innovative projects in terms of its social development and construction speed.

Thus, in 1958—1959 Moscow Institute of Fishing Industry and Fisheries was transformed into Kaliningrad State Technical Institute to support fisheries in the region.

The Immanuel Kant State University of Russia (IKSUR) is a legal successor of Kaliningrad State University, which was founded in 1967 on the

¹ Urbanization level in the Kaliningrad region amounts to 77 %. Metropolitan area around the center of the region has half of the population. Kaliningrad attracts up to 80 % of all regional resources (the share of jobs, enterprises and the volume of output). The Kaliningrad region covers an area of 15, 1 thousand square kilometers. The Kaliningrad region as well as Moscow, Leningrad, and Tula regions and the Republic of North Ossetia are among the most densely-populated regions of Russia: the population density accounts for 63 persons per square kilometer. Globally, population density in the region is quite high. The average population density in the world is 61 persons per square kilometer; in Europe it totals 69 persons per square kilometer. However, the population density in the Kaliningrad region is significantly lower than it is in Poland or Germany (121 and 220 persons per square kilometer respectively).

basis of Kaliningrad State Pedagogical Institute. The appearance of the State University in the region made it possible to elaborate educational programs preferably with a focus on a field related to science, social studies and humanities. Soon the university academia and graduates formed the intellectual basis of the social and economic development of the western region of the RSFSR.

Nevertheless, the advantages of the Kaliningrad region as a center of science were not used in the USSR. Back then, the opposite trend of having strategic assets away from the western borders of the country was a dominating one.

By 1990, the economy of the Kaliningrad region had become less industrial; transport infrastructure and trade were more developed compared to the rest of Russia. However, a continuous decline of traditional industries led to the more severe crisis of 1991—1995. It was accompanied by a reduction in science and technology potential directed towards the planned economy priorities¹.

Due to the existing intellectual potential of the higher education, the Kaliningrad region developed a strategy of its economic growth based on the concept of a Special Economic Zone. From 1995 to 2005 the social and economic life of the region was restructured under the influence of the Special Economic Zone (SEZ) regime, which was substantially upgraded in 2006.

Since 2005, the Kaliningrad region has experienced a new phase of its accelerated development, based on the strategic approach ("the Long-term Development Strategy of the Kaliningrad Oblast Social and Economic Development", the Decree of the Government of the Kaliningrad region from March 09, 2007 № 95). To implement this strategy the target program "Social and Economic Development of the Kaliningrad Oblast for 2007—2008" (Kaliningrad region Law from December 28, 2006 № 115.) was adopted.

A key characteristic of the Kaliningrad region regarding the human resource development is that currently only 40 % of its residents are natives which shows a higher mobility level in the region compared to the other subjects of the Russian Federation. In recent years, the social infrastructure in the region is rapidly developing and the living standards are improving.

Kaliningrad is increasingly recognized as a European town in Russia. The region can be regarded as an area for the *introduction* of Russian higher education system in Europe as well as a resource center for transferring European academic culture to Russia.

Kaliningrad is potentially very attractive to Russian researchers and former compatriots who prefer:

- to live and work in Russia, but not far from Europe;
- to live in a temperate climate zone and not in the capital;
- to have progressive research environment, recognized in Russia and abroad.

¹ From 1990 to 1995 a number of students decreased 30 % mainly due to the sharp drop in demand for graduates from Kaliningrad State Technical University (KSTU) and Baltic Fishing Fleet State Academy (BFFSA) because of the loss of state demand and decline in subsidized fishing industry.

The research and education system of the Kaliningrad region is sufficiently diversified. There are numerous education centers in the region:

- The Immanuel Baltic Federal University;
- Kaliningrad State Technical University;
- The Baltic Fishing Fleet State Academy;
- Kaliningrad State College of Urban Development;
- Kaliningrad Technical College;
- Kaliningrad branches of other state universities;
- other institutes and centers.

A distinctive feature of the education system of the Kaliningrad region is that centers for civic education are situated inside the city of Kaliningrad (with the exception of field research stations and social infrastructure facilities, located on the seacoast, or other parts of the region).

Strategic functions and the importance of universities in the exclave

Taking into account its competitive advantages, Kaliningrad can enhance internal staff mobility in Russia as well as Russia-Europe staff mobility in order to improve the competitiveness of Russian research and education system.

The key characteristic of a modern university in Kaliningrad is its European style combined with Russian methodology *directed towards staff mobility* and academic exchange programs (sharing best research and educational practices). **The purpose** of establishing such a university is the creation of comfortable intellectual environment for both Russian and European university community members. Cooperation of Russian and European *regional universities* is a *unique niche* in science and education.

The Kaliningrad region has unique *competitive advantages for the development of Russia-Europe cooperation in higher education*:

- proximity to Europe and the perception of European values at the symbol level of communication (patterns, stereotypes, schemes);
- Russian mentality and the promotion of language, cultural and state values;
- less reflective social problems typical of industrial cities and/or ethnic areas of modern Russia;
- seacoast location and good recreation facilities;
- fairly low transaction costs for the development of cross-cultural communication between Europe and Russia.

The sources of cost savings and positive externalities are the following ones:

- prospects for the development of an international transport hub;
- convenient intra-regional logistics;
- construction of new tourism and hospitality facilities;
- construction of healthcare facilities;
- efficient territory management and strengthened civil security;
- well-established cross-border contacts with the neighboring countries;

— improved external communication and telecommunication channels (provision of direct access to the high-speed European research and education networks).

The main *problem* of the Kaliningrad region in designing the University of the Future is a limited domestic market and lack of state and international demand for research and development promoting innovations.

Therefore, the main intellectual niche required for the strategic development of the Kaliningrad region should be based on common spheres (health and recreation, multicultural diversity and communication).

The following fields of science are important for further development:

- Information Technology and Telecommunications;
- Medical Biotechnology;
- Ecology and Environmental Management;
- Physicochemical methods study;
- Energy Security;
- Competitive Urban Planning Technology;
- Logistics and Recreational Technology;
- Social Change and Humanitarian Technology.

The modern university complex in the Kaliningrad region may develop along the following directions: intensification of staff mobility within Russia on the basis of resource centers of the Kaliningrad region; creating an institutional platform for the implementation of short-term programs with guest lecturers from Europe; launching Europe-Russia forum on the issues of small and medium-sized university cities in Europe and peripheral regions of Russia; increasing export to European countries of outsourcing services in the fields of science and education (competitive value for money, or legal base of the centers for collective use at the federal level); intensification of Belarus-Russia co-operation in the fields of science and education involving the Kaliningrad region; strengthening co-operation and outsourcing export competitiveness in the field of information and communication technologies (especially removing administrative barriers to establish alternative communication channels between Russia and Europe); strengthening recreational and healthcare potential of the region (including science and education tourism and export of medical services); Energy Export Strategy support; employing highly qualified staff (former compatriots) and researchers working abroad; development of science, technology and engineering priority areas of the Russian Federation in the Kaliningrad region, its inclusion in the Russian domestic scientific network due to the improvements in image and development of the university complex; overcoming negative stereotypes that impede co-operation.

Instead of a conclusion: development prospects

According to the results of the analysis combined with empirical observations, the state sector of science in modern Russia is facing serious structural difficulties. On the one hand, its infrastructure and human resources

indicate low innovation capacity. On the other hand, the state is raising investment into science and scientific services with a view to mobilize human resources. This dramatically increases the risk of internally dependent pathway redistribution of financial resources. To reduce the risk, it is necessary to continue systematic work on competitive models of innovative development of the university. Therefore, the issue of innovative infrastructure development in the Russian exclave should be addressed at the state level providing the necessary amount of resources and the necessary level of decision-making are ensured.

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