Madeleine Block, Tatiana Khvatova

Challenges and Opportunities of Organisational Change in Russian Universities

WP 2014-08
CGES Working Papers series includes publication of materials prepared within different activities of the Center for German and European Studies both in St. Petersburg and in Germany: The CGES supports educational programmes, research and scientific dialogues. In accordance with the CGES mission, the Working Papers are dedicated to the interdisciplinary studies of different aspects of German and European societies.

The publication of this paper as part of the CGES Working Papers is an expansion of the XII International Triple Helix Conference (Tomsk, Russia, September 11-13 2014), at which CGES organized the session “Dimensions of Studying and Building Innovation Clusters: European Lessons”.

Madeleine Block (PhD in Social sciences) is DAAD-lecturer at the Faculty of Sociology, St. Petersburg State University. Her current academic interests are related to social policy developments in the area of education and knowledge management, in particular issues of understanding, evaluating and optimising knowledge sharing.

Contact: madeleineblock@gmx.net

Tatiana Khvatova, is professor of economics at the Institute of Industrial Economics and Management, National Research University - Peter the Great St. Petersburg Polytechnic University. Her academic interests include innovation and knowledge management, innovation systems, evolution of education systems.

Contact: tatiana-khvatova@mail.ru
# Table of Contents

Introduction ........................................................................................................................................... 3
Policy process in Russian universities ................................................................................................. 5
Case study: Building up a Russian national research university ......................................................... 13
Conclusion ............................................................................................................................................... 18
References ........................................................................................................................................... 22
Introduction

Nowadays, our world is shaped by globalisation and technological innovations. Countries, organisations and individuals are internationally interconnected and share production, capital, labour and information. A new form of society has emerged, in which life goes along with the diffusion of power of information and communication opportunities independently of time and space (Castells 2010, p. 389). Castells (2010) describes it as the ‘network society’, and Drucker (1993) calls it the ‘knowledge economy’ where knowledge is assumed to be the key asset. Such changes in economy and society have inevitably left their mark on the higher education system as well.

Jansen (2002, pp. 509-510) and Wissema (2009, xv) summarise current global trends in universities. First of all, the number of students has been steadily increasing since social transformation from the industrialised economy towards a knowledge economy began in the 1970s. Furthermore, it was the trend of lifelong learning that led universities to offer additional education programmes for working and mature people. This resulted in an increasing number of students, creating so-called ‘massification,’ which in turn challenges universities to assure the quality of education while at the same time cutting excessive costs. Secondly, technological possibilities have changed teaching methods by introducing blended online learning and by modifying the content of sciences towards growing multidisciplinarity. Thirdly, the process of internationalisation has pushed academic staff to collaborate more intensively across universities and countries. The competition among universities, researchers and teachers has expanded to an international level. Finally, there is an increasing need for universities to search for external funds. World university rankings and number of publications have become an important leverage and significantly influence both students’ choice of university and science policies.

As a result, universities, which have until recently been a relatively closed system and held a monopoly position in providing education and conducting research, remain under pressure to share their resources and compete with other institutions of higher education. Traditionally, universities had two important missions: education and research. These were the main activities of the Humboldtian model of the university, which enjoyed academic freedom and comparative autonomy. Education was combined with science, even if a graduate had chosen a career other than a scientific one. Stating scientific progress as the main objective, the Humboldtian universities nurtured ‘la science pour la science’. Nowadays, national governments want universities to be ‘the cradle of new economic activity’ and to become an explicit instrument of economic growth in the knowledge economy (Wissema 2009, p. 21). The university is increasingly viewed as an important element in the process of regional development as a result of the proximity effect of knowledge transfer. Therefore, reciprocal cooperation among universities and the business sector should be fostered, i.e. universities should gain funds from firms and, in exchange, work on innovative developments for society. Alongside the government, the business sector has become an increasingly influential
stakeholder of universities. The boundaries of the three entities: government, university and business, have become permeable and their interactions are now overlapping. Etzkowitz and Leydesdorff discuss the evolution of university-government-business relations from etatistic and laissez-faire models to the Triple Helix model (Etzkowitz and Leydesdorff 1997, 2000, etc). The etatistic ‘top down’ model reflects the situation when a national government directs and controls relations between the business sector and universities. This model was implemented, for example, in the Soviet Union during the period when industries were mostly state-owned. The laissez-faire model describes an environment in which the three institutional spheres (university, state, business sector) are strictly separated and interactions between them are limited. For example, the state provides no subsidies, puts up no tariffs, but merely regulates issues of intellectual property protection. According to the Triple Helix model, the interaction between university, business sector and government must function well in order to improve conditions for innovation. In this interaction, universities act as sources of new knowledge, business produces innovative products and services, while government provides the legislative basis (Etzkowitz 2003, p. 295). Therefore, besides education and research, a third mission of a university emerged – that of serving economic and social development or, in a narrower sense, of providing innovation and exploiting knowledge. Etzkowitz (2004, p.65) called the emergence of this third mission ‘the second academic revolution’ which brought the concept of the entrepreneurial university to life. The first academic revolution was the one which transformed the university from a teaching institution into one combining both teaching and scientific research (Etzkowitz 2003, p. 294).

In order to be able to compete with other knowledge providers and universities, transformation towards an entrepreneurial model in universities based on New Public Management (NPM) principles was undertaken. Much like business organisations, universities’ performance is measured and marketing strategies are developed to attract customers. The circle of customers, or rather stakeholders, varying over time, from university to university, from country to country, has widened. Beyond the primary group of students, new stakeholders have appeared, including foreign students, the state, research funding agencies, the business sector and local communities.

At present, the main instrument available to stakeholders for comparing higher education organisations is rankings. This is where the circle closes. In the machinery of external pressure, universities are pushed to change from the traditional university (decentralised, with more freedom for teachers and researchers) to an entrepreneurial university based on such NPM principles as accountability and marketization.

Although a critical view on the new business-oriented model in higher education may be an interesting research task, it lies beyond the scope of this article. Here, we focus our research question on trends in, and institutional transformation of, universities. Kingdon’s theory of agenda-setting acts as a theoretical umbrella for the policy and reforms in Russian universities. Furthermore, the policy process is analysed in a case study of a large Russian
polytechnic university, inspired by the new global competitiveness programme for Russian universities called '5-100-2020' which provides funds from the federal budget in order to push selected universities to increase their international rankings and enter the top 100 in such world university rankings as QS World University Ranking. This programme illustrates how the state, as one of the main stakeholders, wants universities to be central actors in Russia’s National Innovation System and actively participate in the global knowledge economy. It is supposed that most advanced Russian universities will need to go through two academic revolutions at the same time: being transferred from teaching to research and to entrepreneurship.

Policy process in Russian universities

There are various theoretical frameworks with which to evaluate the policy process, for example, innovation and diffusion models, the network approach, multiple-streams, punctuated-equilibrium theory, and advocacy coalition framework. In this article, the theory developed by John Kingdon (1995) is chosen as the conceptual umbrella, because Kingdon’s theory does not focus on where policy arises, but rather helps to synthesise the various influences upon the policy process and evaluate the strategy’s progress.

According to Kingdon, the policy process consists of three streams of interaction: problems, proposals and politics. Problem recognition is central to the process of agenda-setting and important for the evolution of policy proposals. In the policy stream of proposals, different kinds of proposals are discussed, debated and finally, the proposals most likely to be chosen are those which most suit decision makers’ values, the budget and public interest. The stream of politics embraces such factors as oppositional behaviour or general political climate which influence agenda-setting as well. According to Kingdon, these three streams are independent processes whereas the actors involved can overlap. Successful policy process arises when at least two streams, at best all three, converge and at critical times open a ‘policy window’ for the decision agenda. It is important to highlight that the policy window does not merely appear by chance, but rather can be generated. Influencing factors can include presidential attention and the existence of a precisely-defined problem (Kingdon 1995, chapters 6-8, pp. 116-195).

According to Kingdon’s proposed study techniques, we examine reported problems and trends in Russian universities, strategy formulation and the subsequent reforms, as well as the influence of presidential leadership. For this, we use reports in media and official documents.

Problems and trends in Russian universities

In this chapter, we consider the interactions between universities, government and the business sector in light of transformations occurring within the Russian education system. Soviet higher education, especially in technical sciences,
was well respected all around the world: it was free and available to everyone. Indeed, in comparison to pre-revolutionary times, the number of students increased exponentially: in 1915 there were 127 thousand students in various institutes, while in the 1950s their number reached 2 million. In the 1970s there were already 4.5 million students (Druzhilov 2013, p. 272; Arefiev 2010, p. 8).

In pre-revolutionary Russia, which was a large-area country, comparatively few universities existed. However, in Soviet times the guideline of state policy was to provide as many centres of higher education as possible in all regions. Thus, universities spun off faculties, and many specialised institutes were established with the aim to educate people through applied knowledge. In the 1970s only 51 traditional large universities with a broad range of disciplines existed, such as, for example, Lomonosov Moscow State University, Saint-Petersburg State University, the University of Kazan, etc. Other institutions were divided into industrial and construction (210 organisations) and other specialized institutes (553 organisations). After the fall of the Soviet Union, the landscape of higher education changed. Many “institutes” received the status of university and new private universities were established. The state allowed educational institutions to take tuition fees. At the same time, some state-funded budget places remained for a certain number of students. The demand for higher education increased, especially after the economic recovery in the 2000s. Accordingly, the number of higher educational institutions (universities, academies, institutes) in Russia rose sharply, from 965 in 2000 (among which 607 were state, 358 private) to approximately 1134 in 2009 (660 state and 474 private) (Goskomstat 2014). As a consequence, state expenditure grew excessively. In the 2000s the Russian State disseminated the new notion of focused investments to universities all over the country, i.e. higher investments in a smaller number of universities in order to incubate top international Russian universities. Already in 2008, the former president Dmitry Medvedev announced the need to reduce the number of higher education organisations (Izvestiya 2008), and in 2012 president Vladimir Putin spoke about reducing a certain number of universities based on their efficiency. In 2013, only 969 universities existed (Goskomstat 2014) – 578 state and 391 private. At the same time, an increase in the status of university science is planned, along with turning former teaching universities into science-focused institutions. As a result of the targeted support, it is expected that university science will be able to break through by 2020. The proportion of researchers in universities is gradually increasing, from 6.6% in 2000 to 10.5% in 2010. According to Kuzminov (2013), at least 50% of university lecturers will be obliged to convert themselves into researchers for the sake of the transformation process towards science-focused universities. Distance learning is predicted to replace classroom teaching by over 20% by 2020. We argue that, in the long run, the differentiation of university academic personnel into researchers and lecturers will be inevitable.
The state is planning to spend more money on education and science. 5.32% of GDP was allocated to education and science in 2012 (81.5 billion Euros, see Table 1). All internal expenditures on R&D combined composed 1.12% of GDP in 2012 where the state is the main financer: state investment in R&D increased from 0.03% in 1995 to 0.07% of GDP in 2012 (HSE 2014, pp. 82-84). Despite the fact that the figures apparently indicate more money is spent, the overall amounts are actually quite low and do not match global objectives. To compare, in Germany expenditures for education and R&D totalled 9.3% of the GDP in 2012 (247.4 billion Euros) which is 3 times as much as Russia spends, as shown in Table 1. Whereas, in Germany, 3.2% of the GDP (84.6 billion Euros) is spent on R&D: the business sector invested the largest part with 2.0%, and universities’ expenditure on R&D was 0.5% (14.3 billion Euros). Since 1995, expenditures on R&D have gradually risen, while the business sector increasingly invests in R&D. This highlights the importance of science in a knowledge economy (Destatis 2014).

In keeping with tradition, the majority of research in Russia is conducted in the fields of technical and natural sciences. On average, two thirds of R&D in higher education is funded through the state budget (60-62%), while 27-29% is provided by the business-sector. These proportions have not significantly changed since 2005: state funding increased by 2.4%. The proportion of business sector investment in university R&D decreased by 1.8%, while foreign investments in university R&D decreased from 4.1% in 2005 to 1.5% in 2012 (HSE 2014, p. 91; HSE 2007, p 64).

Table 1 - Comparison of expenditures for education and R&D in Russia and Germany

| Expenditures on education and research | Russia | | | Germany | | |
|---------------------------------------|--------|--------|--------|
| in % of GDP                           | in % of GDP | in bn Euro |
| State expenditures on education       | 4.0    | 4.2    | 64     | 6.8    | 125.4  | 6.6    |
| R&D all domestic                      | 0.85   | 1.12   | 17.5   | 2.4    | 44.5   | 3.2    |
| State universities                    | 0.03   | 0.07   | 1      | 0.4    | 7.4    | 0.5    |
| Business sector                       | 0.3    | 0.3    | 4.8    | 1.5    | 26.8   | 2.0    |
| In total                              | 4.85   | 5.32   | 81.5   | 8.8*   | 162.5  | 9.3*   |

*Consolidated by R&D for universities which is already considered in state expenditures on education (1995 0.4% and 2012 0.5%)

Source: HSE 2007, 2014

**Strategy and reforms for the development of Russian universities**

In recent years, a set of reforms has been launched, initiating the essential transformation, or rather a ‘revolution’ in the higher education system of Russia (von Knobloch 2014). The importance of these reforms is underlined by the fact that the reform strategies of the Russian education system are incorporated...
into the `Strategy for social and economic development 2020´ (MED2010). The Government Statement №89, from 2006, `On support measures for universities performing innovative educational programmes´ became the starting point of state investment policies aimed at increasing the competitiveness of higher education. Between 2006-2008, funding was given to 68 universities, winners of the competition (see Table 2). Since then, support for university science has become a top priority of the state.

Probably the most radical reform was faced by the higher education system when all universities were divided into several distinctive groups. The first three groups are leading universities subdivided as follows: a) two elite universities with special status (Lomonosov Moscow State university and Saint-Petersburg State University), b) nine federal universities representing every federal district of Russia and c) 29 national research universities. Those 40 leading universities receive not only significant additional state funding, but also additional authority rights.

While the elite universities (a) represent the `classic´, oldest universities, the federal universities (b) are focused on the region, i.e. they are created to increase the competitiveness of the leading industries in the region. The decision to create federal universities was more or less political, and selection criteria were not made public. Federal universities get additional funds which are to be spent, for example, on integration of business and science, on inviting foreign professors, etc.

The third level in the hierarchy (c) – national research universities (NRU), efficiently combine various educational and large scale research activities. The status of elite and federal university (a-b) is awarded forever, while the status of NRU (c) is awarded for 10 years and can be withdrawn at any time if their performance indicators are not reached. On the other hand, NRUs enjoy more freedom: their rectors are elected and not appointed by the state, as is the case of elite and federal universities. In the future, the higher league of NRUs may potentially comprise 40-50 universities which will provide personnel for the other 150-200 universities in Russia. The first two NRUs appeared in 2008 as pilot projects (National University of Science and Technology (MISIS) and National Research Nuclear University (MePhi)). Subsequently, as a result of strong competition, 27 more universities obtained the status (288 universities competed for it). Today, the next stage of competition for the status of NRU is being discussed. The stakes are high, so strong competition is expected among those universities which do not yet belong to the leading circle. So, what are the aims and procedure of NRU competition?

The concept of creating a network of NRUs emerged in 2009 within the framework of the national state `Education´ project. However, no unified document stating the objective for forming an NRU exists (Dezhina 2011, p. 45). The timeline shows that the concept of NRU does not nurture a country-wide research landscape, but rather gives temporary financial support to
selected larger universities. This aspect has several dangers: what if a beneficiary university was chosen incorrectly? Would it not be more reasonable from the evolutionary point of view to create nurturing conditions for all university science? Then, the elite group would surface naturally by itself. Instead, the group of NRUs is shaped top down, according to their previous achievements. This is underlined by the fact that an official document stating the criteria for becoming an NRU does not exist, so the selection of winners was, as experts highlight, quite spontaneous (Dezhina 2011, p. 8; Fedukin 2010 p. 23). What appears in the competition documents is a guideline that the selection process be performed based on the current state and dynamics of university development during the last three years. They considered personnel potential, the infrastructure of educational process and research, efficiency of education and research activities, signs of national and international recognition, quality and expected results of the development programme (MHES 2009).

Finally, what about the universities which are not selected to be elite, federal or NRUs (a,b,c)? They are in the fourth group. These universities will only be allowed to offer bachelor and/or master programmes and may be called institutes in the future. The idea of lowering their status to ‘higher schools’ is also currently being debated. The competitive prospects for universities not belonging to any of the above-mentioned categories (a,b,c), as well as their long-term development plans, have yet to be defined.

The objectives attached by the state to the leading universities (a-c) are quite high. To guarantee that they are met, the state has developed other mechanisms of support beyond awarding the special status (and corresponding additional funds) of elite, federal or NRU. These mechanisms include federal target-oriented programmes (FTOPs) in accordance with different strategic topics. Such federal programmes provide generous monetary support over a certain period of time, and thus an opportunity for universities to develop in certain areas. In Table 2, selected state programmes are summarised. For example, in 2010-2012 the state financed programmes for the following topics: developing innovative infrastructure in universities, increasing cooperation between universities and business, and attracting leading scientists (including foreign scientists) to universities. In 2013, the state launched the subsequent Programme ‘5-100-2020’ aimed at increasing the international competitiveness of leading universities. According to this programme, at least 5 universities from the 15 selected winners should be able to reach a place in the top-100 of global university rankings by 2020. Every university could participate in the ‘5-100-2020’ competition; however, only those universities which already had state support (federal or NRUs), i.e. those who had already chosen the right direction, managed to win the race and be selected for the Programme. The objective of the Programme is to push universities to increase the quality of their research activities, further restructure educational programmes, nurture human potential, reform the system of management, and so on.
Table 2 - Summary of selected state programmes supporting research, education and science integration and reforms in the Russian higher education system

<table>
<thead>
<tr>
<th>Programme</th>
<th>Years</th>
<th>Total amount, in Roubles*</th>
<th>Winners, comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>FTOP ‘On state support of higher education and science integration’</td>
<td>1997-2000 2002-2006</td>
<td>3.2 bn (1996 first round)</td>
<td>20-40 winners for various activities</td>
</tr>
<tr>
<td>Statement № 89 “On support measures for universities performing innovative educational programmes”</td>
<td>2006-2008</td>
<td>40 bn</td>
<td>68 universities; purchasing equipment, software, qualification improvement</td>
</tr>
<tr>
<td>FTOP ‘Educational development’</td>
<td>2006-2010 2011-2015 2013-2020 (project)</td>
<td>2.3 bn 134 bn 4 trln</td>
<td>Supporting all levels of education, not only higher</td>
</tr>
<tr>
<td>Federal Universities</td>
<td>Started in 2007</td>
<td>48 bn</td>
<td>9 universities</td>
</tr>
<tr>
<td>FTOP ‘Scientific and scientific-pedagogical personnel of innovative Russia’</td>
<td>2009-2013 2014-2020</td>
<td>90 bn</td>
<td>Winners for various activities</td>
</tr>
<tr>
<td>National research universities, National ‘Education’ project</td>
<td>2009-2014</td>
<td>45 bn for the whole programme;</td>
<td>29 universities; budget support is given for the first 5 years only</td>
</tr>
<tr>
<td>Statement № 218 on developing cooperation between universities and high-tech enterprises</td>
<td>2010-2012</td>
<td>19 bn</td>
<td>40% of NRU</td>
</tr>
<tr>
<td>Statement №220 on attracting foreign scientists</td>
<td>Started in 2010</td>
<td>150 m per grant</td>
<td>47% of NRU</td>
</tr>
<tr>
<td>FTOP ‘Innovative infrastructure’</td>
<td>2010-2012</td>
<td>8 bn</td>
<td>56 universities, 36% NRU</td>
</tr>
<tr>
<td>Competitiveness improvement programme ‘5-100-2020’</td>
<td>2013-2019</td>
<td>40 bn planned 2013-2016</td>
<td>15 universities; 0.6 bn per university received in 2013, according to indicators</td>
</tr>
</tbody>
</table>

*Referring to an approximate exchange rate Rouble-Euro: 37.5 Roubles – 1 Euro (March 2014)

Source: Compilation by M.B., T.K.

Another concept of the new policy in higher education aims to increase efficiency of use of resources, including property. In Soviet times, all state and municipal organisations were financed according to ‘the estimate’ and the amount of money to be allocated for the next year was indexed according to inflation. The real financial requirements of an organisation (university, school, hospital) may have in reality been much greater or lesser, but this did not influence the estimate. In other words, the results of their activities and their performance were not taken into account, meaning people were less motivated to improve their efficiency and quality of work. Now, there is a federal law in force, ‘On Autonomous Institutions´ (№172, 2009, amendments came into force in 2011) which further divides all universities (and other state organisations) into 3 categories: 1) ‘state’, 2) ‘budget’ and 3) ‘autonomous’. All these organisations have the State as their proprietor, but ‘state’ universities (1) will be 100% financed from the federal budget and have no right to undertake any commercial activities: all their profits should be put back into the
state budget. These are institutions connected with defence, psychiatry, etc. The state, as proprietor, is responsible for their obligations. ‘Budget’ universities (2) obtain money from the federal budget according to ‘state order’, wherein money is given specifically for teaching a certain number of future specialists required for the economy and nothing more. The remaining budget needed should be earned by the university independently, i.e. by enrolling ‘commercial’ students. Most state organisations (including universities) now have this status, but in the future probably only medical institutions, schools, theatres, etc. will be able to maintain the status of budget institution.

Nowadays, education in Russia is generally far from being free of charge: for 2014, the average annual fee for study ranges from 50000 to 100000 Roubles, which equates to 1200-2400 Euros. The number of free scholarship places for students has decreased dramatically in recent years. For example, in 2010 there were 30% less scholarships available than in 2009. In 2013 according to (Goskomstat 2014), approximately 53% of students were paying for their education in all state universities of Russia.

Finally the third type of university is autonomous (3). Transferring to an autonomous status means more freedom. For example, freedom to earn and invest, freedom to define the size of salaries and bonuses, to hire specialists on short-term contracts: however, at the same it necessitates more responsibility and more transparency. For autonomous universities, non-core activities may only be funded by profits alone (the state will not provide any subsidies for these). In turn, it also means that these universities will have to practice outsourcing and improve university management. So, today most federal universities have become autonomous and NRUs are in transition: all are expected to become autonomous in the very near future. It is clear that smaller regional universities which cannot lobby their interests in the federal centre may not have a chance to become an NRU. This means they must gradually become autonomous without any federal financial support, which will in many cases result in them having to close.

In 2009, in order to produce innovations and earn money, universities were allowed to create enterprises to have the opportunity of obtaining additional financing through entrepreneurial activities and commercialisation of R&D results, and to put scientific projects into practice, i.e. develop interactions with the business sector (Federal Law №217-ФЗ “About small enterprises in universities”). Furthermore, in April 2010 the Government of Russia passed resolution №218 aimed at supporting cooperation between universities and other organisations eager to create high-tech production. The volume of financing for 2010–2012 was 19 bn. Roubles (see Table 2). According to (MHES 2012) the number of enterprises in 2011 grew by nearly 30%, totalling 1453 enterprises. The law was criticized for imperfect regulation of intellectual property rights, resulting in further amendments. However, the complex dynamics of creating university enterprises is inevitably not supported, due to the obvious results of their functioning. The federal initiative to give universities
the right to transfer the results of R&D to the charter capital of newly created companies is not successful because most universities do not generate R&D results which are competitive in the open market (Gusev 2012).

**Application of Kingdon’s theory to the policy process in Russian universities**

The Russian State is currently funding a large-scale reform package for universities. Its goal is to develop the Russian education system by investing in a smaller number of universities in order to build up top international competitive innovation incubators and high quality research centres.

Fundamentally, the idea for this policy process in the Russian higher education system is supported and initiated by the state because of the urgent need to improve the global competitiveness of universities and to decrease state costs for higher education. Therefore, the Russian higher education strategy is related to all three of Kingdon’s process streams (see Figure 1).

For Kingdon, the definition of the problem is very important, and is usually combined with available solutions generated by ‘the hidden cluster of participants’, such as the policy elite, including advisors, academics and the president, whereas the public does not play a decisive role (Kingdon 1995, pp. 112). Therefore, the theory is well-suited to the Russian context. In the policy process, a smaller circle of ‘important people’ and presidential influence define the problem and use it as a tactic for political reasons, while the public is only later informed about outcomes through the media. For example here, an ‘elite’ role is given to the two elite universities which may result from strong negotiations with the state representatives. Kingdon (1995, pp. 50) underlines how agenda-setting is empowered by political elites; however, in the policy proposal process there are more players. In our case, such groups of interest are university academics, bureaucrats and business participants. Kingdon proposes that these interest groups actually hinder, rather than initiate such processes. This is also apparent in the case of the implementation of reforms in the Russian higher education system. The interest group most likely to prevent the new strategy being implemented was in fact the university itself. The formulated policy proposals reflect current global trends in the university landscape and promote rankings as a measurement tool. The proposals reflect the world university ranking system and thus, indicators. The instrument of planning and closing gaps between actual and desired figures appears similar to Soviet times. Therefore, it is chosen as a favourable systematic monitoring instrument for all members of the policy-making community, i.e. the state, bureaucrats, academics etc. The final support for the policy proposal is given by presidential influence and at this point, all three proposed streams by Kingdon’s theory (problem, policy, politics) converge and open the policy window for the development of the education system in Russia.
The cornerstones of Kingdon´s theory, shown in Figure 1, help to explain the complex policy process and to evaluate the progress of the strategy and the likelihood of its success:

- a) Are the problems that the state addresses perceived as important?
- b) Are the proposals realistic? Are there alternatives for development for the majority of universities who will not be able to compete worldwide?
- c) What do the smaller universities, recognized as opponents, propose? What kind of opportunities does this strategy offer them?

**Case study: Building up a Russian national research university**

In this chapter, the goal is to test and assess the policy process in a single case study of a large polytechnic university, hereafter referred to as the SU. We concentrate on the implementation of the Federal Programme `5-100-2020´ which aims at boosting the process of internationalisation and becoming one of the 100 top international universities by 2020.
The SU gained the status of NRU in 2010, was rated 9th in the Russian ‘Expert RA’ rating in 2012; entered the QS World University Ranking and was placed in the ‘441-460’ cluster in 2013. In 2014, the SU was transformed from state-budget-financed into an “autonomous” establishment. The university had already successfully participated in previous state programmes before applying for NRU status and the Programme (see Table 2). For example, in 2007-2008, the SU successfully put into practice an innovative educational programme within the framework of the National ‘Education’ Project and the programme on innovative infrastructure and fulfilled five projects for creating high-tech production in cooperation with enterprises. It takes part in the development programmes of 20 state corporations, including ‘Gazprom’, ‘Rosatom’, ‘Rostech’, etc. Furthermore, the SU established four projects for conducting research under the supervision of leading scientists (supported by state “mega grants”). Since 2010, the SU has been putting into practice its NRU development programme 2010-2019. According to the monitoring data published in 2013, the university is one of six NRUs (20% of all NRUs) which fulfils all the obligations of its development programme. In general, NRU money can be spent on five activities: purchasing equipment, improving qualifications, developing teaching programmes, developing IT infrastructure and improving the quality control of teaching and research. Paradoxically, money cannot be spent on financing R&D, nor on attracting qualified personnel. For example, no part of the NRU framework focuses on developing and modernising PhD programmes. This is quite surprising, if we consider the reasons for creating a NRU focusing on research. On the other hand, the federal ‘5-100-2020’ programme represents instruments and funds for investing in research-related aspects. In 2013, the SU became one of the winners of the Programme, which is itself a strategic development of its NRU Programme. But what does successful participation mean? The university is one of the lucky winners in the state programme competition. What is the specific decisive skill or feature which makes it successful?

_**Competitiveness improvement Programme ‘5-100-2020’**_

In line with the recognised state policy notion - to become a globally-competitive educational centre - the strategy and vision of the university after participation in the Programme are to become a modernised polytechnic university which is included in the range of leading international universities, providing advanced education and top international competences for the younger generation, participating in technological modernisation of system-making industries by applying multidisciplinary knowledge and advanced technologies.

More specifically, the designed ‘5-100-2020’ development programme provides proposals for Finding policy solutions for the problem of the neglect of internationalisation in education and science, along with undertaking initiatives together with the business sector. The SU ‘5-100-2020’ development programme involves the following tasks (SPbSPU 2013, p. 5):
• Building up new connections between education, science and industry, developing the system of efficient interaction of the university with leading domestic and foreign scientific and educational institutions as well as with high-tech companies;
• Developing a university model of developing globally competitive specialists;
• Preparing competent specialists by integrating educational processes with R&D, in accordance with the prioritised directions of university development;
• Creating, applying and disseminating multidisciplinary technical knowledge and world-level science-intensive technologies;
• Nurturing the prestige of education by locating competent and competitive university personnel, including the best young specialists;
• Creating an attractive educational and entrepreneurial environment;
• Forming a foresight structure uniting subdivisions according to the principle of resource-oriented virtual enterprise;
• Developing a modern system of commercialisation of R&D results, i.e. building up a network of small innovative science-intensive enterprises, engineering and consulting firms with university participation.

For the implementation process of the `5-100´ strategy plan and tasks, the SU has looked at foreign experience and borrowed the approaches used by foreign universities to increase competitiveness. These are: developing partnerships with leading universities of Western Europe, the USA and Asia; inviting scientists from leading universities; developing academic mobility programmes; membership in international associations; developing partnerships with international companies; regular PR activities, participating in international exhibitions; attracting foreign students; encouraging publishing activity of university teachers in peer-reviewed journals; increasing transparency; developing material, social and sport infrastructure; developing distance-learning; developing life-long learning; developing the system of traineeship in foreign universities; applying a system of efficient contracts with teachers and scientific researchers; increasing autonomy of subdivisions; creating competence centres; stimulating innovation activity.

For the years between 2014 to 2019, the university set four priorities in science which are (SPbSPU 2013, p. 18):
• Performing large-scale complex R&D, the university acting as an integrator of external and internal performers;
• Attracting young specialists by creating attractive working conditions;
• Increasing the number of publications, stimulating publishing activities, increasing the quality of university journals; and
- Creating new approaches to PhD programmes, increasing requirements for PhD enrolment, quality control, creating double degree programmes.

A so-called roadmap of strategic initiatives was developed showing the planned targets in figures. Selected indicators and planned measures of the university’s roadmap are presented in Table 3.

Table 3 - Selected indicators of the NRU’s roadmap

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>I.0</td>
<td>Place in QS ranking</td>
<td>451-460</td>
<td>451-460</td>
<td>401+</td>
<td>301-350</td>
<td>265</td>
<td>181</td>
<td>97</td>
</tr>
<tr>
<td>I.1</td>
<td>Number of published articles (WoS, Scopus)</td>
<td>0.13</td>
<td>0.13</td>
<td>0.15</td>
<td>0.18</td>
<td>0.19</td>
<td>0.2</td>
<td></td>
</tr>
<tr>
<td>I.2</td>
<td>Quotation index per one scientific-pedagogical employee (SPE)</td>
<td>13.8</td>
<td>13.8</td>
<td>14</td>
<td>15</td>
<td>18</td>
<td>19</td>
<td>20</td>
</tr>
<tr>
<td>I.3</td>
<td>Proportion of foreign professors among SPE in %</td>
<td>1</td>
<td>1</td>
<td>1.2</td>
<td>1.5</td>
<td>3.8</td>
<td>4.5</td>
<td>5</td>
</tr>
<tr>
<td>I.4</td>
<td>Proportion of foreign students in %</td>
<td>10.5</td>
<td>10.5</td>
<td>11</td>
<td>11.5</td>
<td>13</td>
<td>14</td>
<td>15</td>
</tr>
<tr>
<td>I.5</td>
<td>Average points of EGE needed for enrollment</td>
<td>75.8</td>
<td>75.8</td>
<td>74</td>
<td>75</td>
<td>77</td>
<td>77</td>
<td>78</td>
</tr>
<tr>
<td>I.6</td>
<td>Proportion of attracted external funds in %</td>
<td>48</td>
<td>48</td>
<td>49</td>
<td>50</td>
<td>54</td>
<td>56</td>
<td>60</td>
</tr>
<tr>
<td>I.7</td>
<td>Annual volume of R&amp;D per SPE in 1000 Roubles</td>
<td>373.5</td>
<td>373.5</td>
<td>400</td>
<td>500</td>
<td>800</td>
<td>900</td>
<td>1000</td>
</tr>
<tr>
<td>I.8</td>
<td>Proportion of young SPE, with and without degrees in %</td>
<td>19</td>
<td>19</td>
<td>20</td>
<td>21.5</td>
<td>25</td>
<td>25</td>
<td>25</td>
</tr>
<tr>
<td>I.9</td>
<td>Number of international scientific and educational centres created with international high-tech companies</td>
<td>14</td>
<td>15</td>
<td>15</td>
<td>17</td>
<td>20</td>
<td>22</td>
<td>24</td>
</tr>
</tbody>
</table>

Source: SPbSPU 2013

In the roadmap for the Programme, R&D has become a priority. As in all leading universities, education and scientific research will remain highly prioritised. Consequently, the number of Master and PhD students, as well as scientific personnel, is predicted to grow sharply (see Table 3). It is important to mention that now, the number of people employed as university researchers is quite small in the SU (and in almost all universities in Russia). Of the total number of 5882 employees in 2012, 2094 employees work as teachers and lecturers, while 264 work in R&D (4.5% of all personnel). Of those 264, only 52 have a scientific degree of Doctor of Science or Candidate of Science (19.6%). The recent trend of research and science puts teachers under pressure to conduct research despite the fact that their job position is traditionally not connected with R&D. Therefore, the volume of R&D performed by university teachers is difficult to evaluate, and invariably figures do not cite this. According to a sociological survey carried out in 2006 (Sheregi 2006, p. 54), about 17% of teaching personnel conduct R&D on a regular basis (preparing teaching manuals and writing theses is included here). Another key priority is given to international cooperation. To illustrate the scale of the task more clearly, we use the example of the first indicator of the roadmap: ‘place in the QS World University Ranking’ (see Table 3). The plan to gain a place in the top 100 of the
QS ranking is related to another list of indicators which must be adopted. For example, related key indicators for QS ranking are: the number of international research projects and joint publications undertaken, the number of international students and study programmes, international academic mobility, and the number of visiting professors.

The question arises as to how the university is going to achieve the targets set out in the roadmap in practice. The university developed eight initiatives to close the gaps between the current and desired indicators of Programme ‘5-100-2020’ (see Table 3). These are:

- Improving the quality of managerial personnel; attracting specialists who have experience in managing leading foreign universities or research organisations; developing the system of indicators to evaluate the quality of managerial work;
- Attracting young specialists with foreign experience in research, teaching and management;
- Increasing Russian and international mobility for university teachers, traineeships, qualification improvement;
- Modernizing PhD programmes, introducing a new model of PhD programmes with international participation;
- Supporting programmes for students, PhD students, young employees, support for publishing activities;
- Introducing new educational programmes in partnership with leading universities;
- Attracting foreign students;
- Conducting research in collaboration with leading foreign scientists and scientific organisations.

Studying these eight practical initiatives requires more precise definitions. What does improving the quality of managerial personnel mean? How to find foreign research partners? Why should foreign students or staff choose this university? Furthermore, while these initiatives reflect the key indicators for the QS ranking, what about the other strategic indicators summarized in Table 3? For example, there is the initiative to attract students with higher average points for the EGE. This initiative has become strategic in the context of the Programme. Whereas previously, students had to pass university exams to enter, since 2009, the mandatory introduction of a National Standardised Examination for university entrance, so called the ‘EGE’, allows pupils to choose their university by themselves without additional entrance examinations. As a result, good students go to good universities and vice versa. This means increased competition for the best students among the Russian universities. Yet, for example, the SU ‘5-100-2020’ development programme does not state what it intends to do in order to attract the best Russian and foreign students.
By evaluating the SU strategy for the Programme in terms of its agenda-setting, we can refer to Kingdon’s process streams (problem, proposal and politics). The university identified the problem of the urgent need to rise up on the global education market and is well aware of the opportunities presented by the Programme. The university’s development programme states the policy proposal, which is strong as its aims and roadmap which are both compatible with the state, or rather the decision maker’s vision. The technical university possesses a favourable political position which is proven by its previous record of successfully winning competition for state programmes. Furthermore, natural sciences feature high on the political agenda, and these have to be strengthened. The policy proposal of the university meets the requirements of the Programme and thus, political interest. Therefore, it is not surprising that the policy window opened and the university won the competition. But the question is whether such ambitious figures can really be reached. What is the likelihood of success of this strategy? Are the proposals feasible in practice? For example, neither the development programme nor the roadmap describe in detail what has to be done, for instance, how cooperation with business should function and why foreign universities should choose this cooperation.

**Conclusion**

In recent decades, traditional universities have been much criticized for their lack of connectedness with the real life of society, the monopoly of science, and the lack of transparency in distributing state funds. There is a worldwide trend of transforming traditional universities into business-oriented universities based on New Public Management principles. The concepts of global university, journal and citation indexes have been introduced to enable comparisons of universities and researchers with each other. In such times of change and international competition, the Russian Federation decided to jump on the educational bandwagon and use this political spirit to enforce reforms in Russian universities. Indeed, a package of reforms has shaken up the Russian university landscape in recent years. These reforms are based on the four main goals which are fixed by the Russian state in the strategy for the development of higher education in Russia, which are:

1. Cutting down state expenditures for higher education, e.g. mobilising universities for self-financing, independent from the state;
2. Assuring the quality of higher education;
3. Increasing transparency of the education market by decreasing the number of universities;
4. Lifting Russian universities up to the league of top international universities.

The recent policy changes in Russian higher education appear to be similar to what is done in other countries (e.g. China, Finland, Germany), such as the trend towards an entrepreneurial model of university based on measures and
accountability, and the trend of investing in some universities in order to achieve world-class universities leading the world university rankings. In so doing, Russia belongs to the international educational club. But do these changes simultaneously mean an internal change within Russian university practice at large? Has a new stage of development begun in Russian universities, i.e. is the Russian higher education system going through two academic revolutions at the same time?

With the help of Kingdon’s theory, the policy process of Russian strategy was analysed. It became clear that the problem, or rather goals, have been defined involving a well proposed solution. As a new policy image has been adopted in the form of the world university ranking, it is worth noting that one ranking system has been selected: the QS World University Ranking. The problem of competitiveness and the orientation system of ranking has captured the attention of policy-makers, including the president. As a result, increased support for the problem of international competitiveness has helped to bring the strategy for development of higher education of Russia forward. Policy-makers also use the strategy as a tactic to cut state expenses for every university in favour of instead investing in a smaller number of leading universities. This attitude is defended by the notion of a global trend towards similar education policies elsewhere. In Russia, the role of presidential influence is decisive in agenda-setting. The strategy of higher education is supported by the President, who finally included it in the nationwide agenda along with its implementation.

The study of the timeline of reforms and reconstruction of the Russian higher education system reveals an ambivalent picture presenting contradictions. According to the stated goal to become globally competitive, the action plan is strongly interlinked with external ranking indicators. For example, the strategic objective of the recent federal Programme ‘5-100-2020’ is modernisation and development of the university as one of the leading global scientific and educational centres, integrating interdisciplinary research and breakthrough technologies in order to improve the competitiveness of the national economy.

As studied in the single case study for an NRU, initiatives and roadmaps are ambitiously planned. On the other hand, the development programme leaves how to put plans into feasible actions unclear and ambiguous. For instance, the examined university (SU) invests money in attracting foreign visiting professors and researchers, and is attempting to build up joint study and research programmes. However, the question arises as to whether foreigners are invited for the sake of improving the QS World University Ranking or for improving the quality of higher education. What is clear is that potential foreign partners, i.e. universities from which guest professors are to be invited, should feature at the top of global university rankings, which equates to universities and not exclusively to universities of applied sciences. But herein lies a contradiction: the university considered in our case study is traditionally applied, the majority of R&D lies in applied rather than fundamental sciences.

Another contradiction of the Programme ‘5-100-2020’ concerns the non-observance of all relevant stakeholders. For example, the business sector does
not contribute to building up roadmaps for development. Furthermore, it is not discussed how the business sector will be attracted by the university, nor the selected means of commercialisation. No creation of a venture fund is planned either. Furthermore, other stakeholders of the university such as students, and lecturers – who have direct contact with students, and specifically provide education – have yet to be discussed in the Programme. Moreover, the quality of education, and in particular teaching, is not sufficiently emphasised in the Programme. The question arises as to why students (including foreigners) should choose the SU: because of the increased prestige of studying there? In this context, the issue of the university’s mission and vision arises. What is the vision of the university in the case study? Universities are often classified as being either elite, mass, niche, local, or universities promoting life-long learning. The roadmap for the Programme creates the impression that the university wants to embrace all possible positions, resulting in a lack of self-identification.

Another contradiction becomes apparent when studying the university-government-business relationship presented by the Triple Helix concept. Despite there being overlapping interactions among all three actors, the etatistic ‘top down’ model from Soviet times has not particularly changed. While the state strongly promotes interaction between university and the third side of the Triple Helix interaction, the business sector, main businesses are nevertheless still state corporations in the fields of military, and natural resources. Furthermore, there are strongly overlapping interactions between the university and the state. In Figure 2 the conflict of interest between those three actors is represented.

![Figure 2 - Conflict of interest in Triple Helix interactions](image)

Today, the interest of Russian universities mainly embraces thinking in terms of indicators and how to make profits in order to fulfil state requirements of high world university ranking and better self-financing independently from the state (strong solid lines 1-2 and 2-1). Cooperation with business and foreign individuals and organisations is placed high on the agenda-setting. Business organisations, especially state-related organisations such as ones connected
with the military complex, are fostered by the state to cooperate with universities (solid line 2-3). Innovations and university start-ups should be created. But how this should be done is not clear. At this point, the notion of foreign cooperation enters the stage. Foreign universities' experiences should help the Russian universities to build the bridge between university and business in order to innovate. The big question is, what can the Russian universities offer to foreign professors, universities and business in general? This is where conflict of interest appears (dotted line 1-3). While Russian universities have to cooperate with the third group as much as possible, business and foreign universities are mainly interested in the knowledge which Russian researchers and programmes can provide, as well as sustainable relationships (dotted lines 3-1 and 3-2). Another factor of forging exchanges and partnerships with foreign universities is defining the reciprocal benefits. It should be clearly stated why, and for what reason, the partnership is established. Failing this, there may be a high risk of partnership, lecturership and imitation, but, as is well-known, the imitation strategy works only in the short term. In our case study, the university uses the funds from the Programme to attract potential partners with money. This may indeed work in the short term, but will it help to improve quality and competitiveness in the long run? The above discussion raised many questions. So far, the process for implementing university strategies is in its early stages. However, the coming years will provide opportunities to analyse ways of implementing Russian university strategies and the progress of each of these. Another useful possibility for further research could be a comparative strategy analysis of different universities and their respective progress.

In conclusion, in Russia the state, universities and business all work together, their interactions being controlled by the state. The new wave of reforms in higher education represents an opportunity for small universities to transform themselves into education centres while the bigger universities focus on research. The plan to provide additional research funding to universities selected by the state could mean a great opportunity for innovation. Although the Russian state sets very high targets for nurturing top international universities, the expenditures on education and R&D are actually quite low for such a large country, when compared with countries such as Germany (see Table 1). Furthermore, in Germany, and even more so in the USA, the business sector has become the driving force for investing in R&D, while in Russia the state remains the leading force.

The reforms discussed in this article may lead to a very stratified higher education system in Russia: a cruel fate for many (especially in the regions) and a strengthened position of traditionally strong universities (especially in Western Russia). The privileged status of 40 universities enables them to improve by leaving the rest behind. Furthermore, there is a trend of preferential funding of bigger universities by the state. On the other hand, such additional excessive state funds confer obligations to those selected universities. For example, they must regularly (monthly, quarterly) report to their main stakeholder – the state. Such reports are unlikely to improve the quality of education and research, but rather reflect an instrument of control: in the wider sense, the reforms arguably reveal a system of increased state control.
References


18. Дружилов С. Вузовская и академическая среда в России начала XX века // Вопросы образования. – 2013. – №. 2. – С. 270-280.


