

## SUCCESSFUL RESEARCH UNIVERSITIES: DEVELOPMENT FACTORS

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Republic of Kazakhstan is a young and dynamic state in which education and science are one of the main priorities of the state policy. President Nursultan Nazarbayev initiated the project "Intellectual Nation 2020", which aims to ensure the development of Kazakhstan's education through the integration of education, science and innovations.

In this context, the concept of the development of research universities best meets the needs of the domestic demands of the Kazakh society. A mission on higher education of the country is to become more competitive for the creation of a skilled, efficient and flexible workforce, as well as the creation, application and dissemination of new ideas and technologies.

The world's research universities models suggest two ways of developing them. The first one is the creation of an entirely new research university that has been realised in our country by establishing the Nazarbayev University. The second one is to support the leading universities and creation of favourable conditions for them to make a qualitative breakthrough. Currently, the second approach is also being developed through a competitive selection of programmes for the development of national and leading regional universities.

Internationally recognised researcher in the field of higher education Jamil Salmi (2009) identifies three factors of a successful research university:

- a high concentration of talents (faculty and students);
- significant resources, creating conditions for a creative learning environment and pursuance of cutting-edge research;
- management system that encourages the development of leadership skills, strategic vision, innovation and flexibility

At the same time, the academic traditions of Kazakhstan's higher education and the rapidly increasing demands to modern universities cause the emergence of new key factors in the development of research universities.

### **Management and Leadership**

Management and leadership with the support on the faculty core is the central factor of the success of a research university. In Kazakhstan's higher education sector, we are moving towards greater academic freedom and collegiality of management. At the moment, we have considerable independence in the development of innovative educational programmes, with an emphasis on interdisciplinary character. Many universities improve the management system through the establishment of Supervisory Boards. It is necessary to focus on two points. First of all, for successful functioning of the university it is necessary to involve in the decision-making process (management) those, who teach and are engaged in research work, i.e. the academic community. Second, the role of the rector of the university is changing. We proceed from the understanding the rector as a famous scholar to the rector who combines executive talent and possesses competencies of strategic financial planning and management.

### **Excellent Teachers and Students**

Search of the best teachers is an important part of our work. To do this, in the HEIs Competition Committees are working, a system of motivation of teachers is being created. However we still have to create an open creative environment contributing to scientific research. In terms of concentration of talented students, there are also important tasks in front of us the solution of which we expect in the regulatory competences of the state.

### Academic Programmes

Academic programmes of a research university are a unique product. They are developed through an interdisciplinary approach with the active use of the research potential of the HEI. Internationalization orientation, academic mobility provision and double diploma programmes development should be attributed to the peculiarities of educational policy.

The main aim of academic programmes development is the use of competence approach. Though the questions concerning competences and qualifications are settled to a larger degree, the debates about the balance of interests of employers and comprehensive university education continue.

The increased capacity to build the degree programmes determines the difficult choice for a HEI to determine the priorities of training. On the one hand, the employers prefer the readiness of graduates to work in a team, their communication abilities and preparedness to make independent decisions as main competences. On the other hand, the modern university is interested in involving students into research and in developing their critical thinking; therefore it strives to the strengthening of the research component. This is especially true for Master's programmes.

Modern Master's degree programmes require the balance between practice and research-orientation. Largely, this balance is provided through identification of academic knowledge for the first and second cycle, and also through the development of Master's programmes, taking into account the future employability of students. With this in mind, Kazakhstan has adopted two types of Master's programme - professional and research-and-teaching.

Specialism-based Master's programme implements academic programmes of postgraduate education in training human resources (including managerial ones), top-managers for economy branches, medicine, law, art, services and business, that have in-depth professional training.

Research-based and teaching-oriented Master's programmes implement professional study programmes to train scientific and pedagogical human resources for the higher education system and research area, having in-depth scientific -pedagogical training.

In the first case the graduates realise themselves as managers of production, in the second case they implement teaching and research activity. At this the content of programmes and teaching methods differ seriously.

The study of employers' requirements in regard to the postgraduates' preparation level found the following abilities to be priority-oriented ones: ability to apply knowledge in practice, ability to study, work in a team, ability to analyse and synthesise, ability to adapt to new conditions.

The priorities whereas of the academic environment in training of future researchers are given to such competences as basic knowledge in science, ability to analyse and synthesise, ability to generate new ideas, a high level of professional knowledge, skills to conduct research.

As result one can note certain disparities in the requirements to the future specialist, which requires the development of different profiles of Master's programmes.

In this case it is extremely important, that the graduate of Master's programme of research profile in the end is not only a researcher, but also a specialist who must orient his or her research at solving urgent problems of production.

### **Support for Research Excellence**

Concentration of research on priority areas of the economy development and promising areas of science, support of international publications and international research groups. In industry, the major problem is the lack of engineers and designers on a range of modern high-tech areas of production. Not enough specialists in the organisation of innovation activity, science and techno-economic expertise, evaluation and use of intellectual property, commercialisation of scientific research and in many other specialties.

For a comprehensive solution of these problems we propose concept of integration of science and education, which should reflect:

- innovation educational programmes, programmes dual-diploma education;
- creation of a multilevel system of training and retraining for the scientific and innovative entrepreneurship.

Innovative initiatives will help to launch such mechanisms of integration as the creation of educational and scientific and industrial consortia. The basis of their work is the introduction at the enterprise of scientific and technological developments, created by the departments and laboratories. In this case simultaneously, the target training of specialists of production and teaching of students takes place. Ultimately, the real integration of education, science and industry should become one of the major factors in the development of Kazakhstan.

Kazakhstan has actively considered various approaches to the management of science and education in conditions of intensive development of economy and society. Development of Kazakhstan in innovative ways will lead to fundamental changes not only in science but also in training. One way is to create a network of research universities.

### **University Funding**

Diversification of funding sources and search for new channels is an important part of universities management. Initial financial support of research universities will be implemented through the provision of targeted transfers for development programmes of the HEI. However, it is necessary to focus on the development of entrepreneurial culture, aimed at the commercialisation of research results.

### **Infrastructure**

Innovative infrastructure is the final and unifying element of a research university. For successful activity the HEI needs structures, connecting it with the environment. First of all, these are the structures of innovative nature providing transfer of university research results into real business environment, as well as support for research projects monitoring and turning them into commercial offers.

Research university is not only an educational institution, but also a certain concept. We go along this road, creating a special "spirit" of a research university, unity of the management team, collective and students.

The University functions as the integrative system of a research-focused and educational complex with the goal for preparing highly skilled, creative-thinking staff able to generate advanced knowledge, constantly improve themselves and increase the intellectual capital for the innovation economy.

The programme of a research university stipulates the following:

- ensuring participation of researchers and faculty members in the creation of high technologies, new innovative projects and productions;

- creating conditions for an innovative orientation of training personnel and improvement of personnel policy considering age and qualifying features of scientific and pedagogical structure;
- promoting students' and teachers' mobility in the light of the Bologna Process;
- providing language improvement courses for researchers and faculty staff with a view of development of social, communication and language competences;
- expanding partner links with international organisations for creation of the international research initiatives and consortia, implementation of joint research in the field of fundamental and applied research;
- introducing achievements of international schools of sciences and the best scientific and methodical experience for bringing up intellectual elite of the country;
- upgrading management system of innovative activity of the university, directed on ensuring its dynamic development and financial stability.

Taking into account requirements of the international standards of quality in Kazakhstan, primary steps to establish a model of Research University are taken. The special attention is given to creation of national assessment system of quality of education. Ideas of the Bologna Process affected the development of mechanisms of external and internal assessment of higher education institutions. The national assessment system of quality of education is modernised, criteria and procedures of certification of higher education institutions are improved. Representatives of business structures were involved in carrying out procedure of accreditation of higher education institutions, association of employers, public organisations and other institutes of civil society were also involved. Activities of agencies for the international accreditation of educational programmes extend. International accreditation stimulates academic institutions to develop internal mechanisms of quality assurance adequate to the given organisational environment. Gradually local higher education institutions develop mechanisms of corporate governance that includes strategic planning and forecasting, marketing of the market of educational services, effective management of human resources.

### References

Salmi, J. (2009). *The Challenge of Establishing World-Class Universities*. Washington DC: the World Bank.