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FORMING OF RESEARCH UNIVERSITIES IN THE REPUBLIC OF KAZAKHSTAN AS A CONDITION FOR INNOVATIVE DEVELOPMENT. EXPERIENCE OF FOREIGN COUNTRIES

Abstract. Modernization of country's economy based on industrialization and innovative development of Kazakhstan presupposes a reform of the system of higher education oriented on integration of science and education. In the Message to the people of Kazakhstan "The Third Modernization of Kazakhstan: Global Competitiveness", the President of the Republic of Kazakhstan, N. Nazarbayev set a task of making education the centerpiece of a new model of economic growth.In the article there is a research of task concerning reforming universities in the Republic of Kazakhstan, so that university education meets the challenges of the growing globalization.

Thus, the system of higher education pays much attention to the world high ranking universities, which according to the definition of the World Bank are the research universities. Functioning of these universities enabled such countries as the United States, Britain, and Japan to increase their influence on international arena. They train not only highly qualified specialists and scientists, but carrying out the fundamental and applied research makes the positive contribution to country's socio-economic potential.

Research universities should become active points of innovative economy growth. They should be developed according to the special target programs, conduct scientific research at a very high level and ensure output of their results in practice.

The world practice convincingly proves that integration of education and science is the only effective form of training highly qualified specialists for science and production which implements the main principle of universities, such as "learning through research", since the main task of the research university is integration of scientific activity and educational process at all levels of higher and postgraduate education.

Key words: research universities, innovations, development, higher education, economics, science, production.

Introduction. In the context of global competitionthe importance of world high ranking research universities is growing in order to develop scientific and innovative system of the country with the support of a knowledge-based economy. Analysis of foreign experience shows that it is the research universities that become the key source of ideas for implementation of the globally competitive innovations by world's leading companies. Over the past two centuries the world leading research universities have been formed in Europe, the United States and a number of other countries specializing in the production of new knowledge and training of unique specialists in the conditions of breakthrough scientific and technological development.

Thus, the globalization of economy sends the new challenges for universities such as ensuring continuing education, the constant increase in the number of students as well as introduction of the new technologies and educational innovations, etc.

Such scholars as Clark [1] and Halsey [2] have written extensively on the pressures on universities in knowledge based economy and the response of universities to those changes is explained by Etzkowitz and Leydesdorff [3] and Becher and Trowler [4].

P. Senge considers an important and significant factor influencing the activity of universities, technological changes that give an opportunity to increase the potential for the development prospects of the organization in order to enhance the intellectual assets of universities [5]. Researcher R. Bowen

considers universities as academic organizations with unique characteristics that affect their ability to adapt due to the diversity of stakeholders, as well as the goals and objectives of corporate culture [6].

Also in their works such scientists as Martins and Pereira show that a higher level of scientific education brings a greater return for the country [7].

Informatization and strengthening of innovative activity as the technical and technological basis for the formation of information society is a national strategic resource for the development of economy, characterizing not only the overall level of the social and cultural development of the state, but also its place in the global process of the world development. It is not accidental that all the developed countries strive to create the most advanced information industry which is able to fully meet the levels of a request for the social development.

Lu Yongxiang "The high-tech economy develops due to knowledge and intellectual abilities of a person, so it is a form of economy that leads to the saving of resources, the coordinated interaction of a man with nature and also leads to the sustainable development" [8].

Among the most prestigious institutions of higher education in the world are the US universities.

Here are the main feature characteristic of a modern research:

- The faculty participates both in educational programs of the research university and in the scientific research (on average, 25-75% of work time is spent on teaching). It should be noted that a significant difference in the formation of the faculty of the best American universities is the rotation of personnel covering the spheres of education, science and business. And there aren't any barriers between them and moreover the payment system at university as well as at the firm stimulates such a rotation;
- research university constantly maintains a high level of research conducted in it including investing its financial resources in the development of its research base (library resources, information support, laboratory equipment, etc.);
- study at research university has become diverse and includes both, education of specialists with the award of PhD degree and acquisition of the basic higher education by students who do not plan in future to engage in scientific and educational activities professionally

Today the research universities actively participate in additional postgraduate education, mainly on a commercial basis offer the multilevel programs for advanced education and retraining. Unlike of narrow-profile commercial educational institutions universities have an opportunity to implement a variety of programs based on interdisciplinary approach.

At Stanford University a large-scale research is carried out covering virtually all fields of science. Graduates of university are a part of scientific and technical elite of the country; they have got Pulitzer and Nobel Prizes. The high results of the scientific education of university graduates are evidenced, for example, by the fact that more than 350 technology firms are based around the campus headed by the former university students. W. Hewlett and D. Packard also were once students at Stanford. According to many scientists there would be no Silicon Valley without Stanford University [9].

A feature of the high ranking research universities is availability of the mutually beneficial and useful links with industry. Relatively small in terms of students, but the world-renowned Massachusetts Institute of Technology (MIT) effectively cooperates with 700 leading US industrial corporations [10].

The tendency of MIT to link together the process of education and the search for the new knowledge provides scientific breakthroughs and technical achievements. The success of MIT in organizing and managing scientific research is evidenced by the fact that the annual economic benefit from the use of inventions and new technologies developed by this university is 20 billion dollars. By the number of patents, MIT leaves all other American universities behind. Only in 2016 MIT issued 110 licenses [10].

As a part of MIT's Center for Engineering biotechnological process there are Institute of Cambridge-MIT Center for Archaeological Materials, Center for Biomedical Engineering, Center for Cancer Research, Center for Research in Economics and Management, Center for Coordination Science, E-busi-ness Center, Center for Educational Computer Innovations, Center for Environmental Health, Center for Information Systems, Center for International Studies, Center for Space Exploration, Center for Clinical Research, Laboratory of Computer Science, Technology Innovation Center, Edgerton Center, Spectroscopic laboratory of George Russell Harrison, Observatory, Institute of Nanotechnology, Institute for Study of Labor and Employment, Laboratory of Electromagnetic and Electronic Systems, Laboratory for Financial Engineering, Laboratory of Nuclear Science, Laboratory of Microsystem Technology and others [10].