

CHALLENGES AND RISKS OF THE UNIVERSITY AS AN ECOSYSTEM ACTOR IN THE CONTEX OF DIGITALIZATION

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Introduction. This article discusses challenges and risks of the university as an actor in an innovation ecosystem in the context of digitalization. Nowadays, development of new technology essential for many industries. The education system of the Russian Federation is highly involved with the progressive concept of industry 4.0. The article introduces to the reader some issues of this multistage concept.

Initiatives aimed at the development of advanced technology in economy and education of the Russian Federation:

The current challenges of the digital economy and the growth of technological innovations are radically changing societies, business models, management mentality and relationships between national market participants. Over the past few years, there has been a tendency to move away from the hierarchical structure to the network (Figure 1).



*Figure 1. The direction of the transformation of social-economy networks
Source: Developed by the author based on the source [1]*

Digitalization of the national economy involves the creation of a holistic technological environment, in which economic entities have the opportunity to create partnerships (with competitors, universities, research centers, etc.), in order to achieve their own business goals [1].

According to K. Schwab, the Industrial Revolution 4.0 represents a transition to digital production controlled by intelligent systems [2]. According to the theories of N. Kondratiev and S. Glazyev, the change in the structure of the economy

system is associated with a change in technological patterns [3].

Digitalization in the educational sector is a strategic priority for the national economy. At the legislative level, this direction was set by the national project «Digital Economy of the Russian Federation» [1]. There are four key state programs for scientific and technological development, which reflect the following issues:

- National technological initiative, which priority is to provide advanced solutions that ensure global security and high quality of life on the basis of new long-term forecasting technological industries. The National Technological Initiative is presented in the form of projects aimed at introducing into global world markets –social, educational and industrial [4];

- The strategy of scientific and technological development of the Russian Federation, which defines the main directions of scientific and technological development in accordance with the challenges of modern times [5];

- National project «Science». Firstly, the main goal is to create prerequisites for the presence of the Russian Federation among the five leading countries of the world that carry out research and development in promising areas. Secondly, to create conditions for attractive work for Russian and foreign leading scientists and young promising researchers [6];

- «Human resources for the digital economy» (the part of the national project «Digital Economy of the Russian Federation»). It defines the improvement of the education system in order to provide the digital economy with competent personnel [1].

Overview of the university in the context the formation of industry 4.0:

The fourth industrial revolution (industry 4.0) involves the merging of technology, blurring the boundaries of technological and physical, biological nature (the development of neural networks, additive technology, the Internet) [2].

In the concept of Industry 4.0 the considered directions of scientific and technological development not only contribute to the development of the industrial

sector economy, but also have a significant impact on the system of higher education and science. Using the full potential of Industry 4.0 will entail inevitable transformations and changes in the concept of the existing education system [7].

Today, the government policy in the field of science and education development in the context of industry 4.0 is aimed at modernizing the higher education system, introducing new technology and attracting young people to scientific and innovative activities [8].

According to A. Kaplan, the University of Industry 4.0. is the university of the future. The development of digital information and telecommunication systems will entail a change in the life of the university. The academic model of intelligence will be replaced by the model of multiple intelligence. Open educational resources with variable learning combinations will be implemented, evaluation criteria will be specified under current conditions, adapting to the peculiarities of thinking of a particular person [9].

Main risks of the university as an innovative ecosystem actor:

The challenges are associated with the coronavirus pandemic, the economic crisis, the worsening social stratification in society, reinforced by the processes of digitalization, are rapidly changing the mental models of interactions between economic entities at the micro and macro levels, making changes in traditional approaches of doing business, restructuring public institutions, transforming production, logistics processes and radically changing the education system.

The new educational paradigm (Figure 2), should be based on solving the main problem – the shortage of highly qualified personnel for breakthrough leadership. Thus, it is necessary to develop and implement scientific, educational and research programs that educate professionals with a set of competencies for solving non-standard problems and developing a creative approach.

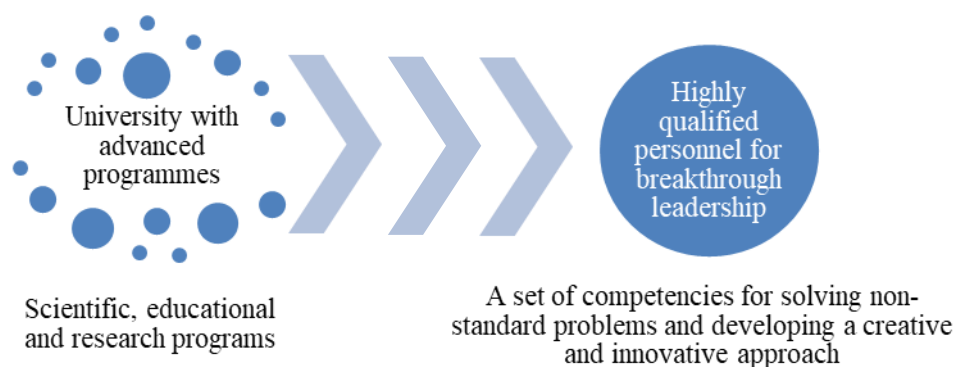


Figure 2. The new educational paradigm

Source: Developed by the author

Unfortunately, today's education system is not ready for a radical paradigm shift that would meet the challenges of the time. In turn, the government and business are not ready to invest in human capital, while it should be particularly noted that solving the problem - the shortage of personnel for the new reality – requires joint coordinated decisions, actions and goals on the part of both state structures and the university community.

Conclusion:

The article describes the main challenges of digitalization and trends of digital education in the Russian Federation. The issue of digitalization in the field of education is a priority for the national economy. Nowadays, the industrial ecosystem model is considered as an attribute of the Industry 4.0, which allows universities to increase their competitiveness, produce qualified personnel and build cross-industry relationships based on the principles of partnership with other actors of the ecosystem.

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TRANSFORMATION OF HUMAN RESOURCE MANAGEMENT THROUGH TECHNOLOGY WITHIN THE ORGANIZATION