

ICEST 2021**II International Conference on Economic and Social Trends for Sustainability of Modern Society****MODERN RUSSIAN UNIVERSITY: KEY MODELS OF
DEVELOPMENT IN ERA OF GLOBALIZATION**

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Abstract

An article sets the problem of higher professional Russian education entering the transnational globalizing world. It is stated that in the 21st century the architecture of the global educational space in general and the educational landscape of higher education institutions development in particular are drastically changing. It is affirmed that the university, being the creator of the intellectual capital, becomes the provider of higher education in the world educational space in the 21st century. The article identifies the main prerequisites for the emergence of innovative models of the university development in the 21st century. The key models of universities in the context of the era of globalization are revealed. Based on the analysis of the functioning of a number of universities the authors justify the model of the university development, which can be considered relevant and appropriate in the context of current and foreseeable realities of the 21st century. A universal type of a successful modern Russian university, called “the fourth- generation university”, is defined and its main characteristics are summarised. The most promising approach to training specialists for the Russian digital economy is justified.

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1. Introduction

Currently, the Russian administration points out that the human capital formation and development is the most crucial task in the set of strategic tasks of an effective state management of the Russian economy in the context of transition to a new technological paradigm (Valiahmetov, 2014). Given the fact that it is the level of education, network literacy and general culture of the population that currently determines the successful development of the human capital for the digital economy of Russia, the most vital direction for improving the system of the intellectual capital formation is increasing the efficiency and the coordination of educational institutions. Consequently, the role of universities in today's world is drastically changing.

Universities have transformed from educational institutions that perform an influential, but not a central role in society into the leading centers of educational, research and economic life in today's society. The simultaneous global shifts in the development paradigm and the course towards a post-industrial society have resulted in a widespread perception of the innovative development as a key mechanism for ensuring economic growth and development (Bondarev et al., 2020). These circumstances have resulted in the educational and research missions, which have been fulfilled by individual universities since the 19th century, to be supplemented by the so-called "third mission"—innovation (Zaharov, 2015). It is worth mentioning that today there is a number of distinct models and concepts of how a university should be built that need to be systematized.

The relevance of the theme is due to the lack of developments that allow the scientific community to define a promising model of the university development in the 21st century; the need to develop a scientifically sound approach to the training specialists for the Russian digital economy in the context of the transition to a new technological paradigm.

2. Problem Statement

The university as the basis of higher professional education system has been the subject of scientific discussions since the first decades of the 21st century. The main aspects of the issues discussed by researchers are the following: the mission of university in the development of human, intellectual and social capital (Efimov, 2016); changes in the university system, namely, the transformation of the roles of teachers, students and employers (Pan'kova, 2007; Zapesotsky, 2003).

In the authors' view, the problem of the modern Russian university development in the 21st century is no less important and acquires particular relevance in the context of society's transition to a new technological paradigm, which determines the network logic of the cardinal transformation of higher education.

However, so far this problem has not been the subject of much research attention, which is due to the insufficient study of information society problems, the variety of existing models of the university development and the lack of scientific elaboration of issues related to the priorities of higher education in the 21st century and, in particular, issues concerning the list of professional competencies required for the 21st century specialists to perform their job functions in the new digital reality.

3. Research Questions

In course of the study the following questions have been raised:

- 3.1. What are the main prerequisites for the emergence of fundamentally new models of the university development in the 21st century?
- 3.2. What type of the University is the most suitable for the training of Russian specialists that would ensure progressive and scientific-technological development of society and preserve humanistic values in the context of the new technological paradigm?
- 3.3. Which model of the university development in the 21st century can be considered relevant and adequate in the context of current and foreseeable future realities?
- 3.4. What approach is becoming the most promising in the training of Russian specialists in the 21st century?

4. Purpose of the Study

The purpose of the study is to highlight the key models of the Russian universities' development and identify which of the models could adapt to the realities of the globalization and new technological paradigm in the 21st century.

5. Research Methods

The methodological basis of the study is systemic, activity-based and historical approaches. The systemic approach allows us to consider higher education as an open system, actively interacting with the outside world, whose changes are mainly due to the processes of globalization and digitalization. A complex social and philosophical methodology, combining systemic, activity-based and historical approaches, defines the dominant type of university in the 21st century, and substantiates the most promising model of the university development and prospective approach to educating Russians in the context of transition to a new technological paradigm.

5.1. Major prerequisites for the emergence of fundamentally new models of the university development in Russia in the 21st century

Being an institution of the cultural reproduction and the transmission of values, the university inevitably mirrors in its forms and models of development the specificity of national cultures; peculiarities of understanding and interpretation of traditional institutions and cultural values; general trends in social, scientific, social and cultural values; technological, economic and political processes occurring in the world.

The main prerequisites for the emergence of fundamentally new models in the 21st century are: a shift in the ontology of education in the context of the information society, characterized by a change in space – “topos” and in the time of human existence – “temporality”; the formation of the fourth technological paradigm with its global trends (artificial intelligence, robotics, etc.); acceleration of the scientific and technological progress that drastically transforms the world within a generation and creates a

gap in the labor market supply and demand; specific features of the social and economic development of the country, which are distinguished by the specificity of dominant technical and economic structures; the specificity of the human capital and the national culture and, consequently, the social and cultural codes contained in each national culture, which are the distinctive benchmarks for the university development model.

The above-mentioned prerequisites clarify the presence of existing models of the university development and condition the emergence of new promising models corresponding to today's realities. In this regard, it is obvious that the contemporary Russian education should meet the realities and challenges in era of globalization.

5.2. Key models of Russian university development in the 21st century

The purpose of the study requires us to identify an approach to describing the existing institutional diversity of models and categories of universities in relation to the Russian reality. The analysis of university education in a number of countries reveals that one of the most common approaches to the institutional differentiation is the criterion of the universities' participation in research activities, which determines their research potential, which, in the authors' view, is the most justified for achieving the purpose of the study.

According to the current Russian legislation, three categories of universities are officially recognized: classical universities, national research universities, and federal universities (Federal Law..., 2012).

Meanwhile, we should note that in addition to the above categories, there are also categories not listed in the legislation (regional, international) whose emergence is conditioned by the necessity to respond to the challenges and educational needs of the individual, society and state in the 21st century. According to the researchers (Efimov, 2016; Zapesotsky, 2003), there are now reasonable prerequisites both for the development and transformation of existing universities and for the emergence of a new type of a university. The analysis of the current sources (Pan'kova, 2007; Zaharov, 2015) regarding the available models shaping the educational landscape of the Russian education allows us to state a general pattern, which is manifested in their diversity and evolution and describes the educational landscape in the era of globalization and technological transformation. A brief review of the models presented below confirms the above thesis.

Traditional university models centered on the educational improvement tend to focus on training for science, education, industry and services, as well as on liberal principles of higher education provision.

National research university models constructed on the basis of a classical university and focused on meeting the criteria of this national model: the amount of research and development at the university; the number of PhD theses and doctorates completed at the university; the number and the range of educational programs offered; the number of full-time and postgraduate students; the number of researchers and higher education teachers; the impact of the university on the higher education system.

The project-based university models incorporated the provisions of the research and entrepreneurial models of universities, focus on a project-product approach aimed at fulfilling one-off orders for the education and research market.

Models of research universities targeted by a number of criteria: a certain number of grants the university receives, availability of undergraduate programs, being in the list of the best universities in terms of the level of the federal financial support for research and development work.

Regional university models designed to meet the region's needs in science, education, services and production.

Corporate university models involving a well-developed training system for the staff of a particular company, which can combine both modules delivered by company experts and adapted modules from external training providers.

Given the diversity of emerging models of the university development in the 21st century and the experience of their evolution, it can be argued that the modern Russian academic society is engaged in the search for a new model of the university development, which is adequate in the context of the new technological stage. The search for a new model of the university development, which is typical for the Russian Federation, is caused, in the authors' point of view, by the expansion of higher education institutions' spheres of activity and the need to compete for leadership in the global market of educational services and innovations.

Considering that the new technological paradigm fundamentally alters social and labor relations and the instruments of labor market regulation in general, as well as the fact that the concept of education is grounded in global values derived from the understanding of the unity of man, nature and society in their diversity, following (Efimov, 2016; Zapesotsky, 2003) we propose that higher education system should be modified by supplementing innovative processes with humanistic (Pan'kova, 2007) and culture-transmitting (Efimov, 2016) functions.

In addition, it should be noted that in the context of a changing formation, where post-industrial society is centered around knowledge for the purpose of a social control and management of the innovations and alterations generating new social structures and relations, there is an emerging imperative to change the approach to the training of Russian specialists in the 21st century.

One can suggest that such an approach to the training of Russian specialists in the 21st century could be the hermeneutic approach. In the opinion of the authors, it is the latter that has a great potential for comprehending the phenomenon of man, for such an approach can 1) set the required guidelines for the development of society and become the ground for many technologies and techniques designed to provide an adequate understanding of different disciplines; 2) be an irreplaceable component of an intellectual activity arrangement, characterized by dialectical thinking, ensuring the integrity of world outlook and the creative person development.

In the context of the neural-net technological revolution of the 21st century, when the technological progress and the development of information and communication technologies inevitably facilitate the dominance of exact and natural sciences, the model of the innovative academic university can be regarded as a promising one for the modern Russian university development in the framework of the hermeneutic approach.

Such a model can be outlined as a complex self-organizing system in terms of which the fundamental education of a traditional classical university and research activities are complemented by the vision of transforming the university into an innovative, entrepreneurial structure, integrating the idea of

entrepreneurship and autonomy, freedom in the organization of educational process and pluralism of educational models and taking into account the value, humanistic and cultural-translating functions of the university.

In the light of the emergence of a new model of the university development, the question of what type of university is the most suitable for training Russian specialists who would ensure progressive and scientific and technological development of society and preserve humanistic values in the new technological order is of particular importance. Since this question touches upon the problem of an unavoidable generational change of universities, it appears appropriate to consider it in the context of the societal phase transformation.

5.3. University of tomorrow: from “the first-generation university” to “the fourth-generation university”

Relying on the argument of Zapesotsky (2003) who claims that the formation of different models of the university education is a historically conditioned process with a cyclic nature, the authors consider cyclicity of this process as a natural and historically predetermined phenomenon.

Given that the essence of each cycle is shaped, on the one hand, by actual contradictions arising from the inertia of educational systems and, on the other hand, by the dynamic development of reality, changes in the particular social and cultural situation corresponding to pre-industrial, industrial, post-industrial and cognitive social and economic development phases of society, this cyclicity results in changes in both educational content and university type.

This brings the authors to the idea that the changes currently taking place in universities should be interpreted in the terms of the phase transformation of society and, accordingly, to state that there are four generations of universities corresponding to different phases of societal development. In this regard, the pre-industrial phase of society development corresponds to the first-generation university; the industrial phase – “the second-generation university”; the post-industrial phase – “the third-generation university”; the cognitive phase – “the fourth-generation university”.

The identified generations of universities, as institutions of society, perform different functions in the context of the phase transformation of society. Whereas “the first-generation university” has mainly an educational function; “the second-generation university” supplements the latter with a research function; and “the third-generation university” complements the function of technology transfer to the end-users as well.

As regards “the fourth-generation university”, the functions of a provider of knowledge about the future and the capitalization of its own knowledge are added to the functions listed above (Efimov, 2016). The transformation is aimed at integrating a new type of university into the market relations and increasing the level of impact on the social and economic society development; the amount of a meaningful and a high-quality research carried out for society.

As for the key features of “the fourth-generation university”, in view of the fact that the conceptual apparatus is only being formed, the latter can only be described in general terms as a university characterized by: firstly, openness, implying absence of age, class, gender, geographical, time and other restrictions, as well as strictly regulated organization of the educational process for all who wish to obtain

higher education; secondly, virtualization; thirdly, diversity of educational trajectories; fourthly, delocalization, implying learning in a convenient place thanks to digital technologies of distance learning, etc.

6. Findings

6.1. Transformation of the Russian higher education proves to be inevitable

The identified prerequisites for the emergence of conceptually new models of the university development in Russia in the 21st century suggest an inevitable transformation of the Russian higher education, taking into account the specific nature of the new technological paradigm.

The development of the Russia's educational system is occurring in the framework of social and cultural transformations, mirroring the contradictions of social and economic, spiritual and moral processes ongoing in society in the era of globalization. A study of the historical experience of the development of universities shows that the university model stems from complex evolutionary processes that go hand in hand with the development and phase transformation of society.

6.2. Emergence of a new type of a university and its model of development appears to be a historically conditioned phenomenon

The new type of university and the alteration of its development model is a natural, historically determined process caused, on the one hand, by the contradictions arising from the educational systems' inertia and, on the other hand, by the dynamic development of reality, the change in the specific social and cultural situation, accompanied by the technological paradigm change.

The transformations happening today regarding the emergence of innovative universities should be interpreted in the context of the phase transformation of society, allowing us to distinguish four different generations of universities corresponding to different phases of social development. The university of the future is the so called "the fourth -generation university", which can only be described, as its conceptual and terminological apparatus is still in its formative stages.

6.3. Innovative academic university is likely to be the most promising model of university development in the 21st century in the context of current and foreseeable realities

The process of shaping the institutional diversity of the Russian higher education system can be represented as a combination and interaction of a liberal approach, focusing on fundamental education and research, and a pragmatic one, implying transformation of the university into an entrepreneurial structure producing highly qualified specialists in demand in the labor market.

Considering that technological progress and development of information and communication technologies inevitably promote the dominance of exact and natural sciences, it can be stated that it is the model of an innovative academic university that can be regarded as the most promising for a modern Russian university. This model requires further study within the framework of the hermeneutic approach.

6.4. Hermeneutic approach turns out to be the most far-reaching approach in the context of training specialists for the Russian digital economy

In training specialists for the Russian Federation in the light of the challenges of today, it is advisable to rely on the hermeneutic approach, since the latter, thanks to its tools and its emphasis on the openness of theoretical foundations, can provide a continuous build-up of working tools, allowing any knowledge to be seen both in separately or multidisciplinary.

7. Conclusion

In conclusion, Russian universities should focus on finding and elaborating a promising model of development which, on the one hand, would allow them to preserve and develop the “idea of the university” as an institution with a special social and cultural mission, and, on the other hand, would adequately respond to the challenges of globalization and digitalization. Finding such an equilibrium is extremely challenging, but achievable. In the authors’ opinion, such a model with regard to the Russian reality could be the model of an innovative academic university, which has its variants depending on the initial state and capabilities of the university, as well as on the external social and cultural context. In this sense, “the fourth-generation university” could become the dominant type of university in the 21st century. As a new phenomenon with no single name or interpretation today, this type of university builds on the basic principles of a traditional higher professional education, implies the integration of the university into the market relations and consequently acts as a provider of the human, intellectual and social capital to guide the further development of society in the era of globalization. The study has succeeded in identifying the main prerequisites for the emergence of fundamentally new models of the university development in Russia in the XXI century, defining the key models of the university development and finding the most promising model for its development, determining the dominant type of university and justifying the most far-reaching approach to training specialists for the digital economy of Russia in the XXI century.

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