# Innovative Development of a Modern University in The Conditions of The Digitalization of Education "

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**ABSTRACT**

This paper analyses the use of digital technology-based education innovations in higher education. It is shown that extensive implementation of digital technologies in universities is the main factor conditioning the acceleration of innovative changes in the education process, while digital technologies themselves become one of the key mechanisms for creating the competitive advantages of education institutions on the market of educational services. The analysis of the application of digital technology-based education innovations in higher education enabled the authors to develop a layer model of assessing the readiness of universities to implement digital technologies, presented as a unity of three interrelated criteria determining the readiness of universities for the use of digital technologies in the education process: organisational and methodological, technological, and professional.

| Keywords: | Innovations, University, Digital Technology, Information, Educational Resources |
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## Introduction

Modern social, economic, and cultural conditions compel higher education institutions to comply with new requirements that are based on the following idea: universities should remain competitive in the changeable conditions of the educational market which is possible only if innovations are implemented in the education process actively and effectively.

The necessity of institutional innovations in higher education is indicated in "The National Security Strategy of the Russian Federation until 2020"[1]. The strategic importance of the innovative development of universities is also emphasised by the whole range of works by Russian and foreign researchers such as .

However, as statistical data show, the share of Russian universities developing and implementing innovations does not exceed 5% ; only two Russian universities are listed on the Academic Ranking of World Universities (ARWU, World Top 500 Universities)[2], with only one university listed on the Times Higher Education (THE, World Top 200 Universities)[3] and QS World University Rankings (World Top 200 Universities)[4]. All this gives the particular relevance to further work on unlocking the innovation potential of Russian universities.

The main factor conditioning the acceleration of innovative changes in the education process is the extensive implementation of digital technologies in universities. They become one of the key mechanisms for creating the competitive advantages of education institutions in the light of the expansion of the Internet, the development of a new lifestyle, and the emergence of "digital natives" who are familiar with computers from an early age and wish to use smartphones, tablets, laptops, and

the Internet in their studies . Consequently, in order to remain competitive, a modern university should be ready to offer such opportunities to the new generation of students by introducing the innovative forms, methods, and technologies of learning. Blended learning, a flipped classroom, massive open online courses (MOOC-platforms), the BYOD-concept (Bring Your Own Device) at university — all these and other technologies should be the focus of experts and teaching staff, while their application in the education process should be based on the reliable organisation, technology and pedagogical methodology.

Digital technologies are becoming one of the main priorities in the higher education development plan, and using technologies in class might serve as an appealing factor for universities to attract potential students . As rightly noted in , "technologies give rise to promising changes which are so significant and pervasive that it becomes impossible for universities to separate their strategic plans, goals, and activities from initiatives, resources, and data administration".

The purpose of the research conducted within this study is to analyse the application of digital technology-based education innovations in higher education, and share the experience of using digital technologies at the Vladivostok State University of Economics and Service.

The analysis of empirical data and theoretical sources concerning this subject enabled the authors to develop a layer model of assessing the readiness of universities to implement digital technologies.

The Problematic of Using Digital Technologies in the Education Process

The analysis of informatisation at universities shows that many users either do not know about available resources and services or do not understand how to employ them or even do not have the opportunity to do so [7]. Faculty members often do not have tools for immediate publication of learning materials or regulatory and reference documents to make them accessible to the certain target group. Universities experience an obvious shortage of high-quality digital learning materials. What they have is difficult to "deliver" to students since different materials (programs, presentations, video lectures, tests, individual tasks, manuals, etc.) do not form a logically unified system or database. There are problems with access rights differentiation for users and administrators; the information analysis of key data administration tasks is often lacking [10]. There is an urgent need to apply more actively collaborative software, webinars, mobile applications, and big data methods of analysis of learning results to the education process.

It is worth considering external factors that influence the implementation of digital technologies at universities: demography, globalisation, new generation of students, education reforms, and new technological challenges. Corporate IT environment services and their implementation at universities should develop and adjust themselves in accordance with these factors. It would be simplistic to expect that the statement "We use progressive technologies" itself, without any practical actions, will increase the quality of education. Information technologies ensure the collection, processing, presentation and publication of data related to education, and help tutors to better provide all the necessary learning materials for teaching and learning activities, to identify gaps and adapt the content of these materials and pedagogical approaches to a certain group of students. What is the value of information technologies in the development of university studies? Some experts put forward the following arguments :

• Improving the quality of education by using available information more fully and by stimulating the motivation of learners and the creative activity of tutors;

• Improving the efficiency of learning process by its individualisation and intensification;

• Adoption of new education technologies and shift from passive to active learning — scaffolding and project-based learning, business games, visualisation, simulation modelling, distance learning, and a "flipped classroom";

• Information support of the integration of different activities (theory, research, and practice) in order to form necessary competences;

• Changing corporate culture and reducing students' dependence on their tutors;

• Improving the quality of the assessment of learning achievements on the basis of a computer-based testing.

The practice of "naive" informatisation shows the non-linear relations between its educational efficiency and investments in digital technologies. The studies conducted in Europe did not reveal any improvement in the quality of knowledge depending on time spent by students on the computer or on the equipment of the universities with information technologies.

## Conclusion

The key aspect of understanding of the transfer to the full-scale use of digital technologies and the e-learning environment is the organisation of education at university: the amount of work in class decrease, while the amount of individual work increases for both teachers and students; students work more in the electronic environment under the supervision of their professors. Learning management becomes more effective: learning resources are constantly updated, they are more easily accessible and "recyclable". New opportunities for the organisation of systematic assessment emerge measuring acquired knowledge and skills. The dependence of students on their teacher decreases, as well as mutual psychological pressure in the process of their communication. Digital technologies stimulate the development of individual abilities, independence, initiative, and responsibility of students. E-learning supports the transfer from the explanatory and reproductive methods of teaching to a reflexive model that implies an increase in individual work, creativity, the fulfilment of one's own potential and regular communication with teachers and other students.

It is expected that global demand on higher education will increase from the current 100 million people up to 250 million people in 2025. This tendency is caused by the increasing number of young people from India, China and North Africa willing to have a higher education degree, as well as by the need of the adult working population to get another degree or improve their professional competencies. Can Russian universities satisfy the growing need for higher education?

Considering the political and economic challenges experienced by the country, the most adequate option available now is to develop the advanced learning models and methods, as well as digital technologies to ensure the high quality of teaching at university and make the national system of higher education appealing not only to Russian students, but also to their foreign peers.

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