

TRANSFORMATION OF INDUSTRY IN THE DIGITAL ECONOMY

К. К. Сейтназаров

Заведующий кафедрой «Информационной безопасности»
Нукусского филиала ТУИТ, доктор технических наук, доцент
Seytnazarov82@mail.ru

М. М. Урынбаева

Студентка 2-курса по направлению «Цифровая экономика»
Нукусского филиала ТУИТ
malikaaurinbaeva15@gmail.com

ABSTRACT

Digital transformation of the economy of industrial enterprises is the optimization and (or) change of business processes through the introduction of digital (big data, artificial intelligence, neurotechnologies, distributed resource systems, quantum technologies, etc.) technologies.

Keywords: digital transformation, economy, enterprises, industry, sector, optimization, business, process, numbers, intelligence, neurotechnology, system, resource, technology.

INTRODUCTION

Digital economy (web, Internet economy, electronic economy) is an economic activity carried out with the help of electronic networks (digital telecommunications)[1] related to e-business and e-commerce, and the digital goods and services produced and sold by them. Payments for services and goods of the digital economy are often made in digital currency (electronic money). The growth of the digital economy affects the entire economy[11][13]. Attempts are being made to estimate the periods of impact of this sphere on traditional sectors of the economy[8]. For example, the Boston Consulting Group speaks of "four waves of change sweeping consumer goods and retail"[14]. Competition in all areas will grow and become more global as a result of the spread of the digital economy.

The opportunity provided by the digital space to anyone anywhere in the world to find and buy any product erases the boundaries of territories, levels national identity, blurs all possible barriers that in one way or another oppose one person to another, no matter what it is expressed in - be it linguistic, religious, racial distinctions, prejudices or hostility between peoples.

It can be assumed that the next-generation will cease to consider the purchase as a need to move somewhere in real space. The emptying of shopping malls, the reduction in the number of citizens rushing to markets and shops, and the reduction of the load on transport infrastructure are important consequences of cyber commerce, which entails a change in the urban environment.

The growth of the digital economy affects the entire economy. Attempts are being made to assess the periods of impact of this sphere on traditional sectors of the economy. For example, the Boston Consulting Group speaks of "four waves of change sweeping consumer goods and retail." Competition in all areas will grow and become more global as a result of the spread of the digital economy.

Currently, due to the lack of sufficiently well-developed theoretical provisions, methodological elements and scientific and practical recommendations, there are certain difficulties in the formation of a general concept of digital transformation of the economy of the industrial sector based on innovative approaches to forecasting socio-economic development. Theorists and practitioners have different ideas about the concepts of "digital economy", "digital transformation of the economy", which sometimes makes it difficult to determine the directions of application of these definitions. The functions of the state and industrial enterprises that arise in the context of digital transformation, shape their behavior, and ensure the introduction of new technologies are not clear. There is no unity of views on the formation of a model of the innovative environment of an industrial enterprise, which today acts as a driver of digital transformation. There is no single conceptual approach to the introduction of innovative mechanisms for the development of economic systems, the principles of building and developing the digital transformation of the economy are not structured, which complicates the development of industrial enterprises in the digital environment.

"The digital economy refers to a wide range of economic activities that include the use of digital information and knowledge as a key factor of production" is a quote from the outcome document of the G20 Program for Development and Cooperation in the Field of Digital Economy.

Thus, the above problems in scientific research and practical activities allow us to talk about theoretical and practical interest in building the concept of digital transformation of the economy based on innovative approaches and forecasting socio-economic development.

The sphere of scientific activity, covering problems of fundamental and applied nature in the digital transformation of the economy, is a relatively new direction for domestic scientists. Therefore, to understand the topical issues of the topic under study, the author used the works of a scientific nature of foreign theorists and practitioners: S. Arvanitis, H. Hollenstein, S. Lenz, K. Davis, T. Hogarth, L. Gambina, Z. Breuer, R. Garrett, P. Evans, A. Gaver, K. Kelly, R.D. Shalmo, K.A. Williams, M. Skilton, D. Tapscott and others.

The key factors of economic activity in the digital economy are electronic technologies and services, as well as digitally presented voluminous, diversified data, the processing and analysis of which allows, in comparison with traditional forms of management, to significantly increase efficiency and quality in the production and consumption of goods, works and services, as well as in management procedures.

Digitalization is actively penetrating into all sectors of the economy. But some of the most notable changes are happening now in industry. As a result, the term Industry 4.0 (in a broad sense) appeared, which means a new level of development of automation of production and logistics networks. Industry 4.0 implies fully automated production, controlled by intelligent systems in real time and in constant interaction with the external environment, not limited to a single enterprise.

The spread of digital technologies in industry will increase its competitiveness in the world market and ensure the long-term growth of the national economy. As stated by the First Deputy Prime Minister of the Russian Federation I.I. Shuvalov at the parliamentary hearings held on February 20, 2018, digital opportunities will become the basis for high rates of economic growth and a new structure of the economy.

The pace of digital transformation is highly dependent on the level of the economy, which generates a digital divide. According to the Harvard Business Review, the leading countries that have a highly developed digital economy and powerful development dynamics are the United Kingdom, the United Arab Emirates, Malaysia, etc. The United States, Germany, Finland, and Canada also have a developed digital economy. Russia is included in the group of countries with a low level of digitalization, but rapidly developing.

The development of the digital economy is constrained by a number of reasons. The main ones are: inconsistency of actions of numerous authorized institutions, irrational and inefficient allocation of budget funds, non-transparent and inappropriate financing, lack of qualified personnel [3], not quite favorable environment for doing business and transferring innovations to production, a regulatory framework that does not meet modern requirements, and a low level of use of digital technologies in business.

The value of the digital form of interaction is constantly growing across all industries – its importance is undeniable for IT companies, industrial enterprises, logistics and marketing, as well as for the continuous development of products and services. It should also be noted the growth of digital partnerships, which allow you to quickly create and launch new products, responding to changing market needs.

Thus, we note that digital transformation is changing the face of the economy and is the basis for high rates of economic growth. Now Russia is noticeably lagging behind many developed countries in terms of the pace of digital transformation of industry. At the same time, Russia has excellent opportunities to become a leader, relying on the existing technological and intellectual potential. It can be concluded that one of the main reasons for the lag is the lack of investment resources; regulatory framework that does not meet modern requirements; "digital divide"; Improvement of the state investment policy aimed at attracting funds for the modernization of industrial equipment and automation of business processes would allow the Russian industry to reduce the technical gap. It is also necessary to create a favorable regulatory environment: the legislative framework of the digital economy and the system of legal regulation of the institutions of the digital economy. In addition, it is necessary to increase the volume of public funding for R&D in the field of digital industrial technologies and to assist in the testing and implementation of innovative developments.

Digital platforms rely on "deep learning" to extend the capabilities of their algorithm. The human-centered content labeling industry is constantly growing as companies seek to use data to train artificial intelligence. This practice has raised concerns about the low incomes and health problems of these independent workers. For example, digital companies like Facebook or YouTube use "content monitors" — contractors who work as external monitors hired by a subcontractor of a professional service company — to monitor social media to remove any inappropriate content. Thus, the work consists of observing and listening to disturbing messages that can be violent or sexual. In January 2020, through their services subcontract, Facebook and YouTube asked "content moderators" to sign disclosures about PTSD (post-traumatic stress disorder) following alleged cases of mental disorders seen in workers

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