

**A GLOBAL APPROACH TO ASSESSING COMPETITIVENESS
DIGITAL ECONOMY**

Annotation: The author examines the features of a competitive digital economy (re-industrialization of the economy), as well as the requirements for it. A separate aspect is considered by the cognitive technologies of the innovative ecosystem, which are an integral part of a competitive digital economy.

Key words: artificial intelligence, digital economy, cognitive technologies, information and telecommunication infrastructure, innovation ecosystem.

As noted in the Decree of the President of the Republic of Uzbekistan "On the Development of Artificial Intelligence in the Republic of Uzbekistan" (together with the "National Strategy for the Development of Artificial Intelligence for the Period up to 2030") [8], the goals of the development of artificial intelligence in the Republic of Uzbekistan are to ensure the growth of well-being and the quality of life of its population, ensuring national security and law and order, achieving sustainable competitiveness of the Russian economy, including leading positions in the world in the field of artificial intelligence.

It is immediately necessary to define artificial intelligence.

Artificial intelligence is a complex of technological solutions that allows you to simulate human cognitive functions (including self-learning and search for solutions without a predetermined algorithm) and to obtain, when performing specific tasks, results comparable, at least, to the results of human intellectual activity. The complex of technological solutions includes information and communication infrastructure, software (including which uses machine learning

methods), processes and services for data processing and search for solutions (Decree of the President of the Republic of Uzbekistan).

For the successful implementation of measures and ensure economic growth, conditions must be created for effective interaction between the state, organizations, including scientific organizations, and citizens in the development of artificial intelligence, which will allow Uzbek artificial intelligence technologies to take a significant share of the world market.

Among other basic principles for the development and use of artificial intelligence technologies lies technological sovereignty: ensuring the necessary level of independence of the Republic of Uzbekistan in the field of artificial intelligence, including through the predominant use of domestic artificial intelligence technologies and technological solutions developed on the basis of artificial intelligence.

In another Presidential Decree "On the National Security Strategy of the Republic of Uzbekistan" [6], a provision is formulated that in order to solve the problems of national security in the field of science, technology and education, the following are necessary: the development of promising high technologies (genetic engineering, robotics, biological, information and communication, cognitive technologies, nanotechnology, nature-like convergent technologies).

In accordance with the Strategy for the Development of the Information Society in the Republic of Uzbekistan for 2017 - 2030 [7], information and communication technologies have become part of modern management systems in all sectors of the economy, public administration, national defense, state security and law enforcement. The development of technologies for collecting and analyzing data, exchanging them, managing production processes is carried out on the basis of the introduction of cognitive technologies, their convergence with nano and biotechnologies. A significant increase in the volume of data, sources and means of distribution of which are industrial and social objects, various electronic devices, leads to the formation of new technologies. The widespread

use of such technologies contributes to the development of a new stage of the economy - the digital economy and the formation of its ecosystem

In other words, in order to ensure the efficiency of the digital economy, the introduction of cognitive technologies (including data processing) comes to the fore, which will reduce costs in the production of goods and the provision of services.

Modern trends in the development of the global economy, formed under the influence of the search for new growth points, presuppose the expansion of the application of the achievements of scientific and technological progress in the industry of industrial production. In the economic policy of developed countries, the role of the real sector of the economy is increasing as the basis for new economic growth. Leading countries that are leaders in innovative development stimulate the reconstruction of the high-tech industry sector within national economies and significantly reduce the export of technologies and high-tech industries to developing countries. The process of forming a modern industrial base based on the integration of research centers (primarily in the field of convergent and cognitive technologies) and industrial production has been called "reindustrialization of the economy."

The new digital revolution is reshaping today's ways of manufacturing, supply chains and value chains. Industry 4.0, one of the drivers of the digital transformation of industry, is a production organization concept where added value is provided through the integration of physical objects, processes and digital technologies, in which physical processes are monitored in real time, decentralized decisions are made, and interaction takes place between machines themselves and people. End-to-end digitalization of all physical assets and their integration creates the basis for the transition from mass production to mass customization, increasing production flexibility, reducing the time to master new products, which allows implementing new business models and adopting an

individualized approach to working with customers. All this greatly increases the efficiency and competitiveness of industrial enterprises.

Data quickly flows into products: information - need - innovation - production. Total digitalization is taking place.

The production of the future is not “cutting out”, but creation and growing (3D-printing from composites or atomic dust) (Apple, Alcoa).

An increase in the importance of innovation and modernization as basic instruments of economic development while reducing the influence of many traditional growth factors (depletion of the potential of the resource model of economic development based on pre-industrial sectors and low cost of production factors: labor, fuel, electricity)

In other words, we are talking about the consolidation of the fifth technological order (leadership of information technologies) with the transition to the development of the sixth (leadership of nano and biotechnologies), and subsequently the seventh technological order (leadership of cognitive technologies).

Today, the information and telecommunications infrastructure (hereinafter - ICT) is coming to the fore, which is becoming the most important element of economic development. It is impossible to consolidate the state in the world economic and information space without modern accessible telecommunication infrastructure. ICT accessibility is the foundation for building a digital economy.

Digital transformation is driving the emergence of new business models, including so-called proactive data-driven services. The more service providers know about their customers, the more personalized offerings they can create, delivering services that best meet customer needs and even anticipate needs that customers themselves may not yet know about. This will allow providing services to citizens and entrepreneurs, anticipating the need for a particular service, based on the analysis of transactions.

In modern society, digital information on spatial data has become an important strategic resource of public administration and has become the key to its sustainable socio - economic development. The country has accumulated a large amount of data obtained as a result of the production activities of various enterprises. However, the large volume and lack of structuredness of the accumulated set of data create an information barrier, and sometimes impede the processes of information exchange and management based on this information. New market requirements for information about the area, and the development of information technology necessitate the search for new solutions. The way out of this situation is seen in the creation of conditions that provide consumers with access to spatial data in electronic form and their effective use.

I would like to draw your attention to the experience of using artificial intelligence technology (cognitive technologies) in Russian regions.

Over the past decade, the digital revolution has revolutionized the landscape of the healthcare system. All key segments of digital health, such as mobile medicine (mHealth), telemedicine, medical informatics, ultimately make it possible to accelerate the patient's recovery process, make the treatment process more efficient and cost-effective.

In particular, Artificial Intelligence (AI) technologies can find complex correlations between diseases and molecules, optimizing the research process, identifying the most suitable targets, and thus accelerating the process of creating new drugs. For example, companies such as Johnson & Johnson (USA) and Sanofi (France) use big data analytics technologies from IBM Watson in their research work. IBM Watson is also being used by hospitals and research centers (notably the New York City Genome Center) to find suitable therapies for cancer. AI technologies are used by pharmaceutical companies to control clinical trials, form marketing and pricing strategies.

The experience of IT companies providing cloud services (XaaS - "all as a service") allows to optimize the operational activities of pharmaceutical companies - from the research process to marketing and promotion [3].

In conclusion, it should be noted that the development of globalization will lead to the creation of a completely new economic situation, the knowledge economy, where the increasing role of highly qualified workers and intellectual services will become a factor in the success of any business.

Research and development are gaining decisive importance, which requires the creation of a research and development management system in the field of the digital economy. Mobile technologies have significantly changed global business models. In 2017, the digital revolution entered a decisive phase - every second inhabitant of the Earth connected to the information and telecommunication network. According to the McKinsey Global Institute (MGI), in the next 20 years, up to 50 percent of the world's work operations can be automated, and the scale of this process will be comparable to the industrial revolution of the 18th-19th centuries [2].

The era of a new industrial revolution associated with the development of cognitive technologies (and the creation of an innovative ecosystem) will lead to cheaper production. Megatrend - the development of Big Data and P2P technologies will lead to the individualization of the service sector and the "capitalization of reputation". The proliferation of autonomous compact life support systems will make life in the North more comfortable. An essential part of services in the field of entertainment, as well as education and in many other areas will be provided remotely and virtually. It is quite possible to create a constellation of satellites or drones capable of providing high-speed access to global information networks from anywhere in the world.

The development of NBIC technologies will lead to significant positive shifts in the quality of human life (a decrease in morbidity, an increase in life expectancy at birth, an increase in leisure time, automation of manual low-skilled

labor, and so on). The introduction of an intelligent information processing system and the formation of possible recommendations for making medical decisions (using processing methods and artificial intelligence systems) will reduce the percentage of medical errors. In addition, the synthesis of nano-, bio-, info- and cognitive technologies will help solve many of the problems facing humanity today.

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