



## THE IMPORTANCE OF DIGITAL TECHNOLOGIES IN SOLVING ECONOMIC ISSUES

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### Abstract

This article examines the importance of digital technologies in solving economic issues, and also discusses various definitions and content of the concept of "digital economy". Opportunities and risks posed by the digitalization of the economy are discussed.

**Keywords:** digital economy, digitalization, digital technologies, digital transformation, economic issues.

To date, the number of publications on the topic "digital economy" only in the Russian and Uzbek segments of the Internet is several tens of millions. Including foreign sources, the flow of materials becomes simply boundless, and it presents a variety of points of view and opinions. Attempts to structure the available information allow us to divide it into two areas: factual data about the phenomenon itself ("digital economy" or empirical information) and scientific (popular science) research devoted to this phenomenon ("digital economics").

Of course, digital economics is directly based on the digital economy, but the development of the latter also depends on developments digital economics. We cannot fully agree with the statement that "the development of any sector of the economy depends little on the word used to designate it in scientific and not only scientific publications or official documents", since "definitions are not very necessary if we are dealing with reality, but not with logical constructions or mathematical models" [5]. Of course, it is not the word itself that matters. But it is necessary that everyone clearly and unambiguously understand what it means. Constructive human activity is, in principle, a conscious and even largely planned process in which knowledge and coordination of actions play an important role. A lot depends on the consistency of ideas about the surrounding reality, especially when it comes to a new phenomenon. This question belongs to the field of philosophy. And the answer to it is determined by the ideological positions of the authors. In our opinion, it is impossible to build any models and forecasts without studying the phenomenon itself. But purposeful human actions (in accordance with the developed models, forecasts and plans) change or influence the course of real processes to varying degrees. Therefore, in our opinion, we should start with a discussion of the concept of "digital economy".





The far from complete list given in [3] includes the following definitions of the “digital economy”:

- "A system of economic, social and cultural relations based on the use of digital information and communication technologies";
- "An economy that mainly operates due to digital technologies, especially electronic transactions carried out using the internet";
- "Doing business in markets based on the internet and / or the world wide web";
- "Digital marketplaces that facilitate the trading of goods and services through online e-commerce";
- "An economy capable of providing high-quality ict infrastructure and mobilizing ict capabilities for the benefit of consumers, business and the state";
- "A global network of economic and social activities supported by platforms such as the internet and mobile and sensor networks";
- "Production of digital equipment, publishing, media production and programming."

As can be seen from the above examples, ideas about the digital economy range from very narrow to extremely broad.

In a narrow sense, the digital economy is presented as a kind of commercial activity for the production and sale of electronic goods and services. Accordingly, it includes, firstly, electronic commerce, electronic banking and electronic money. Secondly, services for the provision of online services; information sites that earn on advertising; Internet media (sound recording, cinema, press, publishing); creation of entertainment and business software. Thirdly, the production of appropriate equipment and other supporting activities. This is how the digital economy appears from the definitions adopted in the UK.

The definition of the World Bank, on the contrary, gives a too broad, in our opinion, vision of the digital economy. It is possible that in this case it is more correct to talk about the development of the digitalization process (digitalization or digitalization, depending on the translation) or the digital transformation of society. After all, new ICTs are penetrating all public spheres, and the ongoing changes are in many ways similar to the transformations that took place at the beginning of the XX century in connection with the process of electrification.

At the same time, we can talk about two parallel (albeit interconnected) directions of transformation. The first is more social and is expressed in the formation of a new social environment through the development of new ways of communication and constructions of the virtual world - the so-called Internet of people (IoP - Internet of people). This process includes digitalization of scientific and cultural heritage (creation of electronic libraries, museums and publications); holding public events



online (online broadcasts, web conferences, etc.), and finally, the electronic state. By connecting to the Internet, today you can get information on almost any issue or contact / communicate with a partner, almost regardless of his / your location. Never before has an individual had access to such volumes of information and such wide opportunities for communication.

The second direction of transformation captures mainly the economic sphere and consists in the emergence of new types of activities, as well as in the digitalization of traditional industries. Some experts associate this (next) "wave" of ICT introduction with the formation of a new technological order - Industry 4.0 or the fourth industrial revolution [4]. Industry 4.0 is based on the production of ICT-enabled equipment and associated software. In this regard, the priority is the development of microelectronics and programming (software), as well as various networks (primarily broadband Internet).

The official definition of the digital economy in Uzbekistan in the Strategy for the Development of the Information Society for 2017-2030 is formulated as "economic activity in which digital data is the key production factor, the processing of large volumes and the use of analysis results of which, compared with traditional forms of management, can significantly increase efficiency various types of production, technologies, equipment, storage, sale, delivery of goods and services" [1]. What directly constitutes the digital economy is difficult to understand from this definition. The formation of a new type of economy is accompanied by structural and organizational changes: the "scattering" of large companies into services using digital technologies, as well as the emergence and spread of new virtual, electronic business models [4]. The latter phenomenon is reflected in the platform concept.

The platform concept of the digital economy has been developed and is being implemented so far mainly in the trade and logistics segment. Its essence is to provide businesses and the public with a specific service for coordinating the activities of various market participants. At the same time, platforms can serve transaction participants without any geographical restrictions, almost all over the planet. Examples of digital platforms are Uber, Airbnb, Amazon.com, Alibaba, etc.

Today, various digital platforms are combined into interconnected "ecosystems" based on the exchange of data. On the agenda are the creation and launch of new generation digital platforms covering a huge number of different markets and enterprises [2].

Currently, the most developed sector of the digital economy is e-commerce. It is no coincidence that they are often identified. However, the digital economy is much



broader. At the same time, the introduction of digital technologies can significantly improve the industry - both organizationally and technologically.

At present, high hopes are associated with the fact that the introduction of new ICTs will improve technological processes and improve product quality, optimize the organization in various fields of activity, and finally contribute to improving the health and quality of life of people. The World Bank World Development Report 2021 lists the following dividends from digital transformation [2]:

- Growth of labor productivity;
- Increasing the competitiveness of companies;
- Reduction of production costs;
- Creation of new jobs;
- Better satisfaction of people's needs;
- Overcoming poverty and social inequality.

Thus, new technologies benefit businesses, individuals and society as a whole. However, the negative consequences of digital transformation are already obvious. What's more, without effective "analogue augmentations," opportunities can turn into problems, the World Bank warns. They consider the main "analogue additions" to the digitalization process to be the regulatory framework that ensures a high level of competition; population skills to use new technology; accountable institutions [3].

The World Bank in its report highlights the following digitalization risks [5]:

- Cyber danger;
- The possibility of mass unemployment;
- The growth of the "digital divide" (a gap in digital education, in terms of access to digital services and products, and as a result - a gap in the level of well-being) between citizens and businesses within countries, as well as between countries.

Experts also note that due to the spread of new ICT, the time for making decisions is reduced, so the number of erroneous decisions may increase. Implementation requires mass standardization, and this leads to excessive homogeneity. A handful of powerful companies can gain an unnatural competitive advantage. In addition, there are opportunities for total surveillance, and people may lose the ability to interpersonal communication. Finally, the unfolding "robot wars" cast doubt on the existing laws of military operations [4].

To this list, in our opinion, should be added the growth in electricity consumption and the aggravation of all the negative phenomena associated with it.

One of the successful representatives of the American Internet community, A. Keen, sees the danger of digitalization in job cuts and deindustrialization, the growth of social instability and deepening social inequality, the global epidemic of Internet



piracy and copyright infringement. As examples, he cites the current state of Detroit (the former capital of the US auto industry) and Rochester (formerly the prosperous capital of the Kodak Corporation). The specialist believes that a new class is being formed - pre-cariat. It is characterized by stable temporary or part-time employment, weak social protection and unstable earnings [3].

It seems that in the conditions of a super-technological society, ensuring the personal safety of a person comes first. For example, there are concerns about the adverse effects of wireless communications and mobile devices on human health.

Experts state that the level of digital trust is a key condition for the development of the global digital economy [1]. For its growth to continue, providers and authorities must make digital security a priority.

In addition, digitalization should not be perceived only as an organizational, technical or financial activity. One cannot but agree with the opinion that this is a complex process that largely affects the personnel sphere. The changes will affect hundreds of millions of jobs. The bulk of the teams will have to be taught new skills, which translates into additional costs for educational programs. As practice shows, not only blue-collar workers, but also knowledge workers can suffer. According to estimates, in the next 10 years, new technologies will radically change the labor market on the planet [6].

The main problem of digital transformation is the need for mass training and retraining of people, comparable in scale to the changes in the era of industrialization. And as in that period, the issue of personnel is decisive, and the main limiting condition is time. The global leaders will be those countries that will be able to quickly organize the training of people who are able to develop, produce and use digital technology.

At the same time, quite a lot of specialists are very skeptical about the concept of the digital economy and the prospects for its development.

Others see in the concept of "digital economy" a concrete embodiment of the armchair, semi-utopian idea of "post-industrial society" and consider it "a new round of the stock market speculative game" [7].

It seems that such positions are due precisely to the lack of scientific knowledge about the ongoing processes and their relationship. A more balanced view is that the digitalization of the economy is not a recipe for all ills and a "well-developed" digital segment is just support for the economy as such. When the effect of digitalization ends (and this inevitably happens), the activation of the analog economy is indispensable. Moreover, digital technologies do not work without adjusting the relationship between the subjects of the economy and management in general [6]. Digital change



not only involves a host of technological innovations and organizational transformations, but also fundamentally changes corporate culture. Finally, the development of the digital economy largely depends on the ongoing state policy. This is recognized at the international level, and is also realized (and implemented) in many countries of the world.

However, the implementation of a conscious and successful policy requires the solution of a number of complex theoretical problems associated with the phenomenon of the digital economy. First of all, concerning its definition and measurement. As experts rightly point out, the methodology for assessing the macroeconomic effect of the digital economy raises serious doubts. In fact, the calculations are based on the indicators of companies that are engaged in the development, production and trade of ICT, i.e. the share of the ICT sector is calculated (development and production of software and hardware for computers, cellular communication services, the Internet, etc.). And this sector develops only the technical means used by companies in other industries for operations in the field of e-commerce, e-banking, etc. There is still no universal and reliable method for calculating the added value created by all participants in digital economic activity [7]. Specialists emphasize the specificity of the problems of pricing and capitalization of platform companies. With the digitalization of the economy, there are more and more types of businesses and processes with increasing returns to scale, and not with decreasing returns, as in the old sectors of the real economy and traditional economic models [5]. To date, the problem of cost has not been completely resolved, since for the first time the economy and labor are moving from the processing of materials due to certain energy capabilities and technologies to the processing of information [6]. Determining the value of different types of information is becoming one of the main issues of economic science.

The digital transformation of society, taking place under the influence of the spread of ICT, leads to the emergence of new theoretical concepts. If at the end of the XX century talked about building a post-industrial society, at the beginning of the XXI century. - about the transition to a knowledge society, now - about the new industrialization and the digital economy. But none of these constructions is free from shortcomings and gaps, justified criticisms. Moreover, the ratio of the put forward provisions is not clear - they develop, supplement or exclude each other.

Theoretical and practical aspects of the digital economy are proposed to be developed based on the use of an interdisciplinary method of scientific research, in particular at the intersection of economic philosophy, economic theory, and applied mathematics, together with specialists in the field of computer science. But to create an adequate



theory, you need to study the phenomenon itself more. So far, obviously, there is a process of quantitative accumulation of data, and the flow of information is huge. Of course, it requires a deeper understanding and structuring. The insufficient level of modern scientific knowledge prevents the development of optimal solutions (strategies and programs) that would neutralize the negative effects and contribute to the full manifestation of the positive consequences of the digitalization process.

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