

DIGITAL ECONOMY AND APPROACHES TO ITS FORMATION

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Annotation

The article examines approaches to its formation of the digital economy and the introduction of ICT in the world. And the stages of development which are the main driving force of the information economy are not the production and consumption of material goods, but the production and consumption of information in embodied form.

Key words

ICT, digital economy, approaches, stages of development, creative economy.

The introduction of ICT increases the value of connections between economic entities, sharply increases flexibility and reduces the cost of transactions, as a result of which the ratio of the importance of production factors changes: if in the past the main factors of production were labor, land and capital, then in the modern economy knowledge in a broad sense is becoming a fundamental resource (data, information, symbols, culture, ideology and values).

It seems that the information economy, the Internet, the network economy, and the new economy reflect only individual processes that led to a more general concept - the digital economy. It is legitimate to clarify the categorical apparatus and consider the relationships between these concepts.

Under **the information economy**, from the point of view of Russian academician V.L. Makarov understands, firstly, an economy in which the majority of GDP is provided by the activities of production, processing, storage and dissemination of information and knowledge and more than half of those employed are involved in these activities, and secondly, a concept characteristic of those forecasts of the future information societies in which the emphasis is placed on the leading role of electronic information and technical means of communication in the development of all major spheres of the economy ⁶⁵. The definition of the information economy by M.A. Nikitenkova reads: "The information economy is a stage in the development of productive forces, characterized by an increasing role

⁶⁵Makarov, V.L. Directory of economic tools / V.L. Makarov, N.E. Khristolubova, E.G. Yakovenko. – M.: Economics, 2003. – 17 p.

of information and knowledge in the life of society, an increasing share of information and communication technologies, information products and services in GDP, the creation of a global information space, ensuring effective information interaction between people, their access to global information resources and the satisfaction of their social and personal needs for information products and services⁶⁶. ”

The main driving force of the information economy is not the production and consumption of material goods, but the production and consumption of information both in embodied form (high-tech products) and intangible, becoming as a result not only a fundamental factor in the development of the economy, but also of society as a whole. Note that the term information economics was first voiced back in 1976 by M. Porat, an employee of the Stanford Center for Interdisciplinary Research, and became widespread after its release in 1996-1998. M. Castells' famous book "The Information Age: Economy, Society and Culture", in which he wrote that the productivity and competitiveness of factors or agents (be it an individual, a company or a national economy) depend, first of all, on their ability to generate, process and effectively use knowledge-based information⁶⁷. The concept of information economy is widely used by scientists (F. Machlup, M. Porat, G. Schiller), who absolutize the role of information and refer education, law, publishing, media, advertising to information products. This term is used within the framework of the labor approach by D. Bell and P. Drucker, who believe that society is partly determined by the dominant type of labor, and that we are approaching the stage when the majority of those employed will work in the information sphere.

The information economy is gradually transforming into a knowledge-based economy, in which the main product of the economy is no longer information itself, but knowledge. In this regard, the most valuable are not those employees who have access to information, but employees who have a certain set of knowledge⁶⁸. This is how a new concept arose: "knowledge-based economy" or "knowledge economy" (co-author of the term - F. Mahlup, 1962), which creates, distributes and uses knowledge to ensure its growth and competitiveness. This is an economy in which knowledge enriches all industries, all sectors and all participants in economic

⁶⁶Nikitenkova, M.A. Information structure of the USA: state and market / M.A. Nikitenkova; RAS. Int USA and Canada. – M.: Academia, 2009. – 52 p.

⁶⁷Castells, M. Information era: economics, society and culture / M. Castells. – M.: State University Higher School of Economics, 2000. – 8 1 p.

⁶⁸Tufetulov, A.M. Information economy and information society / A.M. Tufetulov // Current problems of economics and law." – 2007. – No. 3. – P. 44 .

processes. This is at the same time an economy that not only uses knowledge in a diverse form, but also creates it in the form of high-tech products, highly qualified services, scientific products and education ⁶⁹.

Close to the concept of the knowledge economy is the less used concept of “**creative economy**” - an economy based on intellectual activity, its main characteristics are: the high role of new technologies and discoveries in various fields of human activity; high degree of uncertainty; a large amount of existing knowledge and an urgent need to generate new knowledge ⁷⁰. J. Schumpeter is called the father of the theory of creative economics. The creative economy is based on intellectual activity and is characterized by the growth of creative values in society through the development of creativity and conditions favorable to it. The joint UNDP and UNESCO Report noted that the structure of the creative economy is significantly different from the structure of the economy of an industrial society; its scope includes the development of audiovisual processes, advertising, design, architecture, decorative arts, fashion, new media, performing arts, publishing, art reproduction, etc. These industries are seen as fast growing sectors and important sources of income that contribute enormously to the expansion of the employment market and contribute to the growth of export earnings ⁷¹. The result of the development of these industries is the consolidation and increase at the national level of copyrights, patents, trademarks, etc.

The creative economy is distinguished by continuous innovative development, reliance on human capital, investment in new technologies and design developments, high knowledge-intensity of production, the predominant share of knowledge-intensive products in countries' GDP, high competitiveness, specialization and coordination of economic entities, complex production of an intersectoral nature, high level of education and professional training of industry workers, and finally, legal protection of intellectual capital. Creative industries can be interpreted as a special type of socio-cultural practices, where the main integrating dominant is the creative component ⁷².

⁶⁹Machlup, F. The Production and Distribution of Knowledge in the United States. / F. Machlup. – NJ: Princeton University Press, 1962. – 416 p.

⁷⁰Makhankov, N.G. Creative economy / N.G. Makhankov, M.A. Drozdov, N.D. Korsukova // Current problems of aviation and astronautics. – 2015. – T. 2, No. 11. – P. 585-586.

⁷¹Creative economy - the engine and catalyst of sustainable development / UN News Center // Official website of the UN [Electronic resource]. – Access mode: <https://news.un.org/ru/story/2013/11/1232591>

⁷²Lokalov, A.A. Innovative economics and new economics: the relationship between processes and concepts / A.A. Lokalov // Bulletin of Saratov State Socio-Economic University. – 2013. – No. 1(45). – P. 12 9 .

With the widespread use of new communication networks, primarily the Internet, new concepts of “Internet economy” and “network economy” have emerged.

Under **the Internet Economy** E.V. Krasilnikova understands “... any economic activity that is based on specific economic relations between people in the sphere of creation, distribution, exchange and consumption of information resources (products) using the global Internet ⁷³. ” The Internet economy is a set of economic activities carried out on the basis of the Internet (electronic business, or e-business), and a set of economic relations that develop on the Internet between households, entrepreneurs and government agencies. From this point of view, it is more appropriate to call the Internet economy “an economy associated with the production and distribution of network goods ⁷⁴. ” It is clear that the networked nature of the production and dissemination of knowledge is the most important, but not the only characteristic of the modern global economy.

Factors in the development of the Internet economy include: the development of electronic commerce, ICT innovation, the development of the infrastructure of international transactions and ensuring their security, the availability of the necessary technological, financial and social infrastructure.

M. Castells, already quoted, wrote: “ **A network economy** is an economy capable of operating as a single system in real time on a planetary scale ⁷⁵. ”

E.V. Makarenkova believes that the network economy is “the application of modern information technologies in business, namely an environment in which any company or person located at any point in the economic system can contact easily and at minimal cost with any other company or person to work together, to trade, to exchange data, or just for fun ⁷⁶. ” The definition proposed by S. Dyatlov also seems meaningful, who understands the network economy as a global network multi-level structure of relationships between economic agents via the Internet and other telecommunications means, developing in accordance with its specific goals and efficiency criteria ⁷⁷.

⁷³Krasilnikova, E.V. Systemic features of the Internet economy / E.V. Krasilnikova // News of Saratov University. Series: Economics. Control. Right. – 2011. – T. 11, No. 1. – P. 33.

⁷⁴Strelets, I.A. Network economics: textbook / I.A. Sagittarius. – M.: Eksmo, 2006. – 12 p.

⁷⁵Castells, M. Information era: economics, society and culture / M. Castells. – M.: State University Higher School of Economics, 2000. – 608 p.

⁷⁶Makarenkova, E.V. Network economics: textbook / E.V. Makarenkova. – M.: Publishing house. Center of the Eurasian Open Institute, 2011. – 10 p.

⁷⁷Dyatlov, S.A. Information-network economy: methodology, classification, monitoring / S.A. Dyatlov // Information and network economy in the XXI century: materials of the First Eurasian Student. scientific Internet - conf.; edited by prof. S.A. Dyatlova, prof. V.P. Kolesova, A.V. Tolstopyatenko. – M.: Publishing house Mosk. University, 2001. 89 pages

The rapid development of communication capabilities has expanded the capabilities of business processes. With the network organization of business, traditional hierarchical organizational structures have been replaced by more flexible ones - network ones, and the organization of large companies increasingly resembles a network of production and other processes scattered throughout the world. As B. Gates said: "If information about production systems, product problems, customer crises, and other important business news flows from one end of the organization to the other in a matter of minutes, rather than crawling for days, if executives can spend It takes hours instead of days to resolve issues, the benefits for business are huge. This current restructuring of processes is the most fundamental change in the economy since the transition to mass production." In the network economy, the invisible hand of the market seems to be set in motion with the help of Internet signals: databases of consumers and their preferences, new forms of pricing in electronic auctions, which have shown that the equilibrium price is determined not only by supply and demand, but also by the auction model (Nobel laureate W. Smith).

The increase in the rate of electronization of public and state systems, the expansion of intermediate consumption of ICT products by all sectors of the economy led to the emergence of the term " **electronic economy** " as a set of economic relations in the field of production, distribution, exchange and final consumption of material assets with varying degrees of electronic information component, formed and implemented in the ICT environment with the aim of reproducing capital and improving the quality of life. According to T.N. Belyatskaya, this is "an evolutionary stage of development of an economic system (following the traditional and industrial), the main growth factor of which is the convergence of ICT and other industry technologies, giving rise to a new branch of the economy - electronic business ⁷⁸. "

Scientists who propose the term "electronic economy" absolutize the meaning of the processes of electronic commerce, electronic marketing, electronic payments, electronic government, in which the word "electronic" can be replaced with "Internet" or "digital" without loss of meaning. At the same time, there is a difference: the adjective "electronic" refers to a material carrier of information (which, by the way, can be both optical and quantum), and "digital" refers to the form of information presentation.

The electronic economy is characterized by:

⁷⁸Belyatskaya, T. Management of the electronic economy / T. Belyatskaya // Science and Innovation. – 2018. – T. 5, No. 183. – P. 4 9

- increasing autonomy (from a person as a subject of management) of the management mechanism, namely the desire to expand the robotization of the management process (including decision making) of the economy;
- the type of additional resource consumed (data, intellectual resource, telecommunications network and IT resource);
- constant changes in the rules and technologies of the system.

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