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ROLE OF INFORMATION TECHNOLOGIES IN THE DIGITAL ECONOMY COMMUNITY

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Abstract: *The relevance of the research is based on the fact that information and communication technology is currently the foundation for knowledge economy development. We consider the main directions of organizational and economic development in the transition to post-industrial society. The role of information technology in digital economy development is revealed. We describe measures to increase the rate of economic growth and innovation development of the society on the basis of implementing information technology.*

Keywords: *innovations, knowledge economy, digital economy, information systems, information technology infrastructure, information and communication technology.*

РОЛЬ ИНФОРМАЦИОННЫХ ТЕХНОЛОГИЙ В ОБЩЕСТВЕ ЦИФРОВОЙ ЭКОНОМИКИ

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Аннотация: *Актуальность статьи обусловлена тем, что информационно-коммуникационные технологии в настоящее время являются важной основой развития экономики знаний. В статье*

рассматриваются основные направления организационно-экономического развития в период перехода к постиндустриальному обществу. Раскрывается роль информационных технологий в становлении цифровой экономики. Автор статьи описывает меры по повышению темпов экономического роста и инновационного развития общества на основе внедрения информационных технологий.

Ключевые слова: *инновации, экономика знаний, цифровая экономика, информационные системы, инфраструктура информационных технологий, информационно-коммуникационные технологии.*

The transition to a post-industrial society has allowed information and communication technologies to become one of the main components of the development of the digital economy based on knowledge. The dynamic growth of the technical and economic characteristics of high-tech innovative products contributes to a significant increase in computing power and intellectual potential of products, a rapid change in outdated standards and technological platforms of information and communication systems and networks [1]. At the same time, the operation of ultra-high-speed networks, mobile devices and information systems is aimed at improving the quality of multimedia content and a wide range of services provided to the population.

At present, global innovation networks are acquiring a special role, which make it possible to manage all stages of the life cycle of new types of products and services provided. The intensification of demand for new and modified types of high-tech products and services is associated with both the accelerated development of information and communication technologies and their rapid obsolescence, which, as a result, leads to a reduction in the life cycle, and to the replacement of some technologies by others.

The proliferation of cloud technologies, the exponential growth of data volumes, significant changes in the architecture and methods of organizing computing systems, in our opinion, lead to a transformation of the business model

and infrastructure solutions in most industries, to the emergence of breakthrough innovations in the process of developing a strategy for the development of an enterprise and the digital economy in general [2].

The special role of information and communication technologies in the formation of the digital economy is due to such global challenges facing the Russian economy as:

- a fundamentally new transformation of information and communication technologies (ICT) markets in the context of a change in the technological structure of the national economy (nanotechnology, genetic engineering, NBIC - the convergence of nano-bio-, information and cognitive technologies);
- creation of new composite materials, development of photonics and optoinformatics, robotics and artificial intelligence, "Internet of things";
- strengthening control over information on the Internet;
- the growth of cybercrime and the widening gap between the requirements for information, economic security and personal freedom of the individual;
- an increase in the number of freelance developers;
- a change in the capacity of information technology markets and a slowdown in digitalization of the structural components of the national economy in the event of a lag in the development of new information and communication technologies.

In this regard, it should be noted that at present, the potential for the future development of information and communication technologies is significantly increasing on the basis of: the transition to the knowledge economy, which is one of the key factors in the development of the digital economy; transfer of centers for the creation of information and communication technologies and the production of new types of products and services to the eastern and southern regions of the country; development of electronic state and socially significant services for the population; cooperation of innovative business entities with universities, fab labs, technoparks, business incubators, which makes possible the emergence of radically

new types of products and services; development of e-business and the formation of new legislative and technological mechanisms for electronic transactions; optimization of costs in the development of infrastructure models of information technology [3].

The organizational and economic factor of strengthening the role of information and communication technologies in ensuring the effective functioning of the system of state and municipal government is currently one of the dominant conditions for the development of the digital economy in the country. In this case, a special role should be given to the development of the IT outsourcing market, mobile devices and applications in combination with the widespread use of social networking technologies and a developed cloud infrastructure used to solve complex analytical problems. Cloud solutions, big data, mobile and social technologies stimulate mutual development in these situations. In addition, user engagement on social media is increasing as mobile device usage increases. The content accumulated in them becomes an important source for analysis and information extraction using big data technologies.

Thanks to information and communication technologies, in our opinion, it becomes possible: improving the quality of life of people, providing a beneficial effect on social processes; changes in the nature and method of employment of the population; expanding the possibility of using information and communication technologies for environmental protection.

Scientific and technological studies carried out by a number of authors in the field of communication infrastructures indicate that the protection of computer data, software is implemented within the framework of new information systems on the basis of adherence to the principles of biometric identification, as well as through the implementation of content compatibility in heterogeneous networks, global identification information objects.

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