

A New Look at the System of Indicators for the Development of the Economy and Society in the Conditions of Changing the Coordinates of Future Harmonious Development

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Keywords: Digital economy, Sustainable development, Harmonious development, Stages of digital development, Evolution of indicators.

Abstract: The article substantiates the reasons for the modernization of the national and international system of statistical indicators of the digital development of the economy and the information society over the past twenty years, as well as changes in the place of the information and communication technology (ICT) development index, which has become the key parameters of most other international digital development indices. The concepts of sustainable and harmonious development, their components, the limitations and inconsistency of the essence of the concept of sustainable development in the new coordinates of global and planetary development are considered from the theoretical systemic positions. For the scientific substantiation of the evolution of the system of indicators of digital development of the economy and society, the criterion of identifying technological stages of digital development based on the formalization of time periods, which are characterized not only by new generations of equipment and technologies, but also the emergence of fundamentally new forms of organization of production, sale of goods and services, elements of production resources, forms of communication of producers and consumers, the population and public administration, defining the next qualitatively new stage in the technological development of the economy and society.


1 INTRODUCTION


Developing at an incredible speed, scientific and technological progress in the field of digital, nano- and other technologies, as well as quantum, satellite and mobile communication systems, as well as the Internet of Things, forces Russian and international organizations to revise the system of indicators and methodology of statistical research in order to more accurately reflect the state and development of the digital economy and information society.


The ongoing processes of widespread introduction of ICT are the technological basis of the movement of countries towards the information society, characterized by an increase in the role of information and knowledge in society, an increase in the share of infocommunication technologies, products and services in GDP, the formation of new

models, platforms, business ecosystems, which ensures effective information interaction of people and their free access to global information resources (T.A. Kuzovkova, L.S. Timoshenko, 2016).

In order to ensure effective public administration and determine the impact on the development of the economy and society, it is necessary to have an information base based on indicators of the state and development of the digital economy and information society (T.A. Kuzovkova, T.Yu. Salyutina, 2022). Due to the rapid development of technology, it is necessary to periodically review and update these indicators and statistical research methods so that they can more accurately reflect the current state and prospects for the development of the digital economy and information society. The main requirements for such indicators include reliability, adequacy, accessibility and comparability in different regions and countries.

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In the light of universal digitalization and constantly changing technological solutions, it is necessary to pay special attention to the issues of statistical observation in order to obtain accurate and comparable data reflecting digital development, the level of accessibility of information and communication infrastructure and the use of ICT in various spheres of life, including the business sector, government agencies, the social sphere, as well as the population and households (T.A. Kuzovkova, T.Y. Salutina, O.I. Sharavova, 2021). This will allow for effective monitoring of digitalization processes and making informed decisions in the field of public administration and economics.

Statistical tools need constant and rapid adaptation to fundamentally new phenomena in national and global economies associated with the processes of widespread informatization and the transition from the concept of sustainable development to a harmonious intellectual world.

2 EXISTING METHODS

Back in the 2000s, the UN Commission for the Development of Science and Technology, with the participation of the International Telecommunication Union (ITU), for the first time presented a system of indicators to assess the level and development of informatization in various countries of the world (Fig. 1) (T.A. Kuzovkova, T.Y. Salutina, O.I. Sharavova, 2019).

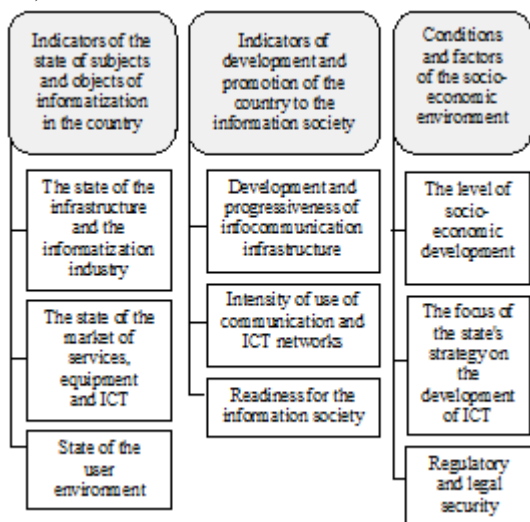


Figure 1: The enlarged system of indicators of the state and development of informatization and the movement of countries towards the information society.

In 2009, ITU identified the main indicators of access to ICT, in 2010, the International Partnership for Measuring ICT Indicators was engaged in assessing the extent of ICT use. In the period from 2011 to 2012, the Organization for Economic Cooperation and Development (OECD) and the Statistical Service of the European Union (Eurostat) developed a guide on measuring the information society. However, despite all efforts, the statistical assessment of ICT development was canceled in 2018 (fig. 2). This was not because the indicators were uninformative, inadequate or outdated, but because the assessment of the development of communication infrastructure and the intensity of ICT use began to be made in other indices at a more systematic level.

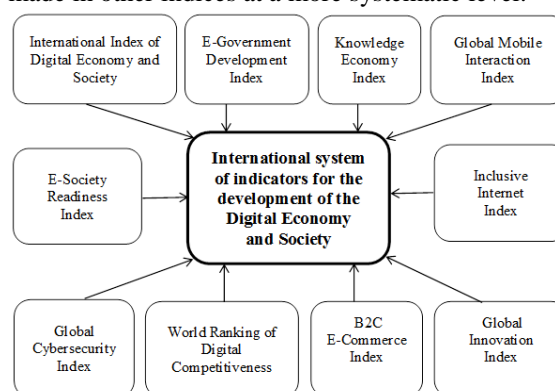


Figure 2: International system of indicators for the development of the digital economy and society (in 2019-2022).

The ICT sector as a system-forming and catalytic parameter and an integral component of the knowledge economy, sustainable and innovative development of the world economy in the international system of statistical measurement of digital development processes has occupied and occupies a key place. For more than 10 years, ITU has assessed the level of development of ICT infrastructure and the demand for ICT by the population, as well as the extent of the "digital divide" between developed and developing countries using the ICT Development Index (ICT Development Index) A composite index consisting of 11 indicators grouped into three sub-indices: access to ICT, use of ICT, skills (V.I. Yakovets, 1988).

At the same time, progress in the digital development of the economy and society has led to a real evolution of the place of this indicator, expressed in the fact that most of its parameters (components) have become present in other new composite indices (or sub-indices):

- the international index of digital economy and society reflects the contribution of such ICT components as the use of the Internet, the integration of digital technologies and digital public services;
- in the global competitiveness index – citizens' involvement in the use of e-government services, infrastructure accessibility, ICT penetration and digital skills of the population;
- in the global innovation index – ICT development (infrastructure, business development, technology and knowledge economy, creative activity);
- in the inclusive Internet index – availability, accessibility, relevance, readiness to use the Internet;
- in the global index of mobile interaction – ICT infrastructure;
- in the e-government development index - network infrastructure, public online services;
- in the Global Cybersecurity Index – the level of information security in the country.

The international system of indicators for the development of the digital economy and the movement towards the information society is characterized by constant, almost annual, modernization with the replacement of some indicators with others that are more significant for the whole world, allowing measuring various aspects of this process (technical, economic, social, infrastructural, etc.). Thus, the latest system of international indicators includes economic indices knowledge, inclusive Internet and B2C e-commerce (Fig. 2).

The new indicators demonstrate the depth of the use of Internet and ICT networks in the formation of the knowledge economy, life, e-commerce, e-government, e-commerce, inclusive Internet, etc., which are indicators of the development of the information society. Despite the widespread popularity and importance of the international ICT development index, its parameters focus mainly on the quantitative analysis of infrastructure development, such as the number of communication lines, the density of users of various types of communication, the level of access to broadband Internet and the level of literacy of the population, while indicators of the intensity of ICT use by businesses and the population are not taken into account. Thus, in reality, a deeper and multidimensional assessment of the development of infocommunication infrastructure and the contribution of ICT to the digital development of the countries of the world is taking place in the world statistical system.

3 RESEARCH METHODOLOGY

The development of e-commerce based on the ideas of F. Makhloop about global information technology, contributed to the development and convergence of communications and computer science, the creation of new standards (EDIFACT, WWW, ISO9000), a single network language, domain name system, Internet Relay Chat protocol, high-speed data transmission technologies DSL, ADSL, the creation of a global Internet, and a new electronic environment WWW. The identification of the initial stages of the development of the digital economy over the past 40 years provides a basis for searching for characteristic signs of the manifestation of regularity and sequence of changing stages of digital development.

The methodological tool for determining the patterns of digital development is the criterion proposed by V.I. Yakovets: “When studying the patterns of the change of generations of technology, it is necessary to identify fundamentally new generations that form the scientific and technical direction ... expressing the content of the revolutionary revolution in this field of technology” (V.I. Yakovets, 1988).

This criterion made it possible to formulate patterns of development of infocommunications based on progress in science and technology. These changes, in turn, affect the forms of organization of production and management, economic relations, lifestyle and society as a whole. It helps to identify trends in the development of information technologies and use them to achieve various goals in the social and economic spheres. To identify the stages of scientific and technological progress (STP) in the field of infocommunications, fundamentally new technical means, lines, communication networks were allocated, the results of the convergence of communication and computer science were systematized according to the degree of depth of integration of communication with computers.

At the present stage of the development of infocommunications, we can expect the use of new and promising technologies that open up unlimited possibilities for creating global communication systems and information transmission. Among them are speech conversion devices that will greatly simplify the communication process, communication technology using pre-prepared sections of the ionosphere, which will significantly increase the range of information transmission, as well as intelligent devices that can expand human abilities (B. Cao, L. Zhang, Y. Li, D. Feng, and W. Cao, 2019).

In addition, we can expect the use of quantum and nanotechnology, personal computer biochips and neutrino elementary particles, which will create new ways of transmitting and processing information. These technologies will also enable the creation of a global communication system without the use of relay devices, which will increase its reliability and efficiency.

Other promising technologies that can be used in infocommunications include virtual "cloud" technologies, network functions and intelligent and robotic systems for managing and providing goods and services (M. Chen, W. Saad, and C. Yin, 2018). These technologies can also contribute to more efficient use of resources and increase productivity in various sectors of the economy.

The use of new infocommunication technologies will make it possible to bring into line the social, psychological and physiological characteristics of a person with the capabilities of technical means and networks (K. Boychenko, F.F. Teixeira, T. Kuzovkova and I. Boychenko, 2020). This will help create a technological basis for the development of the digital economy and information society, contributing to improving the quality of life of people and increasing the efficiency of the economy as a whole.

The patterns of development of industries and sectors of the economy are largely determined by technical and technological breakthroughs that occur in the process of scientific and technological progress. In this regard, it is possible to use the criterion of comparing the development of products and services with their content to identify patterns of digital development based on STP. New technologies and innovations make it possible to create new products and services, improve existing ones and optimize their production processes (T.A. Kuzovkova, V.O. Tikhvinsky, E.E. Devyatkin, O.I. Sharavova, 2022). Thus, the use of new technologies and production methods based on scientific research and development can lead to the emergence of new industries and sectors of the economy, which, in turn, will increase the competitiveness of the country as a whole.

At the same time, the authors identified time periods that are characterized not only by new generations of equipment and technologies, but also by the emergence of fundamentally new forms of production organization, sale of goods and services, new elements of production resources, new forms of communication between producers and consumers, the population and public administration, defining the next qualitatively new stage in the technological development of the economy and societies.

The beginning of each past and next stage of digital development can be determined not only through the resolution of contradictions between the functions of technology and a new form of production organization, but also through the evolution of the needs of society. New technologies create new opportunities to meet the social, physiological and economic needs of people. In this process, digital, bio- and nanotechnology play a key role, allowing not only to create new products and services, but also to change the very nature of these products and services.

Table 1 presents the stages of digital development, which cover a long period of time, characterize the profound transformations of the economy and society, specify the directions of the formation of the information society (T.A. Kuzovkova, E.G. Kukhareenko, T.Yu. Salyutina, 2019).

Table 1: Stages of digital development of the economy and society.

Stage No	Time period, years	Fundamentally new technologies and the scale of their application	Socio-economic consequences
1	1975-1990	Global computer network Internet.	Online store, online banking. Electronic commerce.
2	1991-2010	Broadband mobile Internet access. Infocommunication, digital, cloud technologies. ICT knowledge and skills.	Duplication of economic entities into the virtual world. Electronic forms of business, services, goods, virtual stores, virtual money.
3	2011-2020	Internet of Things, a network form of business organization and management. Sufficient and secure infocommunication infrastructure. The growth of the share of information resources in the structure of production resources. ICT competencies.	Local (sectoral) use of ICT, digital platforms, electronic services, the Internet of Things, smart cities. Electronic management, production, social networks. Standard services and websites of public administration, education, medicine, user service.

4	2021-2030	Digital transformation of the economy and society. Intersectoral and regional integration of digital infrastructures and services, robotization and digitalization of production.	Industrial Internet, electronic form of services, production operations. Robotization. Electronic system of public administration, education, medicine. Integrated services.
5	2031-2040	Unified national information space. Personalized model of production of goods and services based on the balance of supply and demand and rational use of resources, including natural resources.	Mass functional services with an intellectual component. Integrated digital circuit of healthcare, education, management. Integrated digital production and cross-border business space.
6	2041-2050 and beyond	Digital economy of the information society, a single international information space.	Globalization of economy and society, international resources, integrated digital production and international business space.

4 RESEARCH RESULTS

The passed stages of digital development and the patterns of the digital revolution that swept the world in the second half of the XX century and continues to this day, served as the basis for the formation of the economic foundation of the information society of the digital economy. For the subsequent stages of the digital development of the economy and society, it is important not only fundamentally new technologies, but also the scale of their application.

If the third stage of digital development is characterized by the local (sectoral) use of ICT, digital platforms, the Internet of Things, smart cities, the development of standard services and websites, the creation of electronic management, production and social networks, then at the fourth stage (T.A. Kuzovkova, T.Yu. Saliutina, O.I. Sharavova, 2021).

A large-scale digital transformation of the economy and society is taking place, which includes the integration of digital infrastructures and services between industries and regions, as well as the robotization and digitalization of production, which facilitates the use of the industrial Internet, the implementation of production processes in electronic form and the provision of services (Kagermann H., Winter J., 2017). At this stage, electronic systems of public administration, education, medicine and other spheres of life are also being formed, which ensures more efficient and faster operation of these systems and improves the quality of services provided.

At the fifth stage of digital development, a unified national information space should be created and an economic model for the production of goods and services based on personal needs should be implemented, which contributes to the mass application of functional services with an intellectual component and the functioning of an integrated digital circuit of healthcare, education, management, integrated digital production and cross-border business space.

The fifth stage of digital development, associated with the introduction of cyber-physical systems and end-to-end technologies, quantum networks, the Internet of Things and new generations of mobile, satellite and tropospheric wireless communications (I.F. Akyildiz, A. Kak and S. Nie, 2020), hyperconvergent solutions and artificial intelligence, will allow us to move to individual production, the product requirements of which are set by a specific consumer, i.e. to a new personalized economic model. The new model of the digital economy, focused on measuring current and prospective consumer demand, opens up new opportunities for companies to ensure the rational use of all natural resources for production purposes, which does not harm the natural environment and is of a nature-saving nature.

The sixth stage of digital development means the functioning of the digital economy of the information society in a single international information space, in which the principles of globalization of the economy and society, international resources, integrated digital production and international business space are implemented. This period may turn out to be longer due to the significant disproportions of individual countries and regions in the availability of communication networks, information resources, inclusive Internet, the level of socio-economic development, as well as active political, economic, social and environmental processes of the formation of the global world order.

The penetration of ICT into economic activity and society contributes to changing the nature of work (increasing the role of intellectual creative work), employment (remote, remote work), virtualization of business processes that go online, and increasing general requirements for the level of education and professional competencies. The main task at this stage of the development of human society is the improvement of technological platforms of information systems, their ubiquity, ensuring the information security of digital economic systems, the general digitalization of society (T.Y. Salutina, G.P. Platunina and I.A. Vasileva, 2021).

The identification of the stages of national and global digital development made it possible to determine the patterns (Fig. 3) and the basic features of the digital economy as a new technological order (Fig. 4).

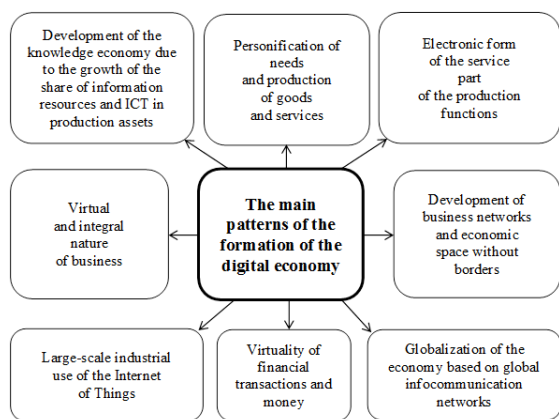


Figure 3: The main patterns of the formation of the digital economy.

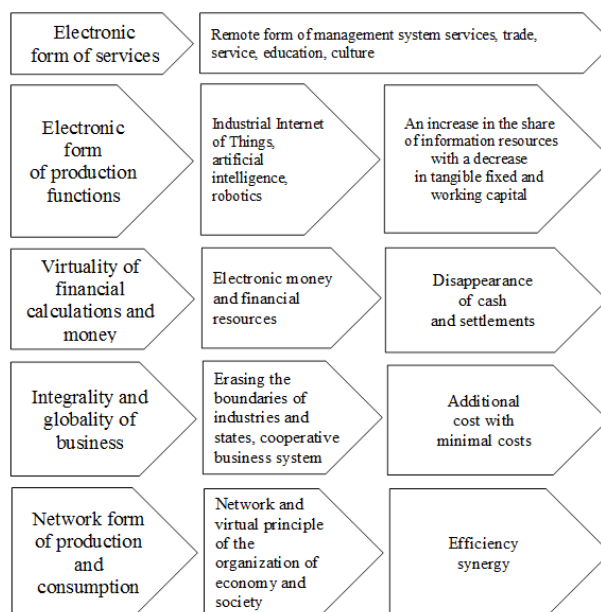


Figure 4: Basic features of the digital economy as a new technological order.

The role of business networks is also increasing in business development, where vertically integrated companies are replaced by global value-added communities, outsourcing and crowdsourcing, virtual companies and network communities, which creates an economic space without borders (O.I. Sharavova, M.M. Sharavova, 2021).

Ultimately, in modern conditions it becomes obvious that the main non-material asset of the company and a means of maintaining advantages and competitiveness are intellectual and innovative potential.

In the context of the rapid development of the digital economy, it is extremely important to develop an appropriate conceptual apparatus and methodology for measuring both the level of digital development and the effectiveness of the use of electronic factors and production results. This is due to the fact that the network organization of the production of goods and services, the virtualization of the financial system and the synergy of the network virtual principles of the organization of the economy and society are the main factors and results of economic activity in the digital age.

To track the development of the digital economy, a set of indicators is needed, which includes the volume of e-commerce, the proportion of the population with access to the Internet and using the electronic form of ordering goods and services, the proportion of economic results obtained in digital form, the level of computer literacy of the population

and digital skills of workers, taking into account the dynamics and stages of development of digital technologies.

5 DISCUSSION OF THE RESULTS

In the considered system of indicators of the digital economy and international indicators of countries' progress towards the information society, three accents are clearly traced in the assessment of these processes:

1) development, progressiveness and security of infocommunication infrastructure;

2) the intensity of the use of communication networks and ICT, digital technologies and platforms in all spheres of economic and social activity;

3) readiness for the information society.

At the same time, the creation of a digital economy and society directly depends on the harmonious development of society in all vectors: territory, sectors of economic and social activity, man, the surrounding nature, the planet.

The nature of scientific and technological progress, the transition to a new technological order, the exhaustion of the market model of the economy and the modern structure of the world economy, the processes of digital transformation of business and society leading to a network platform architecture of markets without borders and a radical change in the structure of production resources, acute problems of ecology, natural ecosystem and the exhaustion of natural resources require more adequate models of development of society and the transition from the UN concept of sustainable development on three factors (world economy, society, ecology) to a broader and deeper paradigm of harmonious development in order to preserve nature and future human life on Earth (T.A. Kuzovkova, O.I. Sharavova, M.M. Sharavova, 2022).

In the UN formulation, sustainable development is understood as "the development of a society that allows meeting the needs of current generations without compromising the opportunities left to future generations to meet their own needs." Hence, the greatest use of the term began to be associated with ecology and environmental problems (N.N. Marfenin, 2006). More than 100 countries of the world have Councils and national programs for sustainable development. However, both N.N. Marfenin and L.G. Melnik proved that the concept of sustainable development defines only one side of the process and

does not resolve the contradiction of the content of two words: sustainable and development. According to L.G. Melnik: "Stability" presupposes equilibrium, and "development" is possible only if the system constantly leaves the equilibrium state" (Sumy, 2016).

Digital development represents fundamental changes in the technological way of society and society, which occur due to the increasing complexity and interconnectedness of the socio-economic system based on the expansion of the scale and depth of penetration of information and communication technologies into the production and social life of people, thereby contributing to economic and social progress.

As a result of digital transformation, there is a transition from a post-industrial society to an information society through the formation of a harmonious society based on the balanced coordinated development of all components of human activity and the state of the planet Earth, which significantly changes the coordinate system of statistical tools for harmonious development. In the opinion of the authors, the definition of the term "harmonious development" should proceed from systemic positions by taking into account the triune concept of sustainable development, as well as the transition to a new technological order, the essence of digital development and the expansion of the conceptual apparatus of harmonious development with three more aspects: scientific and technical, infrastructural and ideological (Fig. 5).

In conditions of high rates of scientific and technological progress, comprehensive informatization, the participation of humans, robots and artificial intelligence in industrial and social activities, harmonious socio-economic and environmental development is possible only on the basis of a balanced infocommunication, transport, energy and other infrastructure, ensuring information security of individuals and businesses, as well as a multipolar model of the world order on planet Earth (N.N. Pluzhnikova, E.V. Korableva, T.N. Bokova, 2018). Thus, harmonious development includes the economy, society, ecology, scientific and technological development, infrastructure (including infocommunication) and the world order (Fig. 5).

Based on the definition of harmony (translated from ancient Greek – connection, proportionality, combination of unity and diversity), a systematic approach and fundamental criteria for the formation of a harmonious personality, the essence of the harmonious development of economic and social systems should be interpreted as proportionality, proportionality, balance and consistency of parts of

the whole. Therefore, socio-economic development and preservation of the natural environment on planet Earth, including near-Earth space, are possible only on the basis of scientific, technical and social progress, proportionality, sufficiency and safety of infrastructure, diversity of cultures, traditions and multipolarity of the world.

Taking into account the formation of a new technological order and an intellectual harmonious world, the regularity of the evolution of the methodology for measuring the development of the digital economy and society is manifested in several aspects (T.Y. Salutina, T.A. Kuzovkova, G.P. Platunina, 2022). Priorities in the system of indicators of infocommunication and digital development are changing, with the transition from assessing the accessibility of users to communication networks and infrastructure development to assessing the depth of penetration of ICT, digital technologies into socio-economic processes and management systems (M.F. Gumerov, T.Y. Salutina, G.P. Platunina, O.I. Sharavova and I.V. Boychenko, 2022).

The system of indicators for the development of the digital economy and society continues to evolve in order to assess the progressiveness of the infocommunication infrastructure, the quality of the business climate and ecosystem of the digital economy, as well as to assess the quality of human capital, including the availability of information resources and networks, information literacy and readiness to live in an electronic environment.

The next step in the development of indicators is a comprehensive measurement of the effectiveness of digital technologies in the system of production, management and society, taking into account the synergy of their application and the harmonious formation of personality and society in the field of knowledge.

The proposed interpretation and components of the harmonious development of society not only take into account the transition to a new technological stage, but also reveal the mechanisms for ensuring it by coordinating all elements of production and consumption, including infrastructure, based on a balanced economic model, proportional socio-economic development of society across all territories of the Earth with equal access to information resources and Internet networks, a new models of the world order with multipolarity and partnership in relations, balanced ecosystems of natural, human and intellectual worldview.

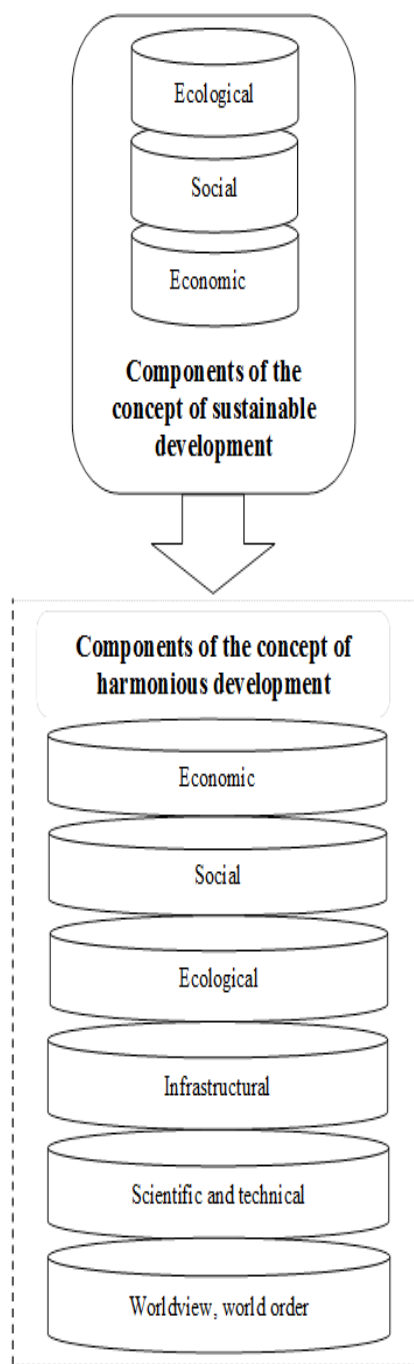


Figure 5: Evolution of the content of the concepts of sustainable and harmonious development.

Over the past decades, there have been changes in the measurement objects and the system of indicators that reflect the movement towards an information society, taking into account digital development. These changes made it possible to establish the

evolution of statistical support for the formation of the global information space, which is associated with the stages of scientific and technological progress in the field of information and communications, as well as the patterns of digital development of the economy and society. As a result of taking into account changes in the development of the digital economy and the movement towards the information society, the authors adjusted the previously developed system of indicators and expanded the number of stages to reflect the processes of harmonious development of the information society and social progress (Fig. 6, 7).

1	1955-1975	Communication and computer integration	The state and development of networks and means of communication; information technologies, hardware and software. Availability (density) of means of communication; personal computers
2	1975-1990	Convergence of communication and computer science	The state and development of the informatization industry, the ICU and ICT market. Availability of means of communication, the Internet, information resources. Criteria of readiness for the information society in relation to the level of socio-economic development of the country. Legal support of activities in the field of ICT
3	1990-2005	Informatization, infocommunications	The state and development of the industry, subjects and objects of informatization. The level of use of means of communication, ICT, the Internet in the economy, management and social sphere. Criteria of readiness for electronic development. State regulation and ICT development strategy. Business climate and human capital in the field of ICT
4	2005-2020	Digital transformation of the economy and society	Information orientation of the state policy strategy. Broadband access to communications and the Internet. The effectiveness of the use of ICT, digital platforms, electronic services in the economy and social sphere. The degree of involvement of the state, business and the population in the electronic space. The share of GDP created with the use of ICT and electronic environment. Assessment of positive and negative effects of informatization

Stage No Time period, years Stage name Measurement objects and the name of indicators

Figure 6: The system of indicators of digital development of the economy and society at the past stages of digital development.

Thus, the constant adaptation of targets and criteria for building a digital economy is an important condition for the successful development of the information society and the creation of a harmonious balance between technological advances and social needs.

5	2021-2030	Creation of the digital economy of the information society	Broadband mobile access of 5G-6G standards to the Internet, Internet of Things, highly elliptical satellite communication systems, quantum networks. The effectiveness of the use of ICT and OT in the economy and society. The share of industrial Internet and robotic production in total production and GDP. Coverage of business and the population by electronic systems of public administration, education, medicine. The degree of development of partner integrated business and ecosystems. The degree of virtualization of financial transactions, monetary systems, society, production of goods and services and their consumption. Synergetic evaluation of the effectiveness of digital transformation of informatization
6	2031-2040	Digital economy of the information society. Unified national information space	Broadband mobile access of the 6G standard to the Internet, Internet of Things networks, highly elliptical satellite systems, quantum networks and neutrino beam networks. Inclusive Internet, digital skills and competencies of every Russian and the degree of their use. The degree of application of mass digital services, nanotechnologies with an intellectual component in business and social sphere. The share of industrial Internet and intellectual production in total production and GDP. The degree of digital transformation of business, public administration and social organizations. The degree of virtualization of financial transactions, monetary systems, society, production of goods and services and their consumption. Criteria for the harmonious development of the information society and social progress
7	2041-2050 and beyond	Digital economy of the information society. A single global information space. The intellectual world	Inclusive Internet, digital skills and competencies of every inhabitant of the planet Earth and the degree of their use. International integrated partner digital business space, international resources. Criteria for the harmony of production and human activity with the natural environment and natural resources. The share of industrial and intellectual production in world production and gross world product. The degree of digital socio-economic transformation and virtualization of international financial systems of sovereign states. Criteria for the harmonious development of the world information society and social progress

Stage No Time period, years Stage name Measurement objects and the name of indicators

Figure 7: The system of indicators of digital development of the economy and society 2021-2050 and beyond.

6 CONCLUSIONS

It should be borne in mind that the rapidly changing nature of digitalization requires constant adaptation of targets and criteria for building a digital economy.

The development of the indicator system is aimed at a more adequate assessment of the ICT sector in the digital economy, the state of the business climate and the ecosystem of the digital economy, as well as the quality of human capital, including information literacy and readiness for electronic development, in a new coordinate system of harmonious development.

In general, the need for constant adaptation of targets and criteria for building a digital economy is related to the dynamics of information technology development and their impact on various spheres of life and the economy. It is important to understand that the successful development of the digital economy requires not only technical solutions and innovations, but also an effective system for assessing and monitoring the effects and results of the introduction of digital technologies.

At the same time, the development of the digital economy should be aimed at achieving a harmonious

balance between positive and negative effects, taking into account the social consequences and needs of various groups of the population. To do this, it is necessary to strengthen scientific research in the field of social sciences, economics and technology, as well as to develop new methods for assessing and monitoring the effects of the introduction of digital technologies.

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