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PROBLEMS OF FORMATION AND DEVELOPMENT OF NEW ICT-BASED DIGITAL ECONOMY SECTORS

© Alovzat G.Aliyev, Roza O.Shahverdiyeva 2022

*Institute of Information Technology of Azerbaijan National Academy
of Sciences, Baku, Azerbaijan*

The problems of the formation and development of new ICT-based digital economy sectors have been researched in the article. It has been shown that the digital transformation of the economy has become one of the priority issues facing the country in recent years. The activities of the Azerbaijan Center of the 4.0 Industrial Network, which is considered the main platform of digital technologies, were explained. The role of digital innovation technologies in the formation of the economic environment has been given. The characteristics and problems of the formation of new ICT-based digital economy sectors were investigated. The economic characteristics of the main technologies of the digital economy such as artificial intelligence, blockchain, Big Data, Industrial Internet of Things, 3D printers, etc. were studied. Necessary information about 5G mobile systems and technologies, which is one of the main sectors of the digital economy, has been explained. A structural scheme of the special weight of organizations using digital technologies in some industries has been presented. A system of indicators for evaluating the level of development of the digital economy has been developed. The important aspects of the technological foundations of the digital economy have been studied and the indices of the measurement of its development level such as the Digital Economy and Society Index, Global Competitiveness Index, Global Innovation Index, Knowledge-Economy, Electronic Participation Index, Global Cyber Security, etc. have been explained. Structural elements such as some sub-indices of the Digital Economy and Society Index have been explained. The main integrative indicators affecting the Digital Economy and Society Index were explained. A system of basic Composite Indicators characterizing the measurement of the digital economy has been proposed. The interdependence and effects of digitization and innovation of the economy are given. Proposals and recommendations were made on the formation and development of new ICT-based digital economy sectors in the country and its regions in accordance with world trends.

Keywords: *ICT-based digital economy, digital transformation, digital innovation technologies, digital economy sectors, mobile systems, digital economy indices, composite indicators system, 4.0 Industrial platform.*

Introduction. In modern times, the economy is being transformed based on innovation and digital technologies. The countries of the world are taking new initiatives in the direction of expanding the application of digitalization and electronic innovations. The current economy is being modernized and developed based on innovation and ICT-based digital technologies. Artificial intelligence and robotics, information and communication, space, etc. development of such areas is considered one of the main ways to achieve faster development of real economic sectors. The development of "Industry, innovation and infrastructure", which is one of the 2030 Sustainable Development Goals of the UN [1], the

application of the requirements of the 4.0 Industrial platform has become one of the main directions in the development of the world economy. The sustainability and efficiency of the economic reforms implemented in Azerbaijan in this direction are based on the National Priorities for socio-economic development of the country [2], adopted in 2021, and the Strategic Roadmaps for the development of the economy [3]. At the present time, achieving sustainable development of the economy is the main condition. In order to achieve this, the implementation of the digital transformation of the economy and society has become one of the priority issues facing the country in recent years [4]. Thus, the development of the Internet network and network technologies, which are the basis of the ICT infrastructure in the regions of the country, "Government Cloud" (GCloud), "Big Data", "Smart City", "Smart Village" and etc. such promising digital projects are planned to be implemented. Successive reforms are underway to turn Azerbaijan into an innovative digital center in the region. It has become a necessity to expand the application of digitization and electronic innovations in various sectors of the economy and to increase the quality.

The improvement of regulatory mechanisms in the field of development of communication and information technologies and the formation of a healthy competitive environment is extremely important for the country. Their implementation is considered one of the main goals [5]. As a result of this process, the efficiency of both the regional and intersectoral structure of the economy will increase, which will ensure balanced and sustainable development. In particular, the formation of regional development centers in Azerbaijan on territories freed from occupation will ensure general economic development due to the deepening of specialization in the areas of competitiveness of the economy in the relevant regions. In order to reduce the level of being a raw material exporter in the world economic system, it is necessary to achieve diversification of the economy, the rapid development of the non-oil sector, economic efficiency, competitiveness, and innovation-based progress. Therefore, to implement the effective structuring of the economy based on innovation, science, information, knowledge, and ICT, a comprehensive analytical analysis of the problems of the formation and development of new ICT-based digital economy sectors should be carried out. Scientific research studies carried out at the international level are also directly related to those directions. For this purpose, the article presented is dedicated to determining the directions of formation and development of new ICT-based digital economy sectors and solving some problems.

It should be noted that the Center for Azerbaijan of the Network, which is considered a successful result of the cooperation of the World Economic Forum and the 4.0 Industrial Revolution Network, which is considered the main platform of digital technologies in the country, has started to operate. The center will have a close connection with the implementation of the requirements of the 4.0 Industrial Revolution of sustainable and sustainable development and will

contribute to the development of the digital economy. The center will perform the functions of digitization and application of modern innovative technologies in ensuring sustainable and sustainable development. The activity of the center will help the country to achieve a rapid pace of development based on high technologies. There is no doubt that it will contribute to the expansion of regional digital cooperation. The activity of the center is of special importance and is directed to the issues to be implemented before the country.

Thus, it can be noted that raising awareness about the technologies of the 4.0 Industrial platform and the digital economy, the formation of competitive human capital in this field, the formation of a production ecosystem based on high technologies, the effects of ICT technologies and digitalization on the future development of the world economy are considered important issues, so their comprehensive study is inevitable (<https://www.economy.gov.az/article/azerbaycanin-dunya-i-qtisadi-forumu-emekdashligi-genishlenir/32340>). The establishment of the Azerbaijan Center of the 4.0 Industrial Revolution Network will create conditions for the development of partnerships with the leading countries in this field, and the expansion of the application of those technologies. The prospects of applying the scientific, technical and practical experience of advanced countries in the field of such technologies to Azerbaijan will have an even more effective impact on the sustainable economic development of the country. The work to be carried out with the aim of further expansion of digitalization will create fertile conditions for the country to become a regional knowledge center.

About the setting of the problem and the state of its research.

Technological development and innovation act as long-term drivers of economic growth. Information and knowledge resources become the main development factor of society. The areas of production of knowledge and information products play an extremely important role in the development and competitiveness of countries that have passed from the stage of industrial development to the post-industrial stage. In modern times, the development of countries is highly dependent on the development of information and science-intensive fields, including digital and technological innovations [6, 7]. In this direction, the development of recommendations and suggestions for the modern era in the aspect of innovative digitization of the country's economy is one of the urgent issues. In the new economic conditions, the process of formation of digital economy sectors should be carried out on the basis of modern ICT achievements. Proposals on prospective directions for increasing the effectiveness of their activities, as well as methodological bases of the general process, should be developed. Although there are certain scientific and experimental research works in this field, the lack of a settled methodology and theory still makes it necessary to continue research in a similar field [8-10].

New management principles and models, and new decision-making mechanisms should be developed and implemented, taking into account the

prospects of applying the technological components of the 4.0 Industry platform in the direction of the formation and development of new ICT-based digital economy sectors.

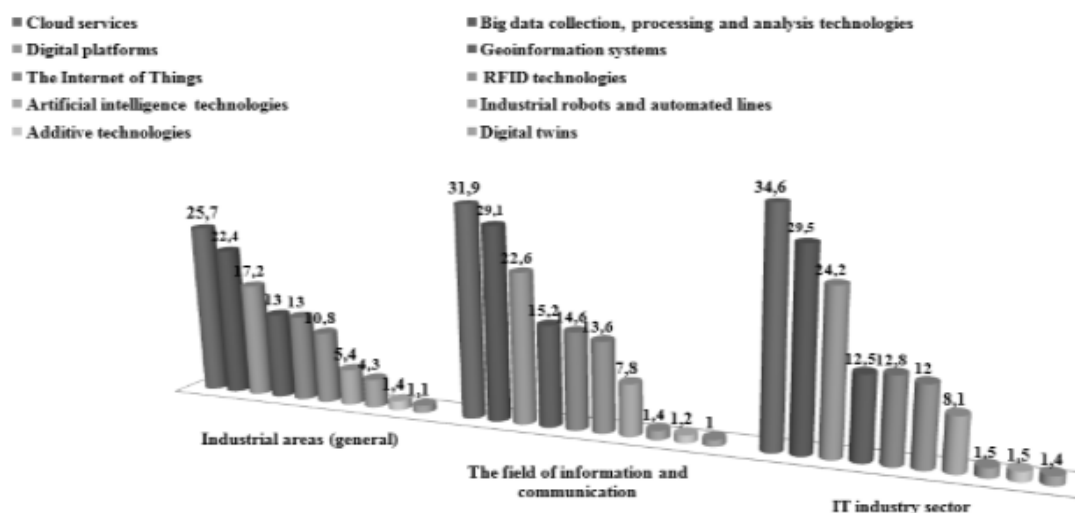
The role of digital innovation technologies in the formation of the economic environment. Applications of digital innovation technologies in socio-economic development have become one of the main innovative development directions of the countries of the world in the modern era. Digital technologies formed by the application of innovative technologies in the digital economy can include BioTech, FinTech, Digital-marketing, Grid-technologies, BlockChain, RetailTech, NanoTech, GovTech, LegalTech, e-ID, etc. [11]. *BioTech* is based on the use of high technologies of living organisms and biological processes in production, agriculture, and medicine. *NanoTech* is a high technology applied in enterprises engaged in the production of microelectronic products. *RetailTech* is a new technology applied in the field of commerce, proposed by startups, and used to help consumers. *FinTech* is a technology applied in the field of finance and is considered one of the most promising areas for the vast majority of startups. *LegalTech* is a digital technology company specializing in providing legal services to consumers. *InsurTech* is one of the modern digital technologies applied in the field of insurance, *GovTech* is one of the modern digital technologies that help to solve the problems of the public sector.

Features and problems of the formation of new ICT-based digital economy sectors. As modern technologies develop, their contributions to the economy are considered important issues for the current era. It is extremely necessary to comprehensively analyze the problems of the formation of the technological innovation economy and take into account the development directions of its management in the transition to the 4.0 Industrial revolution. Currently, the sectors of the technological innovation economy formed under the influence of ICT are called electronic, digital, Web, Internet, ICT, network, information, space, cloud, Big Data, etc. in the scientific literature and media. as sometimes they are called by different and sometimes by synonymous expressions. Despite all this terminological variety and detail, the economic and technical nature of the problem remains unchanged.

As is known, in the modern era the digital economy has basic technologies such as 1) Industrial Internet of Things, 2) Big data, 3) 3D printers, 4) Sharing economy, 5) Augmented and virtual reality, 6) Blockchain technology, 7) Artificial intelligence, 8) Cloud computing, 9) Manufacturing automation, robots, etc. [12]. The application of the mentioned digital technologies, artificial intelligence, blockchain, and cloud computing in the management of economic processes will help to automate those processes, increase their intelligence, and further their reliable and sustainable development.

The digital economy is also composed of the main components such as the information economy, service economy, innovative economy, knowledge economy, creative economy, etc. [13]. The introduction of new technologies in the digital economy leads to significant changes in the development of enterprises in the economy. Here mainly group technologies are being applied such as 1) technological, i.e. digitization - use of new ICT technologies in the enterprise, 2) organizational and management – application of new global organizational changes in the structure or organization methods of the enterprise, 3) the application of new management tools and methods in the management of the enterprise and personnel. Digitalization consists of two main components: 1) innovative systems – digital systems that ensure automation of processes; 2) innovative technologies - modern technologies that provide new approaches to processes. Here, new organizational structures and management methods include: 1) technology platform, 2) decentralization, 3) self-learning organizations, 4) non-financial motivation methods, 5) online work, 6) startups, 7) incubators, 8) accelerators, 9) internal entrepreneurship, etc.

5G mobile systems and technologies, which are one of the main sectors of the ICT-based new digital economy, have begun to be applied in many areas. In 2020, the revenue of 5G wireless networks was 4.2 billion dollars [14]. 5G technology in the income of potential consumers China with 3.1%; South Korea with 2.7%; the USA with 1.8%; Germany with 1.3%; France with 1%; and Japan with 0.7% are on the list of leading countries. 5th generation technology operators are expected to invest approximately \$1.1 trillion in mobile technology worldwide in 2020-2025. About 80% of that investment will go directly to 5G networks. 5G technologies will contribute \$2.2 trillion to the world economy between 2024 and 2034. If the geopolitical and military situation arising in 2022 is not taken into account, it was expected that the economy of the CIS countries will earn 34 billion dollars due to 5G technologies in the next 15 years. Internet of Things (IoT) technology has become an integral part of 5G. In 2024, the number of connected enterprises through IoT technology will reach 13.3 billion, and by 2025, it will reach 25 billion. Consumer IoT connectivity will nearly double to 11.4 billion over the same period. By 2025, there will be 13 billion new IoT connections. Global IoT technology revenue will more than triple to \$1.1 trillion. The level of use of digital technologies in general, both in industrial fields and in organizations in the field of information-communication and information technology industry, has always been of interest (<https://issek.hse.ru/news/533051971.html>). The analysis of the ratio of organizations using digital technologies in those areas to the total number of organizations in 2020 shows that cloud services and Big Data technologies are in the first place (Figure 1).



Digital technologies	Industrial areas (general)	The field of information and communication	IT industry sector
Cloud services	25,7	31,9	34,6
Big data collection, processing and analysis technologies	22,4	29,1	29,5
Digital platforms	17,2	22,6	24,2
Geoinformation systems	13	15,2	12,5
The Internet of Things	13	14,6	12,8
RFID technologies	10,8	13,6	12
Artificial intelligence technologies	5,4	7,8	8,1
Industrial robots and automated lines	4,3	1,4	1,5
Additive technologies	1,4	1,2	1,5
Digital twins	1,1	1	1,4

Figure 1. The specific weight of organizations using digital technologies in some industries (compiled by the authors)

The main directions of the technological foundations of the digital economy include Big Data, cloud computing, smart systems, quantum, the creation of new generation supercomputers, artificial intelligence, the creation of industrial systems with global digital infrastructure elements, 3D printing technologies, nanotechnologies, "smart plants/factories", "smart creation of "cities", digital currency, cryptocurrencies, "Internet of Things", etc. can be attributed [15]. In some sources, the content of the digital economy has been tried to be explained from different aspects and expressed with certain simplified formulas.

Measuring the level of development of the digital economy. A number of key indicators have been developed by the United Nations Organization, the World Economic Forum, the World Bank, the International Telecommunication Union, the Management Development Institute and other prestigious international organizations to assess the level of competitiveness of the economy in the world countries. In recent years, the annual reports of international organizations have defined ICT, economic and innovative indices of the

countries of the world in various fields. In general, among the indices characterizing the digital economy in the scientific literature, the following can be found [16]: 1) Economy index, 2) Digital economy and society index, 3) Global creativity index, 4) Network readiness and ICT development index, 5) Global competitiveness index, 6) Global innovation index, 7) Global entrepreneurship index, 8) Knowledge economy index etc.

Most of these indices include the following criteria of the category of competitiveness:

- 1) digital infrastructure,
- 2) exchange of digital resources,
- 3) use of digital resources,
- 4) provision of digital security,
- 5) development of the digital economy,
- 6) provision of digital services to the population,
- 7) international digital trade,
- 8) implementation of digital innovation,
- 9) digital service management,
- 10) digital market environment, etc. [17].

It should be recalled that according to the report of the World Economic Forum for 141 countries for 2019, Azerbaijan was ranked 58th in the Global Competitiveness Index with 62.7 points [18]. It is the leader among other CIS countries according to the "Internet users" indicator. The Global Competitiveness Index of Azerbaijan was calculated on 12 indicators. In that index, Azerbaijan ranked 68th on the innovation potential indicator (0-100 scale) with 38.3 points, 68th place on the commercialization indicator (0-100 scale) with 56.1 points, and 19.8 points on the research and development indicator (0-100 scale) It is ranked 111th.

The Global Innovation Index [19] is a global study that ranks the countries of the world according to the level of innovation development. In that report, Azerbaijan (out of 132 countries, as of 2021) was ranked 80th and had 28.4 points on a scale of 0-100.

In the Global Entrepreneurship Index (GEI) report for 2019, it was ranked 56th out of 137 countries and had a score of 32.1 [20].

According to the global ICT development index (<https://www.itu.int/en/ITU-D/Statistics/Pages/publications/mis2017/methodology.aspx>) in 2017, Azerbaijan ranked 65th and had a value of 6.20. The comparative analysis of the above complex ICT, Internet development, innovation, economic, entrepreneurship, and business indicators with other leading countries confirms that the country has opportunities to improve its indicators in that field. In principle, the identification and implementation of more effective ways of using them can significantly increase the effectiveness of the formation and management of the ICT infrastructure in the digitization of the economy.

Indicators for evaluating the level of development of the digital economy Composite indicators are widely used in the measurement system of the digital economy [21].

Considering the national and regional characteristics, it is proposed to form the Digital Economy Composite Index (DECI) at the expense of the following indices.

The sub-indices and indicators that influence the formation of those sectoral indices can be expressed as follows (Figure 2).

The structure of the composite index system is offered in a multi-level form. The main level reflects all the following lower levels in an integrative manner, and the parameter that characterizes it is called the composite index of the digital economy index. The calculation of the digital economy composite index (DECI) can also be functionally given as follows:

$$DECI = F(ISF, SED, NIS, TTI, MBE, SPE, IPP, LMP, STP).$$

Here $F(\dots)$ denotes the form of dependence of the composite index on other indices [21]. Composite indicators are created by combining individual indicators into one measure. Composite indicators are often used to measure abstract concepts that are multidimensional and in many cases cannot be covered by individual indicators.

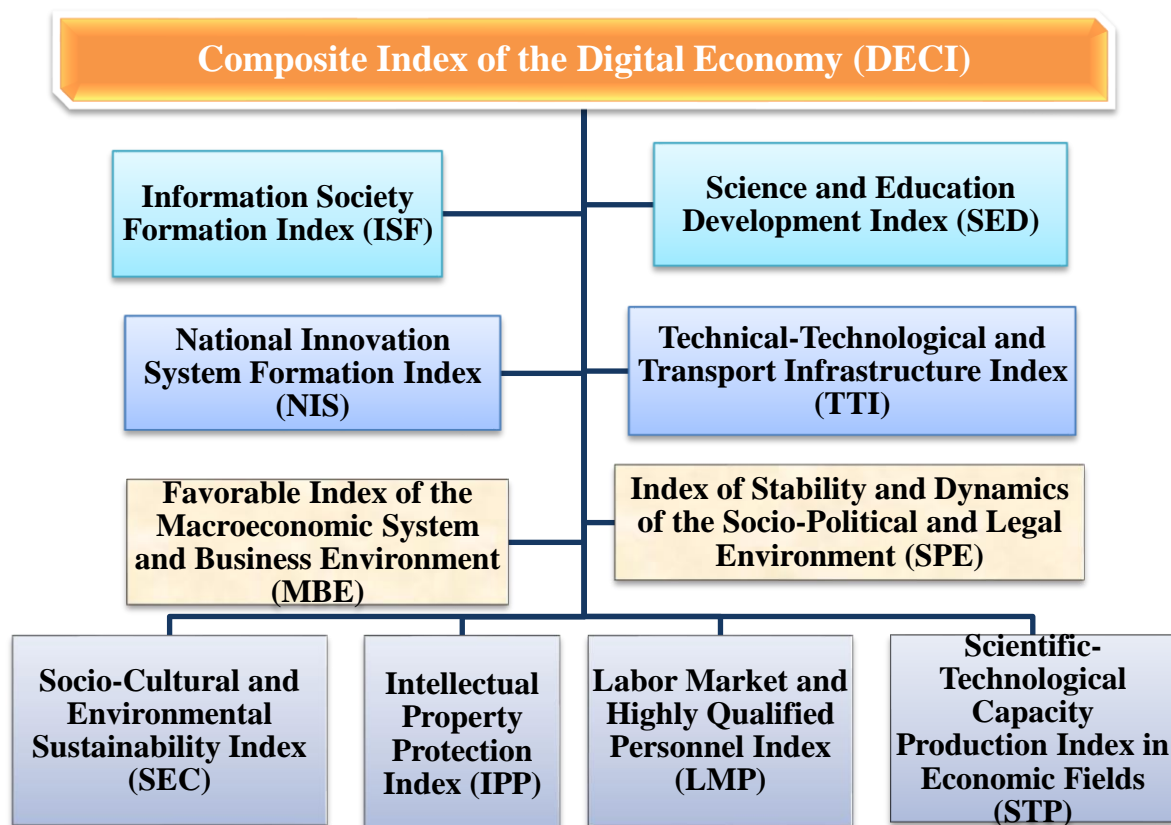


Figure 2. Composite Index of the Digital Economy (compiled by the authors)

Also, the indices characterizing the digitalization level of the national economy include the following: ICT Development Index, Digital Economy and Society Index, Global Digital Competitiveness Index, Digital Evolution Index, Digital Economy Index, Network Readiness Index, E-Government Development Index, E-Participation Index, Global Connectivity Index, Inclusive Internet Index, B2C E-Commerce Index, Global Cybersecurity Index, Local Online Services Index, etc.

According to the Digital Evolution Scarecard ranking ("The most digital countries in the world"), which covers the economies of 90 world countries, in 2020 Russia was included in the group of "promising" countries where the digitization process is underway, despite the limitations of the digital infrastructure. It can be assumed that the recent geostrategic and military situations will deal a crushing blow to the success of that country. The leader of this group was China due to the pace of digitization. It was ranked 39th in terms of digital development. Azerbaijan, which is in 53rd place, was the 2nd in terms of digital development rate. Indonesia (58 and 3), India (61 and 4), Russia (49 and 10) were respectively.

Indicators for evaluating the level of development of the digital economy include the level of expenditure on research and development in the field of ICT, the volume of production of ICT products and services, the main activity level of organizations in the ICT sector, the number of specialists in ICT, the number of patent applications for inventions in the field of ICT, the percentage of the population with access to the Internet, the costs of financing digital technologies, in the ICT sector the structure of the types of investments made in operating organizations, the structure of the costs incurred for technological innovations in the ICT sector, the level of digitization of the entrepreneurial sector organizations, the level of Internet usage directions in the entrepreneurial sector organizations, etc. can be attributed. One of the main indices of the digital economy is the Digital Economy and Society Index.

Digital technology indicators. The Digital Economy and Society Index has been calculated for the first time in order to help the countries of the European Union to identify the priority investment directions in the creation of the digital market and to improve the digital productivity [22]. That index is composed of 5 sub-indices and 28 indicators in 12 groups that influence its formation: 1) Communication, in 4 groups (7 indicators); 2) Human capital, in 2 groups (4 indicators); 3) Internet use, in 3 groups (6 indicators); 4) Integration of digital technologies, in 2 groups (7 indicators); 5) Digital service, in 1 group (4 indicators).

In some cases, the structure of *the Digital Economy and Society Index* is composed of the following elements, indices and sub-indicators (<https://digital-strategy.ec.europa.eu/en/policies/desi>): 1) *Human capital* – consists of sub-indicators such as Internet skills, advanced practice skills and development. 2) *The communication-connection establishment index* can include sub-

indicators such as Fixed broadband reception, Fixed broadband coverage, Mobile broadband Internet, Broadband prices. 3) *The integration of digital technology* is organized by sub-indicators such as digital intensity, digital technologies for business, and e-commerce. 4) *Digital government services index* includes E-Government, e-government users, digital government services for citizens, digital government services for business, open data, etc. consists of such indicators.

In some cases, the digitalization index of the country is calculated based on the indicators that allow to assess the level of use of digital technologies in the daily activities of consumers, companies and government institutions, as well as the provision of ICT infrastructure and the development of digital innovations [23].

In general, the level of integration of digital technology indicators has a significant impact on the formation of the Digital Economy and Society Index (<https://digital-strategy.ec.europa.eu/en/policies/desi>). The indicators with the largest such effects are shown in Figure 3.

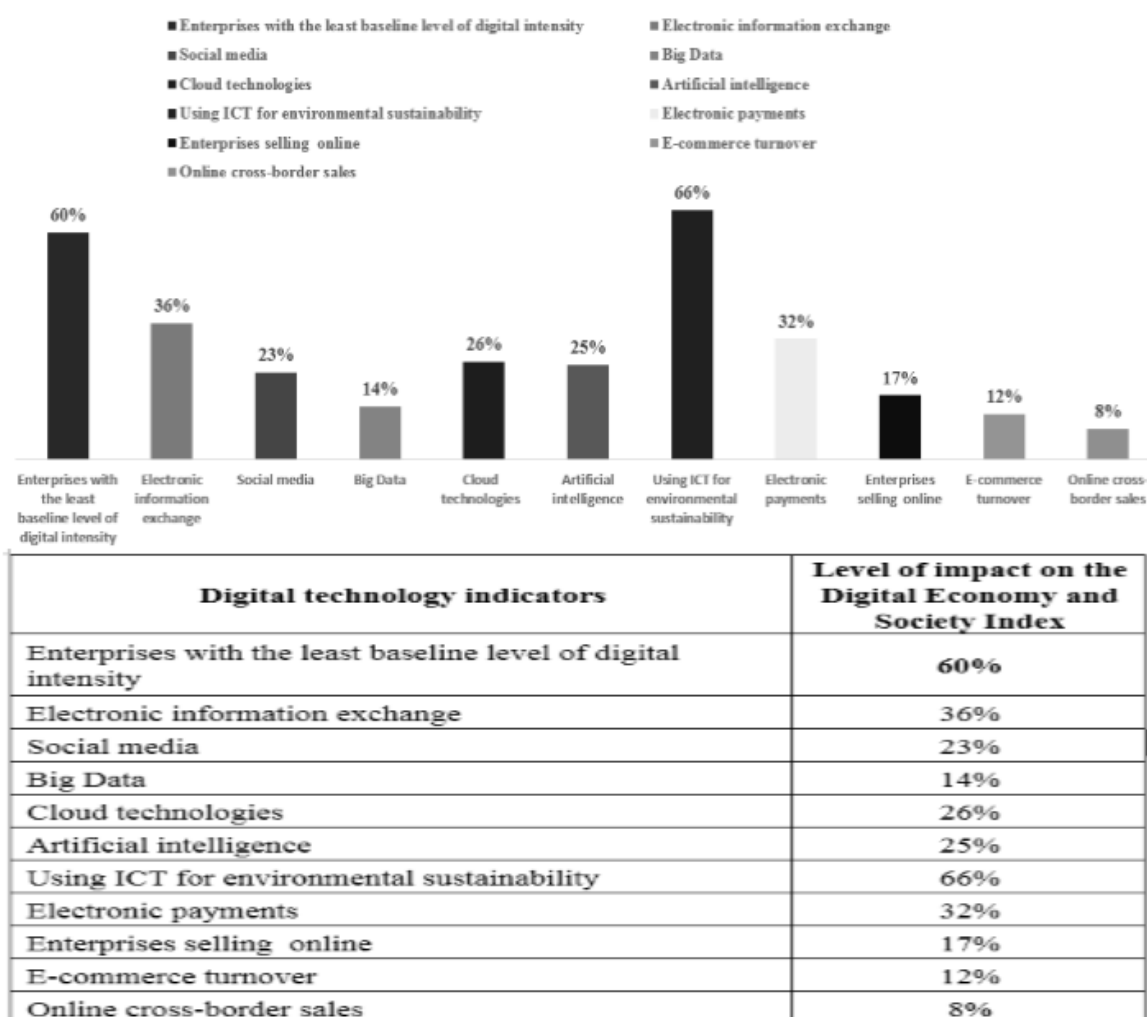


Figure 3. Key integrative indicators affecting the Digital Economy and Society Index (compiled by the authors)

Digital technologies that contribute to digital development and the correct establishment of a new business model of enterprises include: 1) cloud storage – information should be stored in a decentralized manner; 2) availability – access to information or service must be provided from anywhere in the world; 3) Attention should be paid to the B2C market - this implies the support of a large number of active users; 4) big data - support for the processing of various forms and voluminous data, etc. has the main characteristics [24]. In the current period of innovative development, they prefer the application of digital technologies in enterprises. Thus, electronic data exchange through enterprise resource planning (ERP) software is applied to small and medium-sized enterprises (35%), relatively large enterprises (80%) and more. Small and medium-sized enterprises use e-commerce opportunities to a limited extent. Thus, only 17% of them sell online (versus 39% of large enterprises) and only 8% sell cross-border online (24% for large enterprises). There are many technological possibilities for the implementation of cloud services by such enterprises (<https://digital-strategy.ec.europa.eu/en/policies/desi>).

Prospects for the development of new ICT-based digital economy sectors on the Industry 4.0 platform. One of the main factors is the connection between the digitization of the economy and the speed of the innovation process (Figure 4). The relationship between digitization and innovation processes in the formatting of the economic environment can be given as follows [25]. Innovative economic growth in the digital economy is an increase in product production based on the introduction of digital innovations into the economic system based on the development of its material and technical base and digital infrastructure [26]. Innovative economic growth in the digital economy and the development of its basic infrastructure require state support measures. Digital economy development programs can contribute to the revitalization of the electronics industry, the development of import substitution in the field of creating the material base of ICT, and the expansion of digitalization and digital transformation in the service sector.

There are certain characteristics of the implementation of the transformation of digital innovations in the development of new sectors of the ICT-based digital economy. In the development of digital economy sectors in the country and its regions, the relevant infrastructure related to the transformation of digital innovations should be formed first of all in accordance with world trends.

In the development of technological innovation economy sectors, the application of some technological innovations within the framework of the 4.0 Industrial revolution should be more [9].

The development of finance, including blockchain technologies, the emergence of new network cryptocurrencies will lead to many socio-economic changes in international monetary and financial relations. 3D printing will create new production, sales, marketing, advertising technologies.

As a result of the industrial revolution, there will be a serious need for new regulatory mechanisms in the field of energy collection and storage and the emergence of new alternative energy sources in human-nature relations. The application of information technologies based on the 4.0 Industry platform [27] in various fields should be expanded.

These technologies can include: a new visual interface, wearable Internet, Internet of Things, "smart" home, "digital" human, pocket supercomputer, "smart" city, Big Data technologies, driverless cars, Artificial Intelligence (AI), robotics, cryptocurrency technologies, 3D printing in manufacturing, education, medical and consumer goods, etc.

Research shows that the innovations brought by the 4.0 Industrial revolution create promising opportunities for the creation of new revolutions in the modern era and transition to it. Thus, the interaction and functioning of the structural elements of the innovative technologies existing in the 4.0 Industrial revolution and the further improvement of the relations between those elements in the near future create ample opportunities for the continuous development of the new 5th generation technologies.

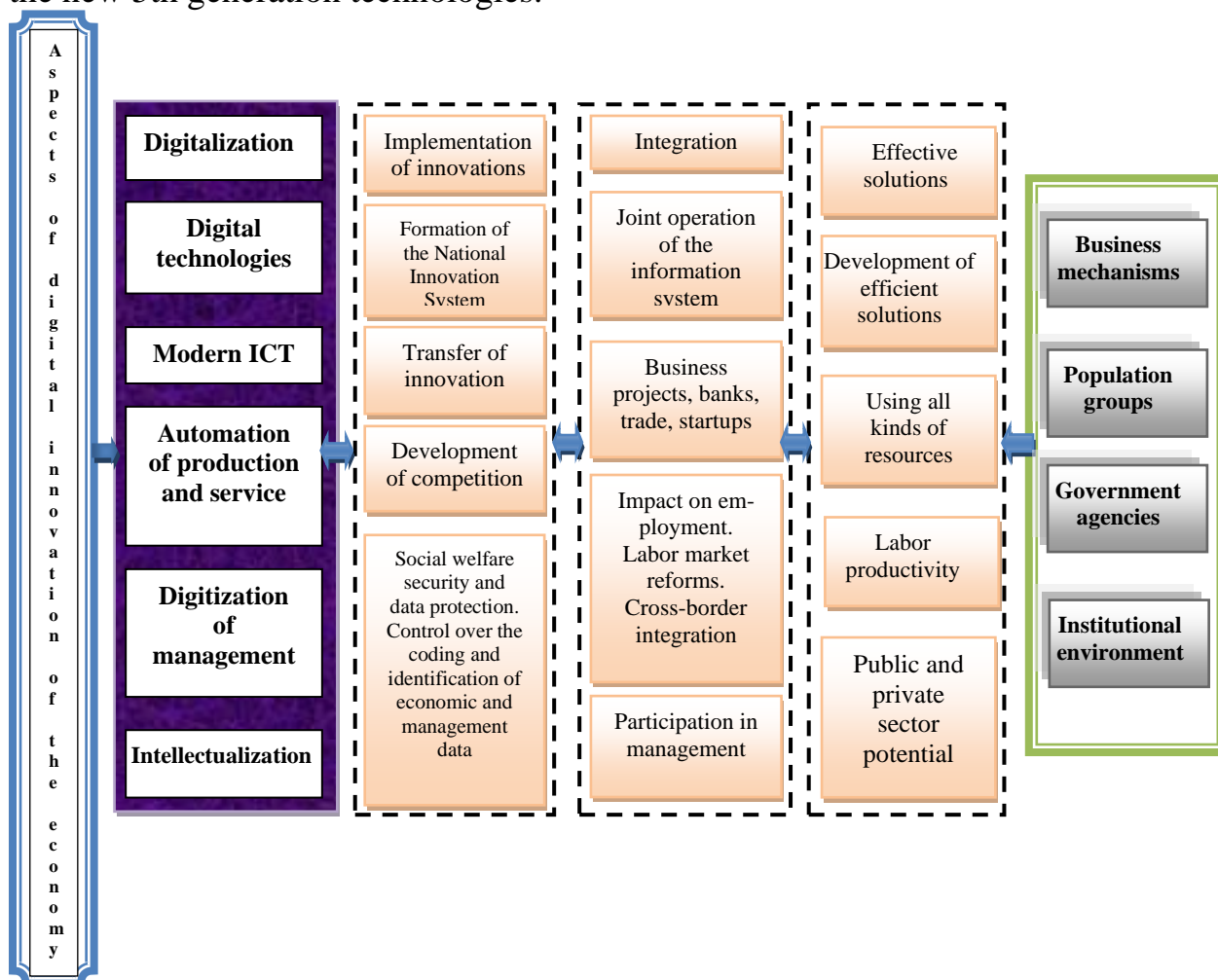


Figure 4. Interdependence and effects of digitization and renewal of the economy
(compiled by the authors)

Big data, which is one of the most important new technologies, has been owned the main commodity function for a long time in the modern era. The latest methods are applied for the collection, storage, processing, protection, use and transmission of such large-volume, mixed and unstructured data.

Nowadays, countries around the world are investing more in technologies such as 5G, big data, artificial intelligence and quantum computing. 5G is predicted to create \$13 trillion in value and create 22 million new jobs by 2035, and the global AI market is projected to reach \$15 trillion by 2030.

By 2025, global IoT technology revenue will more than triple to \$1.1 trillion. By 2035, up to 50% of jobs will be automated.

In accordance with international trends, important issues such as protection of information privacy, regulation of content and digital trade, and provision of cyber security are considered in the formation of the transformation concept of digital innovations in Azerbaijan. Currently, most of the world's superpowers are forming their own data economies. The rapid development of digital innovation transformation in the world creates opportunities for the development of quantum transformation. As a result of the development of ICT, 15.7 trillion US dollars will be attracted to the world economy by 2030. These forecasts show how important digital innovation transformation is for the economic development of the country, including Karabakh.

Conclusion. One of the main priority issues facing the country at the moment is the digital transformation of the economy and society. One of the ways to achieve faster economic development in modern times is to ensure its development based on digital innovative technologies. Artificial intelligence and robotics, information and communication, Big Data, IoT, space, etc. development of high-tech sectors is considered one of the main goals. Improving the digitalization infrastructure of the economy and increasing the potential of the country's ICT industry is directly aimed at the implementation of those tasks. At present, advanced world countries are trying to achieve increased efficiency and transparency through the expansion of digital services and the development of e-government. Studies show that the innovations brought by the 4.0 Industrial revolution will create ample opportunities for the further improvement of relations between them and for the continuous and sustainable development of the newest technologies in the near future. The goal of achieving an average annual real growth in GDP of more than 3 percent by 2025 has already been laid. In 2021, real GDP growth in the country was more than 5 percent, including non-oil GDP growth of 7.2 percent [28].

In 2022, economic growth is predicted to be 3.9 percent. Also, the non-oil sector exports from 170 US dollars per capita in 2015 to 270 US dollars in 2021 suggests that the goal of 450 US dollars in 2025 is possible. In 2021, the growth forecast in world trade is 10.8 percent, while Azerbaijan's non-oil exports increased by 47.2 percent. The economic reforms carried out in the country as a conceptual and functional model have been welcomed many times on a global

scale. It is no coincidence that the Organization for Economic Cooperation and Development (<https://www.oecd.org/>) has shown the Management Model of Economic Reforms implemented in Azerbaijan as an exemplary innovative practice on a global scale on its official platform.

Solving the problems of infrastructure and institutional formation of the ICT sector, forming innovative directions of its development potential can also lead to positive results in solving the main problem facing the country. In order to achieve the development of the digital economy and the increase of its share in the GDP, conditions must be created for the formation of the appropriate infrastructure, effective management, and the comprehensive application of digital technologies. In order to manage them, the system of main indicators used in measuring the digital economy and the indicators for evaluating its development level have been worked out and the directions for improving the evaluation methods have been determined. Research conducted on the basis of the architectural-technological structure of the computer model of the development of the digital economy at different levels shows that the digitization of the economy, the application of digital technologies in various fields, and the management of modern models of "smart cities" and "smart villages" in improving its infrastructure are among the main priorities facing the country [8-10, 29]. As it can be seen, the digitalization of the economy and the formation and management of the innovation infrastructure can create additional opportunities in the development of the new national, regional and sectoral economy in the digital and innovation variant under the conditions of new economic management in accordance with the challenges of the 4.0 Industry platform.

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Поступила в редакцию

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Алиев Аловсат Гараджа – кандидат экономических наук, доцент, заведующий отделом Института Информационных Технологий, Национальная Академия Наук Азербайджана; Баку, Азербайджан.

Aliyev Alovzat GaraJa – PhD in economics, ass.prof., Institute of Information Technology of Azerbaijan National Academy of Sciences; Baku, Azerbaijan.

Шахвердиева Роза Ордухан кызы – научный сотрудник Института Информационных Технологий, Национальная Академия Наук Азербайджана; Баку, Азербайджан.

Shahverdiyeva Roza Ordukhan - researcher, Institute of Information Technology of Azerbaijan National Academy of Sciences; Baku, Azerbaijan.

AZ1141, Азербайджанская Республика,
г. Баку, ул. Б.Вахабзаде, 9А
9A, B.Vahabzade str., Baku,
Azerbaijan Republic, AZ1141,
e-mail: alovsat_qaraca@mail.ru
e-mail: shahverdiyevan@gmail.com.