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THE DEVELOPMENT OF DIGITAL TRANSFORMATION THROUGH HUMAN CAPITAL IS THE BASIS FOR ENSURING THE GROWTH OF THE NATIONAL ECONOMY

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Annotation

This article discusses the need for new infrastructure, new software, an optimal set of services, strong and capable leadership in digital transformation, digitalization of resources, active implementation of robotics and digital control systems in industry.

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Nowadays, in accordance with the Strategy "Digital Uzbekistan - 2030", a set of measures is being implemented in our country in the field of public education, public services, the judiciary, finance and banking to digitalize industries and regions, introduce state information systems and electronic services, as well as the widespread use of digital technologies.

The digital economy is the transition of the existing economy to a new system by creating new technologies and business models and introducing them into everyday life. At the same time, the digital economy is a system that can be implemented through the use of digital technologies for economic, social and cultural communication.

In the Decree of the President of the Republic of Uzbekistan dated April 28, 2020 No. PP-4699 "On measures for the widespread introduction of the digital economy and e-government" , "In order to double the share of the digital economy in GDP by 2023, including the introduction of a complex of information systems in production management, the widespread use of software in financial and economic reporting, as well as its rapid formation through the automation of technological processes,"¹ noted separately.

Therefore, today digital transformation concerns almost any field of activity. Digital transformation has come to education, and we see that modern schools, colleges and universities use interactive tools, students keep electronic diaries, create audio and video content, implement joint projects, teachers consult through social networks, and so on. Along with the introduction of modern education and training with traditional education, information technologies are developing and becoming an important tool for thinking of the younger generation:

¹ <https://lex.uz/docs/4800657>

- Firstly, it should be noted that the digital transformation of the socio-economic system of any level is a complex and long-term process, the payback of which is also long-term. This requires rethinking strategies, business models and processes, new infrastructure, new software, an optimal set of services, effective implementation mechanisms, training programs and reliable ongoing support;
- secondly, digital transformation requires strong and capable leadership, since such leadership can be the driving force behind major changes;
- Thirdly, it is necessary to clearly understand which elements of the socio-economic system require changes. Companies around the world are struggling to experiment and are reaping the benefits of digital transformation.

In our opinion, digital transformation is the process of a fundamental change in the concept and format of socio-economic systems at all levels, digitalization in order to achieve sustainable and long-term functioning in the dynamic conditions of the digital space - the digitalization of all resources, the introduction of digital technologies and the formation and digitalization - through the creation network platforms for the integration and interaction of digital technology users. Digital transformation is an element of the global trend of servicing the economy, since relations within the digital segments of the economy are realized through the exchange of a large number of services and their joint production (services).

In addition, the definition of a national enterprise involves changing business models and processes, the organizational and cultural environment and other elements of the enterprise as a socio-economic system based on the effective use of the potential of digital technologies to ensure consumer value and universality of products and services.

In our opinion, there are differences between the concepts of "digital transformation" and "digitalization", which are often considered as synonyms. "Digitalization" is a socio-economic process that precedes and underlies digital transformation, the essence of which is expressed in the restructuring and transformation of communication channels around the digital technologies used.

New technologies that characterize digital transformation and the fourth industrial revolution combine many factors from the material, digital and scientific world, affecting all sectors of the economy without exception. These processes have the potential to change global income levels and improve the quality of life. Consumers will have quick and easy access to the digital world.

Today, the formation of a digital economy is a priority for the development of any country that claims leadership in the global world. In many developed countries, changes are already taking place in organizational models due to the emergence and use of digital technologies in the business community and the social sphere. Such a change is another global challenge facing the whole country and especially everyone. Future changes will require people to participate in the creation and dissemination of digital technologies, as well as in the development of modern professional skills and competencies necessary for their use in everyday life. In this context, additional scientific research is needed in the field of the formation and development of human capital, its radical transformation due to the impact of digitalization processes, as well as the relevance of raising the question of its important role in the development of the digital economy.

Digital industrialization has become the main driving force behind the development of national economies. In 2020, industrial digitalization accounted for 84.3% of the global digital economy and 35% of global GDP. In developed countries, the digitalization of industry accounted for 86.3% of the digital economy. In developing countries, this share was 78.6 percent. Developed countries are the strongest representatives in the field of communications and software, and they were among the first to

launch e-commerce and advanced manufacturing.²

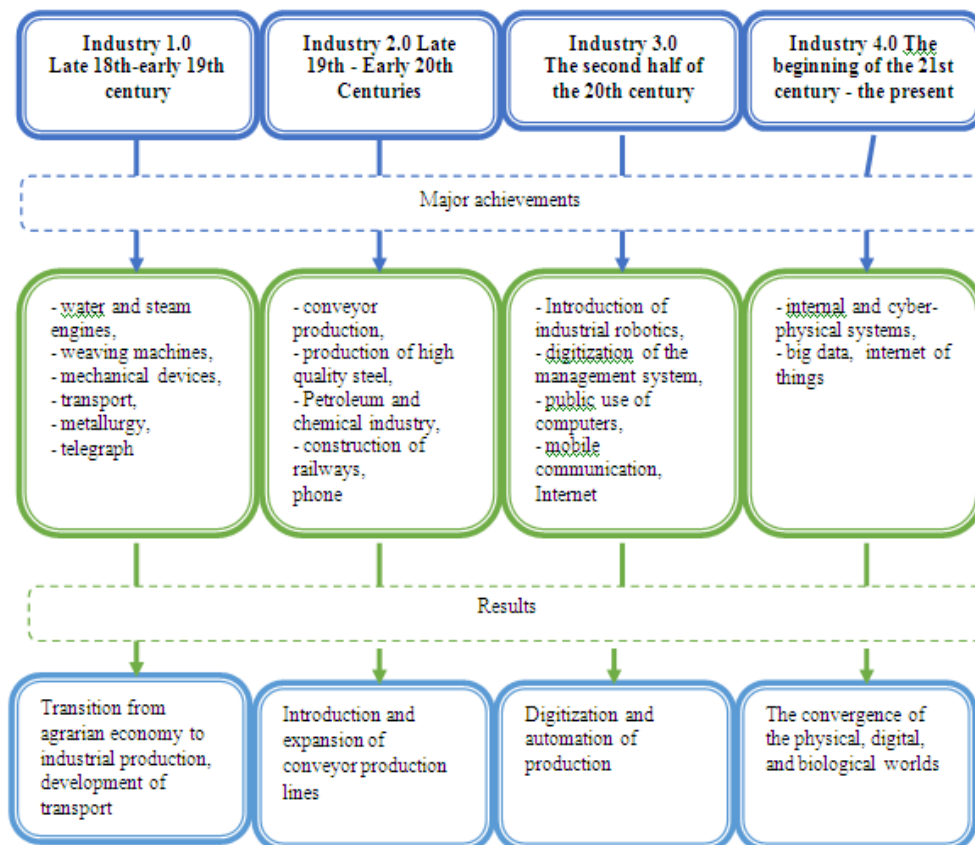
IDC predicts that by 2022, 65% of global GDP will be digitized. From 2020 to 2023, direct investment in digital transformation will amount to \$6.8 trillion.

The new fourth stage of industrialization is associated with the emergence of global industrial networks and open information systems based on the development of ICT, the Internet, cloud technologies, digital platforms and others.³³

During its history, the Industrial Society has already experienced three industrial revolutions (Fig. 1). During the first of them, manual labor was abolished and a transition was made to machine production. The main technological achievements of the late 18th and early 19th centuries were there were water and steam engines, mechanical devices, telegraphs and transport.

At the end of the 19th century, large-scale electrification began, leading to the introduction and expansion of conveyor-type production, which marked the second industrial revolution. The third industrial revolution began in the second half of the twentieth century and was in fact computer or digital. Its development was driven by technological advances such as the introduction and mass distribution of computers, followed by personal computers, mobile communications and the Internet. The industry began to actively introduce robotics and digital control systems.⁴

Today, hardware and software digital technologies are in the process of transformation. Therefore, they are constantly changing, improving, integrating into global networks and penetrating into all spheres of production activity and human life. Accordingly, there is a radical change in the world economy, which in turn means the completion of the third industrial revolution and the formation of a fundamentally new industrial world of the fourth generation.



² IDC FutureScape: Worldwide IT Industry 2021 Predictions

³ IDC FutureScape: Worldwide IT Industry 2021 Predictions

⁴ Polyakov V.A., Fomicheva I.V. Analysis of technical and economic paradigms "technological order" and "industry" // News of the Tula State University. Economic and legal sciences. - 2019, No. 1. - pp. 30-38

Figure 1. Periodization of industrial revolutions⁵

The main difference between Industry 4.0 and the industrial world of the third type is that the final digitization of all physical assets is carried out by their subsequent addition to full-fledged digital ecosystems.⁶

These things are based on the mass use of the Internet, big data, learning machines, artificial intelligence, internal and cyber-physical systems. The growth rates of these technologies, the scale of their distribution indicate the strengthening of these trends, the main result of which will be the convergence of the physical, digital and biological worlds and a complete change in the existing technological order that characterizes the technological structure. Economy.⁷

According to S. Yu. Glazev, the technological system is a holistic and sustainable entity that provides for the extraction and production of primary resources, their processing and the production of a final set of products that meet the corresponding type of public consumption⁸. The life cycle of such a system is on average one hundred years, and in this case, the period of its dominance, which implies the acceleration of economic growth based on new technological advances, covers a period of 40 to 60 years. Each core forms a set of technologically interconnected industries that support the industry, which intensively consumes the key factor of technological innovations involved in the formation of the core, and plays a leading role in the spread of the way.

The order of transition to the sixth technological order, the core of which is nanotechnology, varies from country to country. It is obvious that the driver of the economic development of states and regions is based on Industry 4.0 and digital technologies.

A similar point of view was expressed by K. Schwab, a German economist, founder of the World Economic Forum in Davos, who said that the world has already experienced three revolutions and is in the process of overcoming the fourth revolution.⁹

In connection with the evolution of socio-economic systems, their digitalization and maintenance, we see that priorities and key development factors are gradually changing in this development process.

The transformation process is mainly determined by:

1. The knowledge economy includes new factors such as knowledge, in addition to traditional economic factors such as labour, capital, entrepreneurial ability and land. In the process of creating competitive advantages for companies, regions, industries, countries, forming the value of products or services, knowledge begins to play a leading role in economic relations.
2. The development of information technology in a short period of time, while maintaining a competitive advantage, knowledge very quickly turned from a unique rarity into a public interest. That is, the duration of the innovation period associated with new knowledge is reduced. Competitive advantages can only be achieved with the emergence of knowledge, because in the process of dissemination, knowledge changes very quickly and becomes the public domain. Thus, it

⁵ Developed by the author

⁶ Kolmykova T.S. Merzlyakova E.A. Circular reproduction and ecological innovations in ensuring sustainable growth of the regional economy // *Region: systems, economics, management*. - 2019, No. 3 (46). - S. 104-111.

⁷ Kolmykova T.S. Nesenjuk E.S. Khalameeva K.Yu. Development of the digital economy during the transition to the sixth technological order // *Bulletin of the South-Western State University. Series: Economy. Sociology. Management*. - 2019, No. 1 (30). - T. 9 - S. 57-64.; *Digital economy: global trends and practice of Russian business* / ed. D. S. Medovnikova - M.: NRU HSE, 2018. - 121 p.

⁸ Glazyev S.Yu. State policy and management of modern Russia in the sphere of economy // *Materials of the scientific seminar. Issue. 3 (50)*. - M.: Scientific expert, 2012. - 120 p.; Glazyev S.Yu. Nanotechnologies as a key factor in the new technological order in the economy / Ed. Academician of the Russian Academy of Sciences S.Yu. Glazyev and Professor V.V. Kharitonov. - M.: "Trovan", 2009. - 304 p.

⁹ Schwab K. *The fourth industrial revolution* - M.: "Eksmo", 2016. - 138 p.

should be noted that the competitive advantage in the knowledge economy is formed not due to the possession of knowledge, but due to the ability to quickly create and effectively implement this unique knowledge.

3. In general, the new role of knowledge is associated not only with accessibility, but also with the expansion of opportunities for their use and creation. Thanks to information technology, it is possible to form social networks on a global scale, which allows society to develop dynamically. In this regard, various innovations are spreading very quickly, and meeting the needs through the provision of various services is a priority.

Thus, the priority of socio-economic development for many developing countries is the transition to a digital economy, the introduction of digital technologies and the creation of effective business models that meet the challenges of our time. Features of the development of the digital economy include the availability of smart tools, the growing importance of data, the organization of business networks, the widespread use of the Internet and the global nature of data exchange. In the context of digitalization, the principles for building advanced training systems have been formed, which will increase the efficiency of the digital economy in developing countries. The development of the digital economy in developing countries will improve the quality of life of the population of these countries, increase the socio-economic stability of countries.

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