

THEORETICAL OVERVIEW OF THE FOUNDATIONS OF DIGITAL TRANSFORMATION OF SOCIO-ECONOMIC SYSTEMS

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Abstract

The active penetration of digital technologies into all spheres of life of modern society, business communities and the governments of the countries of the world, realized the need to accelerate the processes of digitalization and digital transformation of the economy in order to achieve competitive positions in the emerging digital space of the new world economy. The article examines the formation and development of modern economic theory related to the processes of digitalization, structural institutional transformations, the formation of the digital economy and to substantiate the scientific and methodological basis for the digital transformation of socio-economic systems based on the formation and development of the institution of service integration.

Key words: digital technologies, business, digital transformation, economy, digitalization, structural institutional transformations, socio-economic systems, integration.

Introduction. The digital economy is an integral part of the economy, where knowledge of subjects and intangible production dominate - the main indicator characterizing the information society. The concepts of "digital economy", "knowledge economy", "information society" and their analogues, presented in modern scientific literature, form a new socio-economic system that replaces the old industrial paradigm. In this regard, the developed countries of the world pay close attention to the harmonious development of the backbone elements of the digital economy, information society and knowledge economy. In modern market conditions, it is obvious that there is a need for systemic transformations and actions aimed at developing the digital economy in domestic socio-economic systems at all levels. Despite the relatively good elaboration of the category under consideration, a stable understanding of the essence and content of the term "digital transformation" has not yet been formed in the scientific sphere and the business community. At the same time, it is important to note that the content of the term "digital transformation" has evolved along with the change and development of technology. For a long time, digital transformation has meant digitalizing or storing traditional forms of data in digital format. This is also one of the areas of digital transformation, its interpretation in the "narrow sense". However, in the modern world, this concept is much broader than the translation of data into digital format. When businesses and organizations realized the full potential of using digitized data, they began to develop processes for this purpose. From that moment on, digital technologies began to develop rapidly, and the ability to quickly implement them directly determines the competitiveness of an organization in the market.

Most executives agree that digital transformation is necessary to fight competition, keep pace with technology and changing consumer expectations. However, many are unsure where to start and what digital transformation entails. In other words, a theoretical study of its "broad interpretation" is required. Today, there are many definitions of digital transformation. Some experts are categorically against "freezing" this concept and concretizing it in a stable definition, justifying this by the fact that the evolution of

digital technologies continues, and the content of this term evolves along with them.

And this is undoubtedly, however, in our opinion, to outline the boundaries of the essence and content of the term "digital transformation" is not only an important task, but also extremely necessary at the present stage of development of the digital economy, which allows to form a common understanding, and, accordingly, to highlight the main directions of digital transformation.

Let's start with the fact that within the concept of "digital transformation" there are many terms with different interpretations. At the same time, the key terms are those that have the same sound in English, but radically differ in content, which is clearly manifested in various scientific publications:

- digitization – is the transformation of information "from physical media to digital". Within the framework of digitization, there are no changes in the quality and content of information, it is simply converted into electronic form for subsequent processing in a digital format, which makes it possible to improve existing business processes by adding information in a digital format;

- digitalization – it is the creation of a new product in digital form. Therefore, the key difference between digitalization (digitalization) is the creation of a new innovative product with new functionality and consumer properties. And if digitization (digitization) is primarily aimed at improving existing business models and changing business processes, then digitalization (digitalization) allows you to get a significant breakthrough in business and new competitive advantages. Digitalization is already an element of the 4th industrial revolution (Industry 4.0).

Most foreign companies and executive authorities are now focused specifically on the digitalization of key processes and for the most part perceive digitalization as a new round of automation and informatization, as we indicated above. In this regard, it is necessary to distinguish between digitalization and digital transformation in comparison with automation. Automation is "one of the areas of scientific and technological progress that uses self-regulating technical means and mathematical methods in

order to free a person from participation in the processes of receiving, transforming, transferring and using energy, materials, products or information, or to significantly reduce the degree of this participation or labor intensity operations performed. Almost all spheres of human life and activities are automated. Automation allows you to increase labor productivity, improve product quality, optimize management processes, remove people from industries that are hazardous to health”.

Materials and methods. In the term “digital transformation”, it is expected that the greatest difficulties for traditional business are caused by “transformation” - a consistent conscious restructuring. Digital transformation today penetrates at different rates into all sectors of the economy. It should be noted that the effect of digital transformation in different industries is different. It is obvious that high-tech industries, initially highly digitalized, lend themselves to digital transformation most easily.

partner. Also, it is necessary to take into account the existence of following four traditional technological foundations of digital development (Figure 2):

- “Big data”, implying an explosive growth in the possibilities of storing and processing data in all types of computer systems, the future the basis of artificial intelligence;
- sociality - the need to involve a large number of users performing different roles;
- mobility - the availability of information from any point in space;
- data cloud - a way of storing data.

The three most important effects that organizations embarking on a digital transformation journey around the world are seeing are cost savings, improved service and product quality, and increased productivity. 61% of companies say that digital technology has contributed to increased competition in their business from new entrants. Today, 44% of companies in the world have a digital development strategy.

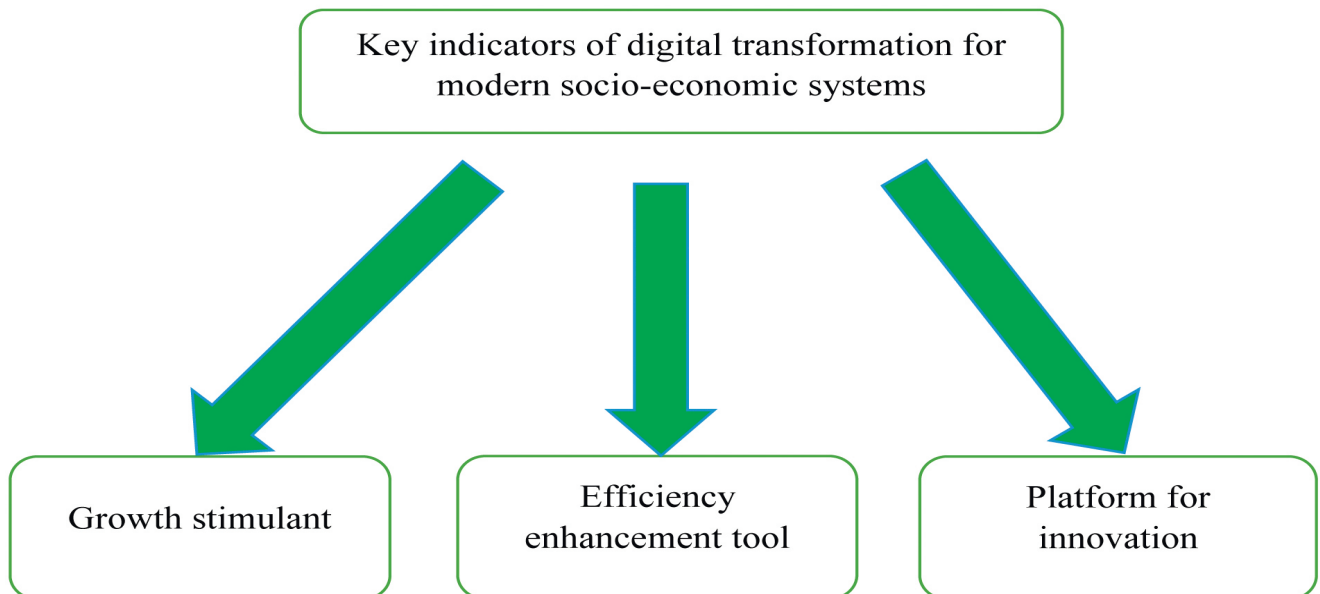


Figure 1. Digital transformation for modern socio-economic systems.

However, there is no doubt that digital transformation will affect all sectors of the economy.

Figure 1 shows the main indicators of digital transformation for modern socio-economic systems:

1. A growth promoter that enables digital business models to be built by: stimulating growth within and outside the core business of the organization; identifying and creating new digital business models; ensuring long-term competitiveness;

2. A tool for increasing efficiency based on transforming the operating model of a business into digital technologies by: optimizing business processes at all levels and reducing costs; rational use of existing competencies and infrastructure; digitalization of the entire value chain and modernization of the IT architecture;

3. A platform for disruptive innovation, which is the basis for the creation of a corporate incubator and venture capital by: identifying promising opportunities for growth in the future; proactively creating conditions for access to the latest and complementary technologies; positioning as a long-term

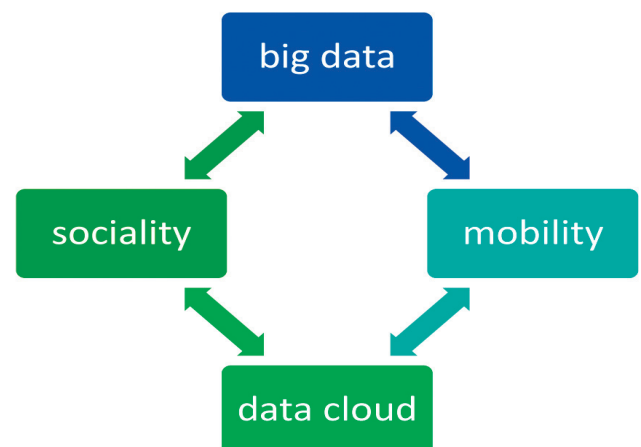


Figure 2. The four traditional technological foundations of digital development

The survival strategy of enterprises and companies in the digital transformation era includes a shift towards building multiple partnerships with independent third parties to build a sustainable ecosystem around the digital platform.

Discussion and analysis. Let's observe at the key stages of digital transformation. Despite the differences in the digital transformation processes of each individual socio-economic system, there are a number of key, common for all stages, reflecting the essence of the digital transformation process :

1. Create a plan that addresses all the business needs of the organization. At the beginning of the digital transformation process, it is very important to determine the directions of development, as well as the set of technologies that will help in this development.

2. Training of employees in the skills of working with new technologies. This process can be challenging because, in traditional business models, employees only had to know certain systems that they planned to use for many years to come.

3. Rejection of outdated technologies in favor of innovative ones. Very often, organizations spend a lot of money only to support and maintain their outdated technologies, which are no longer profitable and are not able to support the digital processes in demand in the market. In order to determine the basis of the new model being formed, we will consider the evolution of socio-economic relations (Table 1).

In the course of the evolution of socio-economic systems, a readjustment of their constituent parts took place. What was important in the previous stage became an integral part of the subsequent one and ceased to be the main source of wealth. Consequently, if we consider the digital economy as an evolutionary stage in the development of the economy, then we can highlight the relationship between the process of its formation and the evolution of the main sources of wealth. (Figure 3).

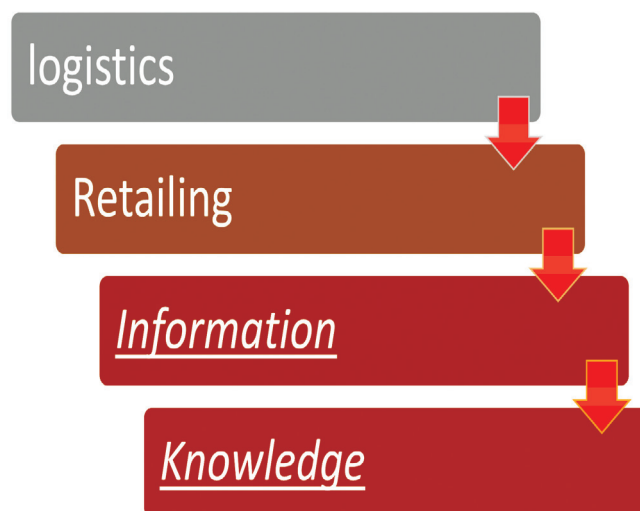


Figure 3. Stages of formation of the digital economy

Thus, the digital economy can be viewed as an evolutionary development of an economy in which «online data exchange between process participants has replaced analog interaction and affects all sectors of the economy, and also contributes to economic growth, the provision of high-quality services and unlimited scalability of the business model on based on the use of new technologies». In the course of the evolution of socio-economic systems, associated with their digitalization and serviceization, considered in the previous materials of the dissertation, it turned out that in the course of this development, there is a gradual change in priorities and key development factors. The transformation process is mainly determined by the following:

1. The knowledge economy, in addition to traditional

Table 1

Evolution of socio-economic relations

	Agrarian	Industrial	Economic knowledge
The basis of social economic relationship	Traditional society; Communities, estates, cities.	Society of Art Nouveau; Free market labor.	Postindustrial society; Communication based information technology logy.
Основной источник благосостояния	Land, origin of handicraft; Agricultural production (main share population is employed in primary sector - agriculture).	Resources (on the surface and in the subsoil land; Industry (the bulk of the villages are busy in secondary sector - industrial production).	The knowledge (formation of global thinking); Knowledge Economy (main % of the population is employed in the tertiary sector - the sphere services).
An important economic factor	Land	Capital	Knowledge

economic factors such as labor, capital, entrepreneurial ability and land, includes such a new factor as knowledge. Knowledge begins to take a leading position among other economic variables in the process of creating competitive advantages for companies, regions, industries, countries and forming the value of a product and / or service.

2. The development of information technology has influenced the fact that knowledge very quickly moves from its uniqueness to its transformation into a public good, maintaining a competitive advantage for a short period. That is, the duration of the innovation cycle associated with new knowledge is reduced. Competitive advantages can be obtained only with the emergence of knowledge, since in the process of its own dissemination, knowledge is very quickly transformed up to becoming a public good. Thus, it is necessary to understand that in the knowledge economy, competitive advantage is formed not due to the possession of knowledge, but due to the ability to quickly create and effectively implement this unique knowledge.

3. The new role of knowledge in general is due not only to its availability, but also to the expansion of opportunities for its use and creation. Thanks to information technologies, it became possible to form social networks on a global scale, which gives society a dynamic (note, not always predictable). In this regard, various innovations spread very quickly, and the satisfaction of needs through the provision of a variety of services comes to the fore.

It should be noted that the tasks set in the State Program for the implementation of the Action Strategy in five priority areas of development of the Republic of Uzbekistan for 2017-2021 within the framework of the "Year of Science, Education and Digital Economy" are paid in a special way. attention to the digital economy. In particular, the Decree of the President of the Russian Federation of April 28, 2020 PC-4699 "On measures for the widespread introduction of the digital economy and e-government" also calls for the widespread introduction of digital technologies at all levels of the education system and an increase in the level of digital knowledge necessary for a modern economy.

As part of the implementation of the Five Initiatives project, issues were raised on the implementation of such a task as the opening of digital knowledge training centers by 2022 in all regions of the country. The implementation of such tasks will further enhance the competitiveness of the country's economy through the widespread introduction of modern information technologies in the economy and public administration, as well as the expansion of telecommunication networks.

During the digital transformation of regions and industries during 2020–2022 years are expected:

- an increase from 78% to 95% of the level of connection of settlements to the Internet, including by increasing up to 2.5 million broadband access ports, laying 20 thousand km of fiber-optic communication lines and developing mobile communication networks;
- introduction of over 400 information systems, electronic services and other software products in various areas of social and economic development of regions;
- training 587 thousand people in the basics of computer programming, including by attracting 500 thousand young people within the framework of the "One Million Programmers project";

- introduction of over 280 information systems and software products for the automation of management, production and logistics processes at enterprises of the real sector of the economy;

- consolidation of universities in the regions to improve digital literacy and skills of senators(khokims), employees of government agencies and organizations, training them in information technology and information security, training in information technology for 12 thousand of their employees.

The first digital transformation will take place in 29 model districts (cities) - in 2020 and until the end of the first quarter of 2021. They will be assigned representatives of the Ministry of Information and Communication, its subordinate organizations and territorial departments. Regional working groups have been formed that will coordinate the work and evaluate the effectiveness of the projects being implemented every 10 days . In the following list:

- a) by the end of 2020, the digitalization of preschool education institutions, healthcare and secondary schools will be completed. They will be provided with the necessary IT infrastructure, computer equipment, information systems will be introduced, employees will be sent to training in 13 exemplary districts;

- b) diplomatic missions of Uzbekistan abroad will help the regions and industries assigned to them in the transfer of advanced technologies and IT solutions, attracting leading companies for the joint implementation of projects in the digital economy.

From November 1, 2020, at least 5% of the total funds of investment projects, as well as of international financial institutions, foreign government financial organizations and donor countries, are directed to digital components .

Will be created from January 1, 2021, an electronic platform for domestic software products and IT services which allows:

- to form a unified database of domestic IT companies and developers of software products, their products and services, to assist them in promoting their products in the domestic and foreign markets;

- publish information about projects for the implementation of information systems and other software products planned for implementation in government agencies and organizations;

- to establish an effective and open dialogue in the process of solving practical issues of the development of the digital economy in the country and improving legislation in the field of information technology.

Conclusion. Through the use and participation in digital platforms, organizations operating in the digital economy gain expanded access to all resources available on the market, which provides a new highly economical method of resource use based on a service approach and the functioning of the service integration institute. The analysis showed that the necessary and sufficient institutional and technical and economic conditions for the creation of a single digital platform that integrates the processes of digital transformation of socio-economic systems at the state level are practically formed.

Taking into account the scale of our country and the diversity of its socio-economic conditions, it is also possible to create a number of sectoral and regional platforms that could play a coordinating role in relation to their sphere.

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