



DIGITAL ECONOMY: GLOBAL TRENDS AND DEVELOPMENT OPPORTUNITIES IN THE REPUBLIC OF UZBEKISTAN

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ABSTRACT

Today, new digital technologies and innovative business models penetrate into all spheres of economic life, influencing the very essence of the economy and forming qualitative structural changes in it. As a result, the digital economy is formed as a subsystem of traditional economy, characterized by the active use of digital technologies and the turnover of specific electronic products. The level of development of digital economy is closely correlated with country competitiveness, which requires special attention of the state and business to its development. The article analyzes the impact of the digital economy on the economic development of the Republic of Uzbekistan.

KEYWORDS: *digital economy, digitalization, information and communication technologies, digital platforms*

INTRODUCTION

The peculiarity of economic relations in modern conditions is the increasing use of various networks and electronic mechanisms for their implementation and optimization. In this connection, the term “digital economy” has emerged, which in recent years has become actively used in periodical literature and in scientific publications related to the functioning of the economy in the new environment. The increased interest in the use of digital technologies in various fields of activity is linked to the great potential for reducing the costs of business enterprises through them. Also, for state and municipal structures, the use of such technologies has great potential for reducing the budget burden, which contributes to the emergence of various strategies, plans and programs for the development of the digital economy.

However, despite the wealth of information on the digital economy and its development issues, most of the information is either a description of digital technologies in terms of the diversity of perspectives and uses or a direct practice of applying one of their varieties. Theoretical issues relating to the reflection of the impact of digital processes on economic activity with the help of the categorical

apparatus of economic science are insufficiently covered. The consequence of this situation is that almost every author is forced to define the digital economy. Such definitions, of course, turn out to be primarily focused on the subject of the relevant research and may differ significantly from one another. For the same reason, it is difficult to understand the relationship between the category of “digital economy” and other economic categories, and thus to determine its place in modern economic science. Such a situation complicates the theoretical analysis of the digital economy, in some cases causing confusion, because the digital economy is not distinguished and sometimes even identified with other economic categories used to reflect the presence of information component in economic, financial and social processes. In connection with the problems listed above, it is clear that since the emergence of a new category has a significant impact on the entire terminology apparatus of economic science, its generally accepted definition must meet certain requirements. First of all, the content of the new category must demonstrate its necessity: the set of relations it describes must be sufficiently new and specific to be able to be disclosed through already



existing economic categories (or it would be too complicated).

METHODOLOGY

The research methodology is based on an analysis of scientific sources and normative instruments, scientific literature and reports on the digital economy and ICT development. The author analyzed selected publications addressing both the problems of conceptualizing the digital economy as a complex socio-economic phenomenon and its differences from other concepts and categories, and applied aspects of the digital economy, including the introduction of appropriate technologies. The decision to reflect the publication in the present article was made by experts, including on the basis of its potential interest for research in the field of digital economy and the formulation of recommendations on implementation of state policy in the sphere of development of information society and digital economy as a whole.

RESULTS

As this review shows, the definition of digital economy in domestic and foreign literature is diverse, and in general it can be understood as *the economic activity that results from billions of everyday online connections among people, businesses, devices, data, and processes*. The backbone of the digital economy is hyper-connectivity, which means the growing interconnectedness of people, organizations, and machines that results from the Internet, mobile technology and the Internet of things (IoT). The digital economy is taking shape and undermining conventional notions about how businesses are structured, how firms interact, and how consumers obtain services, information, and goods.

Professor Walter Brenner of the University of St. Gallen in Switzerland states: *“The aggressive use of data is transforming business models, facilitating new products and services, creating new processes, generating greater utility, and ushering in a new culture of management.”*

Recently, TechCrunch, a digital economy news site, noted, *“Uber, the world's largest taxi company, owns no vehicles. Facebook, the world's most popular media owner, creates no content. Alibaba, the most valuable retailer, has no inventory. And Airbnb, the world's largest accommodation provider, owns no real estate. Something interesting is happening”*[1].

Examples of definitions of the digital economy abroad

A global network of economic and social activities that are supported through boards such as the Internet and mobile and sensor-based networks [2].

A new way of thinking about the knowledge and digital economy, which shapes new digital skills and opportunities for society, business and government [3].

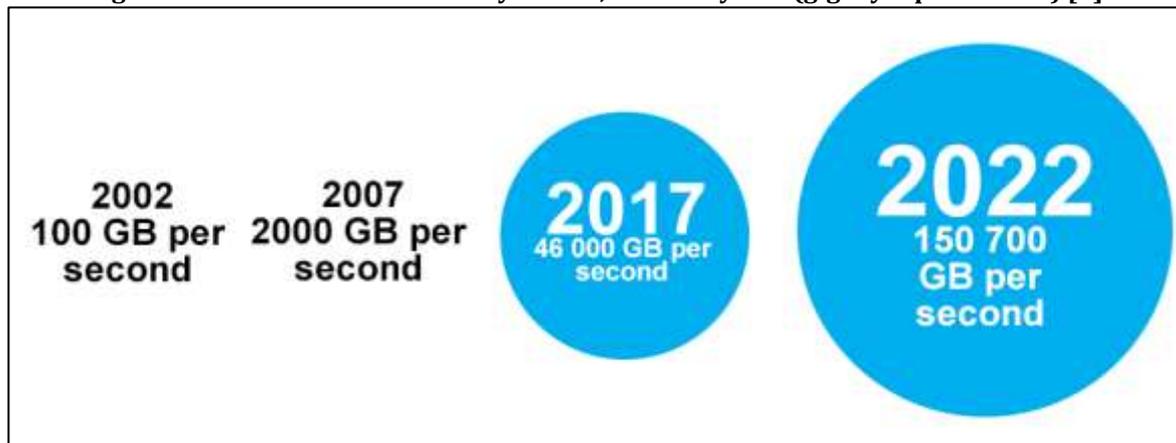
A digital economy, however, is better understood as a business transaction in markets based on the Internet and the World Wide Web [4].

A complex structure consisting of several levels/slots connected by an almost infinite and growing number of nodes [5].

An economy that can provide high-quality ICT infrastructure and mobilize ICT capabilities for the benefit of consumers, business and Government [6].

Drivers of the digital economy.

The digital economy continues to develop at an incredible speed thanks to its ability to collect, use and analyze huge amounts of machine-readable information (digital data) about virtually everything. Such digital data are collected through analysis of the “digital footprints” that remain on different digital platforms as a result of the activities of individuals, social groups or enterprises. Global Internet Protocol (IP) based traffic, which provides a rough idea of the scale of data flows, increased from about 100 gigabytes (GB) per day in 1992 to over 45,000 GB per second in 2017 (see figure 1).

**Figure 1. World Internet Traffic dynamics, selected years (gigabyte per second) [7].**

This is despite the fact that the data-based economy is now only in its infancy; global IP traffic is projected to reach 150,700 GB per second by 2022 as a result of an increasing number of new users on the Internet and the expansion of the Internet of Things.

The impact that data collection and use have on development and policy depends largely on the type of data concerned: personal or impersonal; closed or publicly available; used for commercial or public purposes; provided voluntarily; obtained through surveillance or extrapolated analytically; confidential or non-confidential. An entirely new “data value chain” has emerged, linked to companies that collect, summarize, store, analyze and model data. The cost is created as a result of the transformation of data into “digital intelligence” and monetization in the process of their commercial use.

Global implications of the growing influence of digital platforms

Digital platforms are playing an increasing role in the world economy. In 2017, the combined value of platform-based companies with a market capitalization of more than \$100 million was estimated to be more than \$100 billion. The United States of America's \$2.5 trillion budget exceeded an estimated \$7 trillion. This is 67% more than in 2015. Some global digital platforms have gained very strong market positions in certain segments. For example, Google owns about 90% of the market for Internet search engines. Facebook accounts for two-thirds of the world's social networking market and is the most popular social networking platform in over 90% of countries. Nearly 40 percent of the world's online retail sales are made through Amazon's network, and its subsidiary Amazon Web Services accounts for roughly the same share of the global market for cloud infrastructure services. In China, the communication network “Wechat” (owned by the company “Tencent”) has more than a billion active

users, and its payment system, together with the system “Alipay” (owned by the company “Alibaba”) covers virtually the entire Chinese market for payments made through the cellular network. It is estimated that Alibaba accounts for almost 60% of China's e-commerce market [8].

The rapid consolidation of the dominance of these major digital giants in the market is due to a number of factors. The first factor is related to the network effect (i.e. the more users a platform has, the more its value for all). The second factor concerns the ability of platforms to extract, monitor and analyze data. As with the network effect, more users mean more data, which in turn allows you to outperform potential competitors and take advantage of the pioneer. The third factor is that as soon as the platform begins to scale up and offer a variety of integrated services, the cost to users associated with the transition to other service providers will begin to increase.

Global digital platforms have taken steps to strengthen their competitive position, including absorbing potential competitors and offering related products and services. Examples of the most notable takeovers of companies operating on digital platforms include the acquisition of the social network “LinkedIn” by Microsoft and the acquisition of the communications network “Whatsapp” by Facebook. Alphabet companies (Google) and Microsoft invested in telecommunications equipment by taking over Motorola and Nokia, respectively. Other large-scale acquisitions in the retail, advertising and marketing, and non-residential real estate sectors have also taken place on major platforms.

The information and communication technology development Index

The ICT Development Index (IDI), which has been published annually since 2009 by International Telecommunication Union (United Nations specialized agency for information and



communication technologies), is a composite index that combines 11 indicators into one benchmark measure. It is used to monitor and compare developments in information and communication technology (ICT) between countries and over time.

The main objectives of the IDI are to measure:

- the *level and evolution over time* of ICT developments within countries and the experience of those countries relative to others;
- progress in ICT development *in both developed and developing countries*;
- the *digital divide*, i.e. differences between countries in terms of their levels of ICT development;
- the *development potential* of ICTs and the extent to which countries can make use of them to enhance growth and development in the context of available capabilities and skills [9].

The development of the digital economy in Uzbekistan

The initial step towards the formation, implementation and development of digitalization as a new innovative component of the economy was the adoption of the Decree of the President of the Republic of Uzbekistan “On the State Program for the implementation of the Strategy of Action on five priority directions of development of the Republic of Uzbekistan in 2017-2021”, the main direction of which is the formation of an innovative model of economic development of Uzbekistan. Further, the resolution of the President of the Republic of Uzbekistan Shavkat Mirziyoev from July 3, 2018 “About actions on the development of digital economy in the Republic of Uzbekistan” is accepted [10]. In fact, this document represents a comprehensive strategy for the development of information technologies in the country for the next decade. In addition, in accordance with the tasks defined in the State Program for the implementation

of the Strategy for Action on five priority directions of development of the Republic of Uzbekistan in 2017-2021 in the “The Year of science, education and digital economy”, as well as to further enhance the competitiveness of the economy through the widespread introduction of modern information technologies in the sector of the economy and the system of public administration and expansion of telecommunications networks, the President of the Republic of Uzbekistan has decreed the resolution from April 28, 2020 “On additional measures to widely introduce the digital economy and e-government [11]. At present, information and telecommunication systems are an essential attribute of human life. The rapid evolution of information and communication technologies increases the possibility of new products, innovative techniques and technologies in all sectors of the economy of Uzbekistan.

The digital economy in numbers and comparisons

According to the ICT Development Index (IDI), in 2017, Uzbekistan ranked 95th (Index - 4.9) among 176 countries (for comparison: Belarus - 32nd (7.55), Russia - 45th (7.07), Kazakhstan - 52nd (6.79). The first place was occupied by Iceland (8.98), the second - by South Korea (8.85).

According to the Index of telecommunication infrastructure, Uzbekistan outperforms only Turkmenistan and Tajikistan among CIS countries and lags almost twice behind Russia, Belarus and Kazakhstan with the Index of 0.3307, while South Korea has the best Index 0.8496.

Telecommunication Infrastructure Index (TII) is based on the following five indicators per 100 inhabitants: a number of Internet users (1) and fixed telephone lines (2), as well as subscribers: mobile communications (3), wireless broadband (4) and fixed broadband (5) networks.

Table 1. ICT Development Index 2017 [12]

IDI 2017 Rank	Economy	IDI 2017 Value
1	Iceland	8.78
2	Korea (Rep.)	8.80
3	Switzerland	8.66
4	Denmark	8.68
5	United Kingdom	8.53
6	Hong Kong, China	8.47
7	Netherlands	8.40
8	Norway	8.45
9	Luxembourg	8.40
10	Japan	8.32



In terms of Internet speed indicators (data from Speedtest Global Index website for September 2019), Uzbekistan is ranked 116th among 176 countries in terms of broadband (fixed) and 129th in terms of mobile Internet, behind Tajikistan (111th and 135th places), Kyrgyzstan (83rd and 101st), Kazakhstan (68th and 97th), Belarus (51st and 121st) and Russia (46th and 93rd).

The first place in this indicator is occupied by Singapore for fixed Internet, and South Korea for mobile Internet. At the same time, if this rating indicates the speed of broadband Internet in Singapore - 196.88 Mbit / s, in Uzbekistan - 19.91 Mbit / s, for mobile in South Korea - 95.11 Mbit / s, in Uzbekistan - 10.79 Mbit / s, that is ten times lower than the leaders of the rating [13].

According to the e-Government Development Index (EGDI), one of the indicators in the UN e-Government 2018 study, Uzbekistan was ranked 81st, ahead of Kyrgyzstan (91st), Tajikistan (131st) and Turkmenistan (147th), and lost to Kazakhstan (39th), Belarus (38th) and Russia (32nd) [14].

“The e-Government Development Index is a weighted average of normalized indicators for three main aspects of e-government: the volume and quality of online service expressed as the “online service index” (OSI); the state of telecommunication infrastructure development, or “telecommunication infrastructure index”. (TII) and internal human capital, or “human capital index” (HCI).

CONCLUSION

The experience of foreign countries shows that the digital economy develops simultaneously in a wide range of directions and cannot be built by a limited number of companies, even if they are given special powers and resources. Therefore, a major role in the digital economy should be played by private businesses with a strong entrepreneurial and innovative approach, and the state should create infrastructure and conditions for private initiative.

At the same time, it is important that the development of ICT in the country, including accessible high-speed Internet, keep pace with the interest of businesses to introduce digital technologies in various production processes in order to increase productivity, reduce costs, and increase productivity and profits.

The digital economy is a new kind of economic relationship that is already present in all sectors of the world market and is actively developing. The digital economy may soon become a leading segment, a driver of growth and development of the economic system as a whole. This is due to the fact that the digital economy has some advantages over material commodity-money exchanges, such as the speed of delivery of goods or almost

instantaneous service. Another advantage of the digital economy is the lower production and transaction costs. One of the key advantages of the digital economy over traditional ones is that electronic goods are almost inexhaustible and exist in virtual form, while material goods are almost always limited in quantity and are much more difficult to access. Today electronic economy is already going beyond purely economic processes. Digitalization is being introduced into social processes, people's successful life is increasingly dependent on it, and there is also a large-scale introduction of digital technologies into the work of government organizations and structures. If we consider the situation as a whole, Uzbekistan does not hold leading positions in terms of the level of development of digital economy, but it has potential, year by year improving its position. At the same time, the competition in this area remains very tough, therefore, we must not rest on our laurels, it is necessary for the government and business to work together to further develop the digital economy. These activities need to consider a number of issues, risks and threats highlighted in the article in order to focus resources and efforts on neutralizing them.

Based on the analyzed literature, it can be concluded that the target indicators for further development of information and telecommunication systems in the long term will be:

- restoration of modern infrastructure in the field of telecommunications and informatization;
- providing access to infrastructure in all districts and corners of the Republic of Uzbekistan;
- informatization of the economy of the Republic of Uzbekistan;
- improving the competitiveness of information and communication technologies;
- improvement of education, quality provision of medical services, development of science, social protection based on information and communication technologies.

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