Digital Transformation Processes in the Private and the Public Sectors in Uzbekistan

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Abstract

This article provides an overview of information about the digital economy and how it affects the development of society as well as many areas of life in the modern world. Digitalization is considered a factor in the development of the economy and improving the quality of life of the population. It also talks about the advantages of the digital economy, as a manifestation of the growth of the socio-economic effect in the implementation of digital technologies.

Keywords: digital economy; public services; E-government; digital technologies

1 Introduction

In theoretical works, the digital economy (DE) is usually understood as the production of goods using digital technologies. The peer-reviewed sources underline the importance of supporting technological development through "analog complements": an appropriate regulatory framework, digital literacy, and institutional accountability.

The spread of digital technologies over a long period determines the trails of economic and social development, which more than once led to fundamental changes in people's lives. The emergence of the digital economy is one of the priority areas for most countries. As a rule, they are characterized by a long period of implementation for the "digital development agenda" and a sequence of priorities from the construction of a basic information

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and communication infrastructure, coordinated policy in this area, and programs to support the widespread introduction of digital technologies.

The basis for the effective development of the digital economy is digitalization, under the influence of which the economy develops more efficiently and its competitiveness increases. The sphere of influence of new technologies are limitless and the following are great examples: social life, production, science, business, administration, etc.

The digital economy influences the national economy through innovative information and digital communication technologies (ICT) - the Internet, mobile communications, networks, sensor networks, online modes, electronic workflow, information accounting and storage, etc. Digitalization is one of the directions in world development that determines the development of the economy and society and keeps a course toward increasing the efficiency of the economy and improving the quality of life. Thus, in this paper, first, we will review a literature review on the evolution of the digital economy, and then we choose the appropriate research.

2 Literature Review

A Japanese professor first used the concept of digital economy in the 1990s during the Japanese crisis. In 1995, it was used in Europe in Don Tapscott's " The Digital Economy: Promise and Danger in the Age of Network Intelligence" and in the research work of Nicholas Negroponte (Massachusetts, USA) in 1995 [1].

First, it should be noted that the digital economy consists of a chain of interrelated production and management processes, an integral element of which is inter-chain (inter-human, inter-machine, cloud-based, inter-data center) communication using digital technologies as information exchange [3].

The digital economy is an economic activity in which the main factor in production and service is information in the form of numbers, with the help of processing a large amount of information and analyzing the result of this processing to implement more effective solutions than the previous system in production, service, technologies, devices, storage, product delivery [2]. In other words, the digital economy is an activity connected with the development of digital computer technologies in the provision of online services, electronic payments, Internet trade, crowdfunding, and other types of industries [5].

Thus we can define the digital economy as an economic activity that is implemented and managed with the help of digital technologies in the context of a shortage of economic resources. The main problem facing any economic system is the scarcity of resources, and the main attention should be focused on solving this problem in the digital economy.

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Three fundamental elements of the notion of the digital economy can be distinguished, according to Thomas Mesenbourg (2001) [7]:

- E-business infrastructure (hardware, software, telecom, networks, human capital, etc.);
- E-business (how business is performed; any operation that an organization conducts over computer-mediated networks); and
- E-commerce (transfer of goods, for example when a book is sold online).

According to Bill Imlah, emerging applications like social media and Internet search are erasing these distinctions and increasing complexity. [8]

3 Research Methodology

In the article, comparative analysis, the market capitalization of top and bottom companies, development trends of multinational companies based on digital platforms, statistical grouping, and comparison of Internet coverage in regions were used to study the place of digital platforms in the world economy. In addition, based on the development of the digital economy, the use of Internet traffic is highlighted based on a dynamic analysis.

4 Analyses And Results

Analyses and results are divided into several subsections. In the first, we review the influence of digitalization on the economic sphere and in other countries and compare it with the local influence of digitalization.

Before doing analyses quickly review what is the digital economy and then shift to results. The digital economy is the display of all data in digital form. This allows you to quickly navigate the indicators and records that are compiled in organizations. In addition, in digital form, it is easier to find any information (e.g. statistical indicators).

First, the Internet came into our life. This allowed people to find useful information quickly. Now there is no need to go to the library to search for information, all the necessary information can be found using new technologies. Nowadays, people can buy everything even groceries without leaving their homes. To do this, all we need is to install the application or open the necessary site and order the product in our interest.

This is where the economy begins to intervene. After all, the sale and purchase of any product or service is an economic activity. Thus, it serves as a confirmation of all the above. Nevertheless, there are industries in which digitalization is slower. This applies to engineering, oil production, and agriculture. The reason behind this is that the industry is quite large and old, so it is more difficult to introduce new technologies there. However,

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oil-producing organizations have taken up this issue closely and begun to develop new programs that will improve their performance. They have created smart wells that allow you to quickly analyze and react to the situation. In this article, I would like to consider where this system is specifically used and where it can still be applied [6].

The use of a personal computer and the Internet can be attributed to the main prerequisite for digitalization in the ordinary life of citizens. The level of their use in Uzbekistan is lower than in Europe, but a positive trend is still observed (Table 1).

Table 1: Population using personal computers, by sex and age groups (as a percentage of the total population of the corresponding groups) [2]

	2019	**2020**	**2021**
Gender			
Male	78,4	81,0	82,8
Female	77,8	80,3	81,9
Age, Years			
15-24	96,5	97,5	97,0
25-34	93,9	95,0	95,5
35-44	87,8	91,0	92,3
45-54	75,0	78,9	84,0
55-64	53,8	59,0	65,6
65-74	31,5	35,1	65,6

The presented data show that the most active use of personal computers is the population under the age of 44, especially the age of 15-24 - 97%. The population aged 55-74 is less active. The percentage of the total population of this group is 65.6 %.

The positive effects of digitalization in society include improving the quality of life of citizens, increasing labor productivity, transparency of economic operations, and free platforms for promoting goods and services. The benefits of digitalization at the level of individual companies and products include the possibility of eliminating intermediaries, i.e. Digitalization allows companies to create websites for themselves to attract consumers and promote their products and services. On the other hand, consumers can choose the necessary goods and services on the Internet, on the websites of various companies, and online stores.

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Since 2000, information technology has become one of the priorities of the state policy of Uzbekistan. These are the state target program "Electronic Uzbekistan (2017-2023)", the state program "Information Society (2021-2024)", "Strategy for the Development of the Information Society in the Republic of Uzbekistan (RUZ)".

Supporting instruments that were valid until 2022 can be divided into two groups. Firstly, these are measures to support "traditional" digital technologies and purchase ready-made solutions in the public sector (e-government, public services, etc.), as well as to ensure the development of information infrastructure and broadband Internet access (for socially significant objects, small towns). Secondly, there are many measures of direct financial support for the development and implementation of the TIC within the framework of scientific, technical, and innovation policy.

At the beginning of 2021, there were about 30 of them, mainly grants and subsidies for technology developers, venture capital investments, and soft loans. Some measures are directly focused on digital technologies, many of which were introduced in the last two or three years due to the strengthening of the "digital agenda", as well as the launch of the National Technology Initiative, which defines end-to-end technologies (for different markets), almost completely coinciding with digital technologies, the national program "Digital Economy of the Republic of Uzbekistan" [9]. Many other measures support digital technologies in a wider range of topics.

As part of the implementation of the Decree of the President of the Republic of Uzbekistan "On national goals and strategic objectives for the development of the Republic of Uzbekistan for the period up to 2024", including the aim of solving the problem of ensuring the accelerated introduction of digital technologies in the economy and social sphere, the Government of the Republic of Uzbekistan based on the program "Digital Economy of the Republic Uzbekistan" the national program "Digital Economy of the Republic of Uzbekistan" was formed. The management system for the implementation of the national program “Digital Economy of the Republic of Uzbekistan” was approved by the Decree of the Government of the Republic of Uzbekistan “On the management system for the implementation of the national program “Digital Economy of the Republic of Uzbekistan” [9].

The set of new support measures provided for the National Digital Economy Program of the Republic of Uzbekistan is quite diverse and takes into account the specific features of digital technologies. Firstly, this was manifested in a significant focus on regulatory changes, including the introduction of new concepts and phenomena related to the digital economy (“smart contract”, “crypto-currency”, “Internet of Things”, “artificial intelligence” and others), removal of restrictions and gaps in laws that regulating rules to prevent

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the spread of digital technologies, for example, an authoritative list of telemedicine services, recognition of test results in the virtual sector, regulation of the use of personal data in various cyber-physical systems.

As part of the digital economy policy, for the first time in Uzbekistan, it is planned to actively use the "regulatory sandbox" tool (including in the financial sector). Significant attention was paid to the creation of digital platform infrastructure (for example, digital platform research and development), industrial digital platforms, agriculture, architecture, medicine, and other fields (limited to most industrial projects in the industry).

Further digitalization of public administration is planned - the introduction of digital platforms, systems, and cloud solutions in government bodies and the provision of public services:

- E-government services provided "proactively", including because of biometric authentication, electronic signature, and "electronic profile" of citizens and legal entities;
- Electronic document management and coordination of documents in state bodies;
- A unified system of data generated by them;
- Automation of control (supervisory) activities based on risk analysis using big data from inspection objects;
- A single window of digital feedback, etc.

Large-scale training in the digital economy is planned at all levels of education (school, secondary vocational, higher, retraining, and education), as well as the development of digital literacy and skills of the population (Table 2).

Table 2: Share of the population who used the Internet to receive state and municipal services, by type of settlement and gender and age groups, in the Republic of Uzbekistan (as a percentage of the total population of the corresponding group), 2021

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	Total	Including age, years									
		15-19	20-24	25-29	30-34	35-39	40-44	45-49	50-54	55-59	60-72
Total	28.8	21.9	33.2	40.7	41.1	40.1	37.2	32.0	23.8	17.7	8.2
Male	26.8	20.8	30.5	36.6	37.1	34.9	33.0	29.4	21.3	15.7	8.4
Female	30.5	23.0	35.9	44.9	45.1	45.2	41.1	34.4	25.9	19.2	8.0
City	32.1	23.6	34.9	44.5	45.1	44.4	41.6	36.4	27.2	20.4	9.2
Male	30.0	23.0	32.2	40.0	40.5	38.9	37.3	34.0	24.5	18.3	9.7
Female	33.8	24.2	37.6	48.9	49.6	49.5	45.6	38.6	29.3	22.0	8.9
Village	18.8	17.6	27.3	27.9	27.2	26.0	23.2	20.3	15.0	10.4	5.1
Male	17.5	15.6	25.3	25.8	25.9	22.1	20.1	17.8	13.7	9.6	4.9
Female	20.0	19.8	29.5	30.3	28.6	30.0	26.3	22.7	16.2	11.1	5.2

In total, the proportion of the population who used the Internet to receive state and municipal services is 28.8%. The urban population is the most active - 32.1%, and the rural population - 18.8%.

The most suitable system for every person is online services. An example is Agro Bank-online (mobile bank). With this application, each person can make a purchase or pay bills. In addition, this application facilitates the activities of the enterprise. There is an optimization of activities that allows you to reduce the time of sending money to your intermediaries and workers. In addition to a mobile bank, electronic document management also improves the organization's activities. Thanks to this, each employee, without leaving his workplace, has access to various documents. This improves the quality of work and improves the awareness of employees within the company, and with the help of this information is perceived as it was delivered. After all, when information is transmitted orally from one person to another, it is often paraphrased and loses its former meaning. Because of what often there are failures in work.

Another striking example of the digital economy is the service of Yandex Taxi or My Taxi. These services were aimed at providing services. These services allow customers to easily order a passenger taxi without contacting the dispatcher. In addition, it is possible to choose the necessary conditions in the car, which are divided into economy, comfort, comfort +, and business. In addition, customers can immediately find out the cost of their trip from point A to point B. Moreover, the most important point is that the user can trace the route of the trip. In addition the main advantage of this service is non-cash payment [10].

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Many people are accustomed to using electronic cards and often do not use cash. The Yandex taxi service solved this problem and now it is possible to pay for the trip "online" using a mobile bank. Thus, we have analyzed where the digital economy is already used. In addition, we revise where is it not used yet, but can be presented. As mentioned earlier, our country is developing and a lot of applications and programs have already been created for working in the office and for providing various services. An application such as Java or Wolfram CDF has been developed. These applications allow you to simulate various situations. The CDF file format allows you to create documents containing interactive mathematical objects. To create such documents, you need to use the full-fledged Wolfram Mathematica system, but already created documents can be used as stand-alone applications or integrated, for example into web pages [6]. This format has many advantages, some of which are - CDF files are easily integrated into HTML code - CDF files use real-time mathematical calculations this tool can be used in sports games such as football. Thanks to the CDF format, you can determine the trajectory of the ball. With the help of the sliders, we can set a certain running speed and impact force. This will allow the players to view the kick demo, which will allow them to use this data in the future. The CDF format is a single container for processing and disseminating research data, scientific simulations, and mathematical modeling in various fields, including sports. The digital economy is our future. With the help of digitalization, the life of humankind becomes easier. Organizations optimize their activities, which allows them to speed up business processes. In addition to organizations, there is an opportunity to use digitalization in sports games. That allows you to improve the results of the game.

5 Conclusion And Suggestions

Digital transformation is gaining importance today, especially during the current pandemic. Realizing the role of the digital economy in the economy of countries and its importance in world economic development it will be appropriate to implement the following:

- To study more comprehensive methods of support in countries that are advancing in the digital economy;
- creation of regulatory and legal bases for the digital economy in our country;
- creating the necessary infrastructure for the digital economy, first of all, connecting areas with limited or no access to the Internet to the system;
- improving the activity of the system of training specialists-personnel necessary for the digital economy;
- governments, civil society, academia, the scientific community, and the technology sector to develop joint research efforts to find new solutions;
- smart use of new technologies, strengthening partnerships, and strengthening intellectual leadership are needed to redefine the future contours of digital development strategies and globalization.

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