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DIGITAL ECONOMY AND ITS IMPACT ON BUSINESS AND MEDICINE TRANSFORMATION IN 2024: UZBEKISTAN'S EXPERIENCE AND ACHIEVEMENTS IN DIGITAL TRANSFORMATION

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Abstract
The digital economy has a large-scale impact on traditional forms of doing business, employment and social institutions. The article discusses the key areas of digital transformation, including the role of the Internet, the development of digital technologies in medicine, the impact on consumer behaviour and the global economy. It also gives examples of modern technological solutions and start-ups changing the landscape of industries. Special attention is paid to Uzbekistan's achievements in digitalisation and innovation.

Keywords: Digital economy, threats and risks to sustainable development, economic growth, state regulation of the economy, scientific and technological progress.

Аннотация:
Цифровая экономика оказывает масштабное влияние на традиционные формы ведения бизнеса, занятость населения и социальные институты. В статье рассмотрены ключевые направления цифровой трансформации, включая роль Интернета, развитие цифровых технологий в медицине, влияние на потребительское поведение и глобальную экономику. Также приведены примеры современных технологических решений и стартапов,

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изменяющих ландшафт отраслей. Особое внимание уделено достижениям Узбекистана в области цифровизации и инноваций.

Ключевые слова: цифровая экономика, угрозы и риски устойчивому развитию, экономический рост, государственное регулирование экономики, научно-технического прогресса.

The digital economy is an economic activity based on the use of digital models, goods, processes and technologies. In 2024, digital transformation encompasses almost all spheres of life and business. The Internet and related technologies have become the basis for a new paradigm of interaction between companies, states and consumers. The Internet has played a key role in changing classic value chains. It has shifted companies from centralized business models to flexible, customer-centric strategies. Today's digital business models offer greater efficiency, scalability and speed of innovation.

An example is the global trend of shifting from offline sales to e-platforms. Already in 2024, the annual global e-commerce volume will exceed $9.3 trillion, and more than 65% of customers make regular online purchases.

In their works, many researchers such as V.V. Asaula, A.O. Mikhailova [1] Minakov V. F., Shuvayev A. V., Lobanov O. S. [2] Polyanin A. V., Dokukina I. A. [3] Pshenichnikov V. V. Prospects [4] have quite widely revealed that, thanks to digitalization and other technological changes, humanity has entered a new era of global change. Digitalization, despite concerns about job losses, simultaneously creates new forms of employment. Thus, a study conducted in France showed that between 2005 and 2020, the Internet contributed to the creation of 1.2 million jobs, despite the disappearance of about 500 thousand. This gave a net increase of 2.4 new jobs for every one lost. Today, in 2024, thanks to the development of remote employment, freelancing and digital platforms (Upwork, Freelancer, Fiverr), millions of specialists around the world work regardless of their geographic location.

Digital technologies have changed consumer behavior. Online prices are on average 10-15% lower than in traditional retail. Price comparison sites increase competition and reduce the price gap between the minimum and average cost of

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goods. The consumer surplus from web services in 2024 is estimated at $30-50 per month per user in European countries, while the overall surplus in the economy reaches hundreds of billions of dollars annually. Medicine has become one of the most active areas of implementation of digital solutions. An example is the British company Benevolent AI, which uses machine learning to develop drugs. In 2023, it signed a contract with a US pharmaceutical corporation for more than $800 million for joint research in the field of treatment of neurodegenerative diseases.

Russian startup doc.ai uses artificial intelligence to analyze a patient's physiological condition in real time via a voice interface. These technologies allow for remote diagnostics without the participation of a doctor.

Babylon Health, a UK company developing medical chatbots, has attracted more than $700 million in investments by 2024, and its market value has exceeded $2.5 billion. 3D printing of medical products is also developing rapidly: prostheses, individualized orthopedic products, and components for surgical operations are printed.

Digital solutions have been actively used in the fight against the COVID-19 pandemic and in the creation of vaccines. In 2024, the development of platforms for monitoring public health, telemedicine, and mobile medical applications continues. [5]

The Internet accounts for an average of 4.3% of GDP in the world's largest economies in 2024, exceeding the share of traditional industries such as energy or agriculture. In 2024, more than 5 billion people have access to the Internet, and the volume of global digital content exceeds 200 zettabytes. Platforms, social networks, and cloud technologies have become tools for economic integration and global cooperation. Facebook (now Meta), Google, Amazon, and other giants are actively expanding in developing countries, forming new digital markets. Uzbekistan has demonstrated significant progress in the development of the digital economy, becoming one of the leaders in digitalization in Central Asia. An example of the development of the IT sector in Uzbekistan is IT Park Uzbekistan, which was created in 2019.

IT Park Uzbekistan has become a center of attraction for startups and IT companies. In 2024, the International Center for Digital Technologies

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"ENTERPRISE Uzbekistan" was founded with the aim of increasing the export of IT services to $ 5 billion and creating 100 thousand jobs. By 2024, the number of IT Park residents exceeded 500, and the volume of IT services exports reached $300 million. The IT Park Ventures venture fund with $10 million capital was launched to support startups with global potential.

Next is Electronic Government and Digital Services. The my.gov.uz portal provides more than 750 types of electronic government services. By 2024, more than 60% of government services are available online, and the number of mobile application users has exceeded 2.5 million.

Uzbekistan has risen to 63rd place in the UN ranking for e-government development, joining the group of countries with a “very high” level of development.

For the education and training of IT personnel, IT Park University, founded in partnership with EPAM Systems, provides training for IT specialists with practical experience and internships, including international programs. [6]

In Uzbekistan, the digital infrastructure was significantly modernized between 2017 and 2022: the total length of fiber-optic communication lines increased almost sixfold and reached 118 thousand kilometers, and the capacity of international telecommunications networks increased more than 28 times - up to 1800 Gbit / s by January 2022 (Fig. 1). [7]

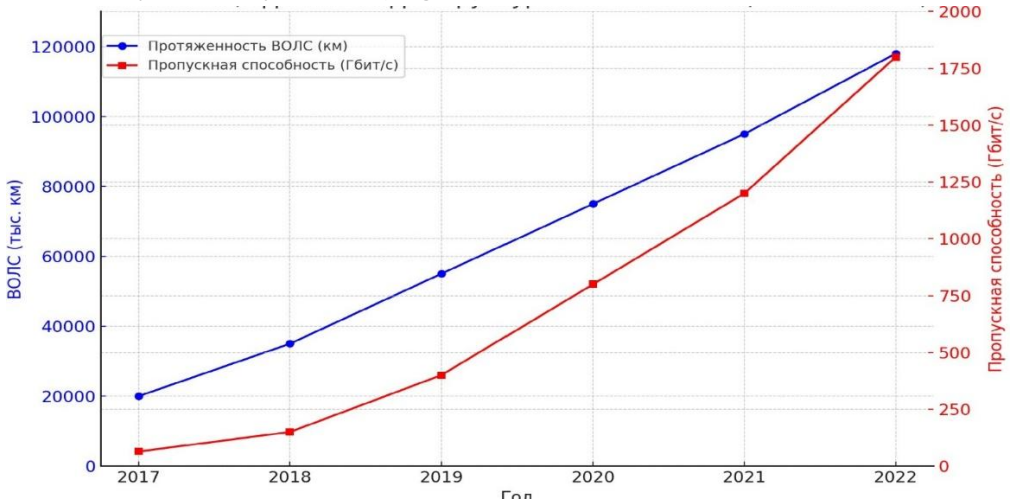

Fig. 1. Growth and modernization of digital infrastructure in Uzbekistan (2017–2022)

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The figure shows the dynamics of key indicators of the digital infrastructure of Uzbekistan from 2017 to 2022. The graph includes the length of fiber-optic communication lines (FOCL) and the capacity of international Internet channels, each of which illustrates a separate aspect of development:

Length of fiber-optic communication lines (FOCL) in the country In 2017, the total length was approximately 20,000 km. By 2022, it had increased to 118,000 km, which is almost 6 times higher than in 2017.

The capacity of international Internet channels between Uzbekistan and the outside world, in 2017 this figure was 64 Gbit/s. By the beginning of 2022, it reached 1800 Gbit/s, which corresponds to an increase of more than 28 times.

Thus, the growth of fiber-optic communication lines indicates a large-scale modernization of telecommunications infrastructure, expansion of broadband Internet coverage in remote regions and improved communication quality. Such growth provides higher speed of access to global Internet resources, connection stability and the ability to process large volumes of traffic. This is especially important for the development of online services, video conferencing, cloud services and digital platforms. In conclusion, it can be said that the digital economy is changing approaches to work, doing business, providing medical care and interaction between states and citizens.

Despite the successes achieved, we are only at the beginning of this journey. In the coming years, an increase in the number of innovations is expected that will further integrate digital technologies into everyday life. The digital economy continues to transform the global landscape of business, medicine and public administration. Uzbekistan, thanks to strategic initiatives and investments in digital infrastructure, occupies a leading position in the region in terms of the pace of digitalization. The country's achievements in the field of IT, e-commerce and digital services serve as an example of the successful integration of technology into the economy and society.

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