

PROSPECTS FOR THE DEVELOPMENT OF DIGITAL TECHNOLOGIES AND ARTIFICIAL INTELLIGENCE IN THE CONDITIONS OF NEW UZBEKISTAN

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Annotation: *This article analyzes the prospects for the development of digital technologies and artificial intelligence (AI) in the context of New Uzbekistan. It highlights the reforms being implemented based on the “Digital Uzbekistan – 2030” strategy, presidential decrees on AI development, and international cooperation programs, including the introduction of AI technologies in sectors such as the economy, public administration, healthcare, agriculture, education, and energy. The article also examines challenges such as the shortage of qualified personnel, financing, and cybersecurity, along with solutions to address them.*

Keywords: *digital transformation, artificial intelligence, Digital Uzbekistan, digital economy, information security, international cooperation, scientific research, cloud technologies, AI in education, digital infrastructure, startups, cybersecurity.*

Within the framework of the New Uzbekistan strategy, digital transformation is regarded not only as a key factor in internal economic and social development but also as a vital platform for positioning the country as an active participant in the global digital economy. According to the World Economic Forum (WEF), “by 2025, more than 30 percent of the global economy will be based on digital technologies” [8]. This trend creates opportunities for Uzbekistan to introduce new business models reliant on artificial intelligence (AI) and big data analytics.

Within the scope of the strategy, the country is implementing large-scale reforms aimed at rapidly advancing digital transformation across economic, social, and administrative sectors. “Digital transformation is not merely a technological change but signifies the renewal of entire business models and the dynamics of social systems” [13]. Adopted in 2020, the “Digital Uzbekistan – 2030” strategy aims to enhance the country’s global competitiveness by integrating AI and digital technologies into the economy, public administration, social services, and agriculture.

Furthermore, the strategy seeks to “explore and apply in practice the use of virtual and augmented reality, artificial intelligence, cryptography, machine learning, big data analytics, and cloud computing technologies in economic sectors” [1]. This strategy not only focuses on developing internal capabilities but also aims to transform Uzbekistan into an active participant in the global digital economy by leveraging international expertise.

The development of digital technologies and artificial intelligence (AI) is one of the priority directions of state policy in the Republic of Uzbekistan. On October 5, 2020, the President approved the “Digital Uzbekistan – 2030” strategy through Decree No. PF-6079, which outlined key objectives such as “developing the digital economy, widely implementing information and communication technologies, and digitizing public services” [1]. Within this strategy, it is planned to “increase the share of electronic public services provided through the Unified Interactive Public Services Portal to 70% by 2025 and 90% by 2030, relative to the public services offered by Public Service Centers” [1]. This simplifies citizens’ access to public services and reduces bureaucratic barriers.

On February 17, 2021, Resolution No. PQ-4996, titled “On Measures to Create Conditions for the Rapid Introduction of Artificial Intelligence Technologies,” marked a significant step in the AI sector. The resolution outlined tasks such as “implementing AI technologies in economic sectors, social spheres, and public administration systems, organizing scientific research, and developing international cooperation” [2]. The document envisages the creation of financial and institutional support mechanisms for AI projects, as well as the establishment of specialized research institutes. As a result, “in 2022, a Research Center for Artificial Intelligence and Big Data Analytics was established under the Tashkent University of Information Technologies” [9].

Within the framework of international cooperation, “in collaboration with Samsung Electronics, the ‘Samsung Innovation Campus’ project was implemented to enhance students’ practical programming skills in the Internet of Things (IoT), artificial intelligence, mobile programming, and big data at higher education institutions in Uzbekistan” [5]. Additionally, “in 2024, an investment fund worth 50 million USD was established to support startups in AI and digital technologies” [11].

The Resolution No. PQ-358, adopted on October 14, 2024, titled “On Approving the Strategy for the Development of Artificial Intelligence Technologies by 2030,” outlined a series of long-term goals for advancing AI technologies. The resolution set specific timelines, including “establishing a ‘big data’ database by September 1, 2025, and launching computing capacities designed for data processing within AI technology implementation projects by May 1, 2026” [3]. This document demonstrates Uzbekistan’s commitment to aligning with global trends in the AI sector and its readiness to invest in infrastructure development. The strategy also sets ambitious targets, such as “increasing the volume of AI-based software products and services to 1.5 billion USD and positioning Uzbekistan among the top 50 countries in the government AI readiness index” [3].

Additionally, the Decree No. PF-60, adopted on January 28, 2022, titled “On the Development Strategy of New Uzbekistan for 2022–2026,” placed significant emphasis on digital transformation. It highlighted key initiatives, such as “abolishing the practice of requiring documents confirming specific facts, such as birth certificates, driver’s licenses, certificates, and diplomas, through the introduction of the digital passport project” [4]. Furthermore, the decree stipulated

“establishing a practice where no additional documents are required when accessing public services through identification via ID cards” [4]. This decree not only enhances convenience for citizens but also contributes to improving the efficiency of public administration.

According to the Statistics Agency of the Republic of Uzbekistan, “as of January 1, 2024, the number of internet subscribers in Uzbekistan reached 30.1 million,” accounting for more than 85% of the population [10]. This figure indicates significant growth compared to previous years and reflects the ongoing development of Uzbekistan’s digital infrastructure.

Statistical data shows that “in 2022, Uzbekistan’s digital economy accounted for 2.5% of the gross domestic product, with a target to increase this share to 5% by 2025 and 10% by 2030” [6]. The growth of the digital economy is closely tied to the integration of AI technologies across various sectors.

Normative-legal acts are creating a favorable environment for the development of AI technologies while also addressing issues of information security and data privacy. For instance, Resolution No. PQ-5234, adopted in 2021, titled “On Measures to Introduce a Special Regime for the Application of Artificial Intelligence Technologies,” established a special regime for AI implementation, which “allows the exemption of certain regulatory requirements during the execution of experimental pilot projects” [12].

Digital technologies and AI play a crucial role in enhancing efficiency and creating new opportunities across various economic sectors. The Presidential Decree “On Approving the Strategy for the Development of Artificial Intelligence Technologies by 2030” aims to broadly implement and develop AI technologies in social and economic sectors to establish the production of new, high-value-added products and services. The priority directions for the implementation of AI technologies, as outlined in the decree, include:

- **Banking and Finance:** Preventing fraud, assessing users’ payment capabilities, and forecasting market trends;
- **Tax and Customs:** Reducing the share of the shadow economy, predicting suspicious customs operations, and managing risks;
- **Healthcare:** Diagnosing diseases, determining treatment methods, analyzing medical images, and managing patient data;
- **Agriculture:** Forecasting crop yields, managing agricultural resources, and monitoring the cultivation processes of crops, poultry, fish, and livestock;
- **Energy:** Managing energy resources, optimizing energy production and distribution, developing the use of renewable energy sources, and forecasting demand for them [3].

In Uzbekistan, artificial intelligence technologies are being widely applied not only in banking and finance, tax and customs, healthcare, agriculture, and energy but also in the education sector. The decree places special emphasis on training qualified personnel in AI, strengthening scientific research, and promoting technological knowledge.

The document states that “the development of scientific potential in the AI field will be prioritized, with the creation of educational programs involving foreign experts and scientists, and the training of specialists in line with international standards” [3]. To this end, plans include increasing the number of bachelor’s and master’s programs in AI by 2025 and establishing joint programs with leading foreign universities.

Furthermore, “the introduction of specialized courses and classes on AI and modern digital technologies in educational institutions, as well as the development of professional development programs for educators, has been mandated” [3]. This will provide young people with broad opportunities to master modern technologies.

Another significant aspect is that “specialized AI-focused schools and technoparks will be established, and an education system based on the integration of science and industry will be formed” [3]. This, in turn, will facilitate the convergence of science and practice.

In the future, Uzbekistan has the potential to achieve global competitiveness in the field of artificial intelligence, but challenges remain. The shortage of AI specialists relative to demand, limited funding allocated for sector development, and a lack of cybersecurity personnel are notable issues. For instance, “over 10,000 cyberattacks were recorded in 2024 alone” [7]. Addressing these challenges requires enhancing the education system, increasing research in AI, and strengthening cybersecurity infrastructure.

In conclusion, the development of digital technologies and artificial intelligence in the context of New Uzbekistan opens significant opportunities for rapid modernization in the country’s economic, social, and administrative sectors. The “Digital Uzbekistan – 2030” strategy, legislative reforms, scientific research activities, and international cooperation initiatives are ensuring substantial achievements in this field. Official statistics and research indicate that Uzbekistan has the potential to solidify its position in the global digital economy. However, addressing issues related to information security, training qualified personnel, securing financial resources, and enhancing international competitiveness is critical for future success. By further strengthening collaboration between state policies and the private sector, Uzbekistan has the opportunity to become one of the leading countries in artificial intelligence and digital technologies.

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