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ARTIFICIAL INTELLIGENCE IN DIGITAL TRANSFORMATION OF UZBEKISTAN

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Abstract

In the context of globalization and the digitalization of the economy, the role of artificial intelligence (AI) in accelerating the digital transformation of national economies has become increasingly relevant. This article is dedicated to analyzing the impact of AI on the development of Uzbekistan's digital economy within the framework of the strategic program "Digital Uzbekistan 2030". The potential of AI as a tool for enhancing the efficiency of public administration, stimulating economic growth, improving the quality of life for the population, and ensuring the sustainable development of the country is examined. The study's findings underscore the importance of developing and implementing a comprehensive approach to AI integration, which will enable Uzbekistan to achieve its digitalization goals and ensure sustainable development in the long term.

Keywords

artificial intelligence, digital economy, digital transformation, "Digital Uzbekistan 2030", economic development, innovative technologies, sustainable development.

In the era of digitalization, where technologies are rapidly transforming the face of the economy and society, the role of artificial intelligence (AI) is becoming increasingly significant. Countries around the world recognize the potential of AI as a key driver of economic growth, innovation, and social well-being. Uzbekistan, aiming to realize its ambitious digital and economic prospects, has also embarked on the active implementation of digital technologies, including AI.

The choice of this topic is driven by the relevance and significance of AI in achieving the country's strategic goals in digitalization. AI offers solutions for

enhancing government services, optimizing industrial processes, improving the quality of healthcare and education, and fostering business and innovation development. It is especially important to explore the role of AI in the context of Uzbekistan, where digital transformation is in an active phase and holds great potential for accelerating economic development and improving the quality of life for the population.

The "Digital Uzbekistan 2030" strategy, approved by the Decree of the President of the Republic of Uzbekistan, is a key document that sets the direction for comprehensive digitalization of the country. The strategy aims to create a sustainable and dynamically developing digital economy that will contribute to the well-being of citizens and enhance the competitiveness of the national economy on a global level. The strategy places special emphasis on developing innovative infrastructure, supporting startups, and implementing advanced technologies, including AI. The development and application of AI in Uzbekistan can significantly improve the efficiency of public administration, stimulate economic growth, enhance the quality of life for the population, and ensure sustainable development of the country.

This study aims to identify the opportunities that AI opens up for Uzbekistan, analyze the current state, and develop recommendations for further promoting the country's digital transformation strategy with a focus on AI development.

Based on the analysis of the "Government AI Readiness Index 2023" report by Oxford Insights, in which our country ranks 87th out of 193 countries, and other documents, this study assesses global progress and challenges in the field of artificial intelligence (AI), with a particular focus on AI development in Uzbekistan. The analysis examines global AI readiness trends, highlighting the United States, Singapore, and the United Kingdom as leaders, demonstrating significant investments and infrastructure development to support AI. The report underscores changes in regional dynamics, with the growing influence of East Asian countries in the global AI context.

The study highlights, that emerging economies are actively participating in the development of national AI strategies, demonstrating an understanding of the technology's importance for economic development. This is particularly true for Uzbekistan, where the government has adopted the decree "On measures to create conditions for the accelerated implementation of AI technologies" [3], laying the foundation for the development of this field. Pilot projects in key economic sectors

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are already being implemented, and institutions have been established to support scientific research and AI implementation.

Analyzing global dynamics and specific examples from Uzbekistan has revealed not only the potential of AI to improve efficiency and quality of life but also the challenges related to ensuring the necessary infrastructure and specialist qualifications. Government measures, including specific regulatory and supportive initiatives, are aimed at creating favorable conditions for integrating AI into the economy and society.

The digital transformation of the economy underscores the need to adapt and improve current business processes within the digital economy framework, emphasizing the implementation of new technologies in all aspects of company operations. This encompasses everything from marketing and sales to logistics and customer service. Companies undergoing digital transformation can significantly enhance their efficiency, reduce costs, improve customer satisfaction, and strengthen their positions in a rapidly changing market. This process includes the digital reinterpretation of customer experience, business models, and production operations to increase profitability and return on investment, while also considering the need to achieve technological sovereignty.

An analysis of AI applications in Uzbekistan has identified significant achievements and prospects for using these technologies in various sectors. The government actively supports AI development and implementation, which is already reflected in several successful projects and initiatives.

- Education: AI is beginning to play a key role in transforming the educational process by enabling the creation of personalized learning programs and real-time assessment of student performance. Projects such as the development of intelligent tutoring systems help students receive individualized support and significantly improve the quality of education.

- Healthcare: In healthcare, AI is used in diagnostics, treatment, and patient monitoring. An example is the development of systems capable of analyzing medical images to detect cancer and other diseases at early stages, significantly improving treatment success rates.

- Agriculture: AI applications in agriculture optimize processes and increase crop yields. Using drones and AI to analyze crop conditions helps farmers make informed decisions about irrigation, fertilization, and plant treatment, greatly improving the quality and quantity of the harvest.

- Manufacturing: AI integration in manufacturing enterprises in Uzbekistan aims to increase process efficiency and reduce costs. Automation with AI improves

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production accuracy and speed, reduces defects, and optimizes energy and material expenses.

- Financial Services: In the banking and financial services sector, AI is employed to automate administrative tasks, enhance remote customer identification, and prevent fraud, conduct credit scoring and risk analysis, and improve customer experience. AI optimizes routine processes, reduces operational costs, allows for more accurate creditworthiness assessments, manages risks, and provides personalized service through chatbots. These technologies help banks increase efficiency and competitiveness in the market. At Alif, for example, a machine learning (ML) based credit scoring model for our 'Buy Now, Pay Later' (BNPL) product was developed. This allowed the bank to automate the processes of the credit committee, reduce default rates (payment delinquencies), and at the same time increase installment sales."

These examples demonstrate that Uzbekistan is actively integrating AI into key economic sectors, not only increasing their efficiency but also fostering innovation and technological progress in the country. Despite existing challenges such as the need to develop infrastructure and train qualified specialists, Uzbekistan shows significant potential in the field of artificial intelligence.

Addressing the multifaceted challenges associated with the advancement of artificial intelligence (AI) in Uzbekistan requires a comprehensive approach that encompasses various domains. Firstly, tackling the talent shortage necessitates substantial investments in education and training programs tailored to AI skills. By fostering collaborations between educational institutions, industry partners, and government bodies, Uzbekistan can develop a robust pipeline of skilled professionals equipped with the necessary expertise to drive AI innovation. Initiatives aimed at attracting and retaining talent, both domestically and internationally, through competitive incentives and conducive work environments will further bolster the AI workforce.

Simultaneously, infrastructure development stands as a critical enabler for the effective implementation and operation of AI systems. Investing in technological infrastructure, such as high-speed internet connectivity and data centers, will provide the necessary backbone for AI-driven solutions to flourish across various sectors. Moreover, ensuring data accessibility and quality is imperative for AI applications to thrive. Uzbekistan must prioritize efforts to enhance data governance frameworks, address privacy concerns, and promote the availability of diverse and high-quality datasets. Establishing clear regulatory frameworks and guidelines for the ethical and responsible use of AI, alongside

fostering collaboration and partnerships among government, academia, industry, and international organizations, will further catalyze AI-driven innovation and position Uzbekistan as a frontrunner in the global AI landscape. Through concerted action across these fronts, Uzbekistan can unlock the full potential of artificial intelligence to drive not only sustainable economic development, but also societal progress.

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