AMERICAN JOURNAL OF EDUCATION AND LEARNING
ISSN: 2996-5128 (online) | ResearchBib (IF) = 9.918 IMPACT FACTOR
Volume-3| Issue-4| 2025 Published: |30-04-2025|

INTERNATIONAL EXPERIENCE IN THE USE OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES IN ENTERPRISE MANAGEMENT IN THE CONTEXT OF THE DIGITAL ECONOMY AND THEIR APPLICATION IN UZBEKISTAN

https://doi.org/10.5281/zenodo.15242184

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Annotation

This article investigates international experiences in the use of artificial intelligence (AI) technologies in enterprise management within the digital economy and examines their applicability to Uzbekistan. It highlights the growing global significance of the digital economy and the transformative impact of AI on business efficiency, decision-making, and competitiveness. Drawing from the experiences of developed nations such as the United States, China, and the European Union, the paper presents practical cases where AI has improved operations in sectors like finance, logistics, and retail. The literature review outlines theoretical and empirical studies emphasizing AI's role in enhancing productivity and innovation. Using analytical and inductive research methods, the article evaluates Uzbekistan's national strategies—including the "Digital Uzbekistan - 2030" agenda—and identifies opportunities and challenges in implementing AI technologies locally. The discussion emphasizes AI's economic potential and recommends measures such as legal and technological infrastructure development, human capital training, and localized adaptation of international practices. The study concludes that AI can significantly contribute to Uzbekistan's digital transformation and competitiveness if supported by coordinated public-private efforts and strategic policymaking.

Keywords

Digital economy, artificial intelligence (AI), enterprise management, efficiency, innovative technologies, digital transformation, data analysis, automation, strategic directions of digital transformation.

Introduction. Today, the digital economy has become one of the key factors of global economic growth, playing an important role in optimizing production

processes, increasing efficiency, and ensuring competitiveness. In particular, the rapid development of artificial intelligence (AI) technologies is introducing fundamental changes into business management and decision-making systems. Around the world, many large companies are increasing efficiency by automating business processes, analyzing data, and providing individualized approaches to customers through the use of AI. Leading countries and companies globally are enhancing their level of competitiveness through the widespread application of AI technologies.

In developed countries such as the United States, China, and the European Union, AI technologies are widely used in enterprise management. For example, with the help of AI, successful outcomes have been achieved in areas such as financial report analysis, optimization of logistics processes, and forecasting customer behavior. In this regard, Uzbekistan is also implementing consistent reforms aimed at developing the digital economy and introducing modern technologies. Various projects and programs are being developed to expand opportunities for the effective use of artificial intelligence in business management. From this perspective, studying international experience and adapting it to the conditions of Uzbekistan holds significant importance.

Currently, our President Shavkat Mirziyoyev is paying special attention to the development of the digital economy in our Republic. Several laws, strategies, and programs have been developed in the country to encourage the introduction of digital technologies, the use of artificial intelligence and other innovative solutions. The reforms in this direction are creating a foundation for the digital transformation of enterprises. Our President developed the strategy “Digital Uzbekistan – 2030” (Decree No. PF-6079, year 2020)[155]. Within the framework of this strategy, a number of legal and organizational measures are being implemented to introduce artificial intelligence, big data, and other innovative technologies. These include:

- **Measures for the development of artificial intelligence:** On January 28, 2021, additional measures were introduced for the development of the artificial intelligence sector by Presidential Decree No. PF-6152[156]. The decree outlines the application of AI technologies in entrepreneurship, industry, and management, as well as encouraging scientific research and the training of personnel.
- **Support for small and medium-sized businesses:** The Resolution No. PQ-4769[157] dated July 22, 2020, provides for measures to assist in the implementation of

[155] Presidential Decree No. PF-6079
[156] Presidential Decree No. PF-6152
[157] Resolution No. PQ-4769

digital technologies in small and medium-sized business entities. This resolution is aimed at accelerating the digital transformation of enterprises.

• **Encouraging innovative development:** Presidential Decree No. PF-6094[158] dated October 28, 2020, introduced a new system for promoting innovative development. This decree envisages encouraging the use of digital technologies, including AI, big data, and cloud technologies.

Literature review. Currently, the term artificial intelligence (AI) is used as a general concept that encompasses specific notions such as computer vision, neural networks, and machine learning. This phenomenon is defined by describing technologies that involve the use of large volumes of data for analysis, modeling, and forecasting — referred to as "narrow AI." In contrast, "general AI" (strong AI) is described as a "super machine," meaning it has the ability to independently develop solutions and make decisions without relying on predefined models and rules.

The term AI is derived from the English language, and its translation as "sun'iy intellekt" (artificial intelligence) does not fully satisfy experts, as it does not completely reflect the essence of the technology. Therefore, specialists propose alternative terms such as "robotic intelligence," "non-human mind," or more precise terms like "neural network" and "machine learning." The concept of AI has evolved beyond being an analog of human intellect and now includes new forms explained through autonomous tools. According to experts, the success of AI is based on methods that differ from human reasoning.

Below, we will examine the development of AI using the example of Russia. The size of the AI market in the Russian Federation varies significantly depending on the research methodology. If we examine the criteria for assessing the maturity of AI sectors in detail, according to the results of the "Current Trends in the AI and Machine Learning Market" study conducted at the end of 2017, the AI segment in Russia amounted to 700 million rubles. By 2021, this market was expected to grow to 28 billion rubles. According to the authors of the study, this growth is driven by the activities of the financial sector, retail trade, and industry.

According to the research titled "Digital Economy: Global Trends and Practices in Russian Business" conducted by the Higher School of Economics, digital technologies ranked first in terms of their impact on business. This includes IoT and industrial automation (60%), digital design and modeling (58%), virtualization technologies, remote access, and remote offices (57%), as well as mobile technologies and omnichannel communication (55%).

[158] Presidential Decree No. PF-6094

Based on the analysis of data from American and British financial analysts, it is possible to draw clear conclusions that the rapid development of AI technologies and robotics leads to a significant increase in productivity. Experts believe that this figure will grow by 30% worldwide, while labor costs will decrease by 20–33%. Naturally, in the first place, such "disruptive innovations" will affect developed countries, leading to the technological reinvention of several key sectors. Brynjolfsson and McAfee (2014), in their book "The Second Machine Age,"[159] analyzed how modern technologies, particularly artificial intelligence and digital innovations, are transforming the economy. They emphasized the importance of AI in optimizing decision-making processes in enterprise management, efficiently managing resources, and expanding access to new markets. This research demonstrates that AI technologies play a critical role in increasing the competitiveness of enterprises.

Davenport and Ronanki (2018), in their article "Artificial Intelligence for the Real World,"[160] provided an analysis of the practical use of AI in enterprise management. They examined three main areas of AI application: process automation, improving customer relations, and creating new products. As an example, they highlighted the ability to analyze customer behavior and provide personalized services using AI.

Makridakis (2017), in his article "The Forthcoming Artificial Intelligence (AI) Revolution,"[161] studied the impact of AI technologies on society and businesses. This study provided analyses on how AI will reshape job positions, create new professions, and enhance the operational efficiency of enterprises. Makridakis developed a strong theoretical foundation regarding the future development of AI and its impact on the economy.

These studies lay the groundwork for deeply examining the possibilities and future prospects of using AI technologies in the context of Uzbekistan. The article titled "Development of Artificial Intelligence Technologies in the Context of the Digital Economy" [162]emphasizes the importance of AI technologies in the development of the digital economy in Uzbekistan. The research discusses the application of AI in enterprise management, particularly in optimizing decision-making processes and efficient resource management. This study shows that AI

[159] Brynjolfsson, E., & McAfee, A. (2014). The Second Machine Age: Work, Progress, and Prosperity in a Time of Brilliant Technologies. W.W. Norton & Company.
[160] Davenport, T. H., & Ronanki, R. (2018). Artificial Intelligence for the Real World. Harvard Business Review.
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technologies can play a key role in increasing the competitiveness of enterprises in Uzbekistan.

The article titled "Digital Transformation and Artificial Intelligence: The Experience of Uzbekistan"[163] presents analyses on the processes of digital transformation and the application of AI technologies in enterprise management in Uzbekistan. The research examines the use of AI in industry, agriculture, and the service sector, as well as the challenges encountered in implementing digital technologies and ways to overcome them. This work helps to define the strategic directions for developing AI technologies in the context of Uzbekistan.

President Shavkat Mirziyoyev, in the decree "Digital Uzbekistan – 2030: Strategy and Prospects,"[164] outlined the strategic directions for developing the digital economy and the use of AI technologies in Uzbekistan. This document includes measures such as introducing digital technologies, encouraging scientific research in the fields of AI and big data, and improving the training of specialists. This strategy provides a legal and organizational basis for the development of AI technologies in Uzbekistan.

The results of these studies indicate that Uzbek enterprises have the opportunity to improve efficiency, enter new markets, and increase their competitiveness through the use of AI technologies. Successful implementation of digital transformation processes requires close cooperation between the state, research institutions, and enterprises.

Methodology. During the process of writing this article, methods of data collection and selection were used. The results obtained were finalized using the induction method as a conclusive outcome. At the same time, during the course of conducting scientific research, the method of analysis was employed to study the relationships between international experiences in the use of artificial intelligence technologies in enterprise management under the conditions of the digital economy and their implementation in Uzbekistan.

Discussion and results. The use of artificial intelligence (AI) technologies in the context of the digital economy is widespread on an international scale and serves to significantly enhance efficiency in enterprise management. AI plays an important role in reducing company expenses, improving customer relations, and creating opportunities to enter new markets. Below, international experiences, economic indicators, and the potential for AI development in Uzbekistan are analyzed.

[163]Toshpo'latov, R. (2022). Digital Transformation and Artificial Intelligence: The Experience of Uzbekistan. Journal of Innovative Economy and Management.
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Economic Impact of AI

Country / Region	Economic Impact of AI	Sectors
United States	By 2030, AI is expected to add $3.7 trillion to the U.S. economy.	Finance, trade, healthcare
European Union	The impact of AI technologies on GDP is expected to increase up to ~14%.	Industry, automation
China	By 2030, AI is projected to increase China's GDP by 26%.	Retail, transport, manufacturing
Russia	The AI market grew from 700 million rubles in 2017 to 28 billion rubles in 2021.	Finance, public administration

Opportunities for the Implementation of AI Technologies in Uzbekistan

In order to support the development of AI technologies in Uzbekistan, the **"Digital Uzbekistan – 2030"** strategy has been developed.

Program / Law	Key Objectives
Digital Uzbekistan – 2030	Development of AI and digital technologies, promotion of scientific research
Ministry of Innovative Development of the Republic of Uzbekistan	Supporting startups in the field of AI

The diagram illustrates the projected contribution of AI to the GDP of the United States, China, and the European Union by the year 2030.

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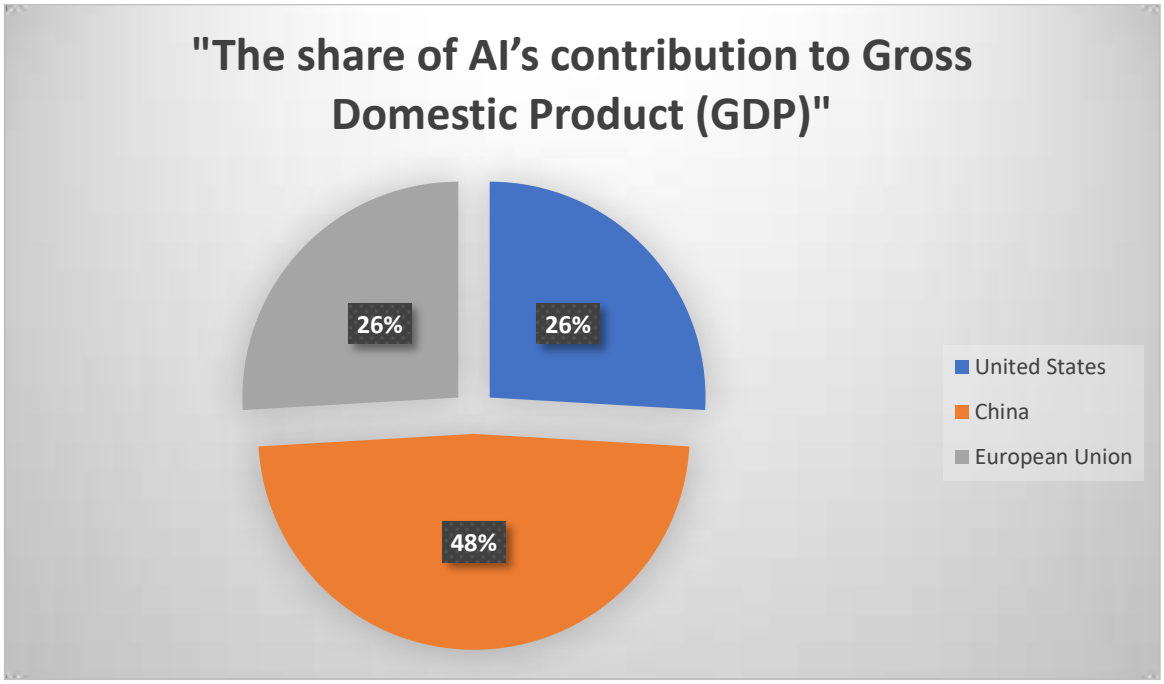
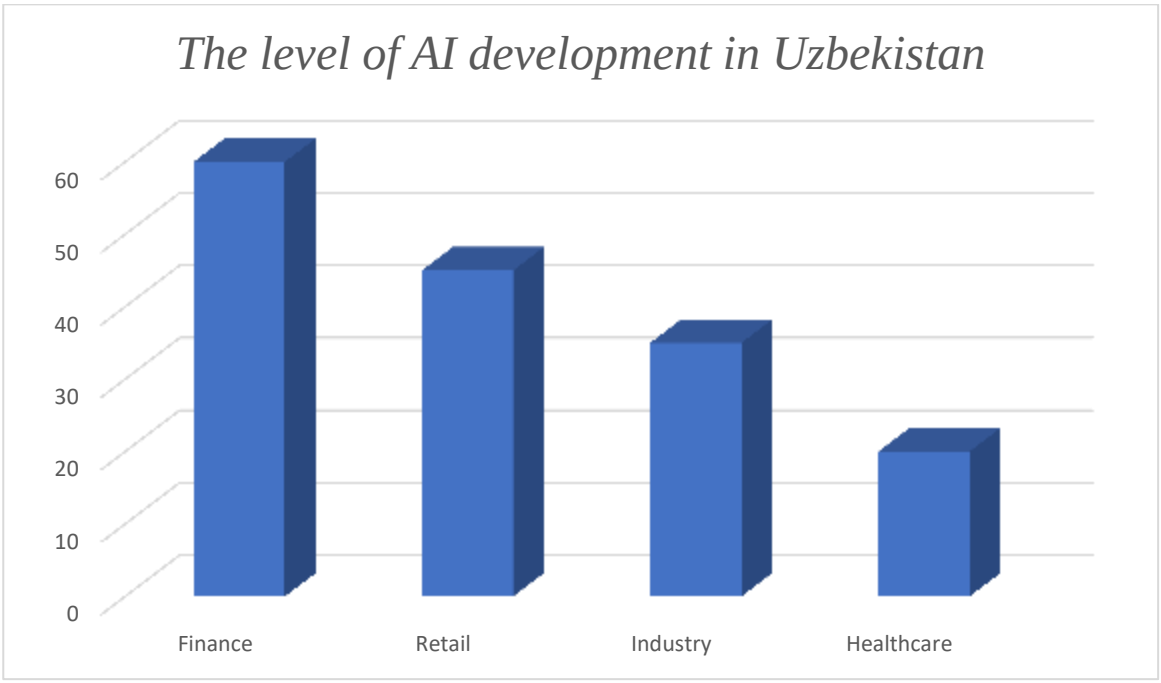


Potential of AI in Uzbekistan

• **Finance:** AI can be used to assess credit risks and predict fraud in advance.

• **Retail:** AI can help increase sales through personalized recommendations and customer behavior analysis.



• **Industry and Logistics:** AI enables the creation of automated production and delivery systems.

Diagram: *The level of AI development in Uzbekistan*

International experiences and economic indicators confirm that AI technologies play a significant role in enhancing enterprise management efficiency, reducing costs, and creating opportunities to enter new markets. For the development of AI technologies in Uzbekistan, it is necessary to:

- Strengthen cooperation between the public and private sectors.
- Train specialists in AI technologies.
- Promote scientific research and develop international partnerships.

The implementation of measures in these areas will help ensure that AI technologies occupy a significant place in the future development of Uzbekistan's digital economy.

Conclusion and recommendations. In the context of the digital economy, the role of artificial intelligence (AI) technologies in enterprise management is steadily increasing. International experience shows that leading companies are achieving enhanced operational efficiency, cost optimization, data-driven strategic decision-making, and improved customer interaction through the use of AI. In particular, advanced companies in the United States, the European Union, and China are successfully applying AI technologies in the fields of manufacturing, logistics, financial management, and marketing.

In the context of Uzbekistan, in order to use AI technologies effectively, attention must be given to the following directions:

1. **Development of legal and technological infrastructure** – Strengthening the regulatory and legal framework aimed at the implementation of AI technologies and forming a modern technological infrastructure.
2. **Training and professional development of personnel** – Expanding the system of preparing specialists in AI-related fields and retraining existing personnel.
3. **Digitalization of enterprises** – Increasing competitiveness by automating business processes and widely introducing analytical approaches based on AI.
4. **Adapting international experience to local conditions** – Studying the experience of international companies in the field of AI and adapting it to the economy of Uzbekistan.

In general, effective use of AI technologies will contribute to the innovative development of Uzbek enterprises, increase labor productivity, and accelerate economic growth. Therefore, it is of vital importance to develop and implement systematic measures for the integration of AI into business management.

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