

## The Importance of Using AI for the Development of E-Commerce in Uzbekistan

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**Abstract:** This article examines the state of e-commerce using AI technologies and shows the results and effectiveness of their implementation. Trading operations using artificial intelligence can lead to an increase in the speed of market processes and the efficiency of markets, but also to an increase in sales volumes and an increase in volatility not only during periods of stress.

**Key words:** AI, robotics, e-commerce, scientific and technological progress, personalization, strategies, dynamics, change, meaning, retail representatives, forum.



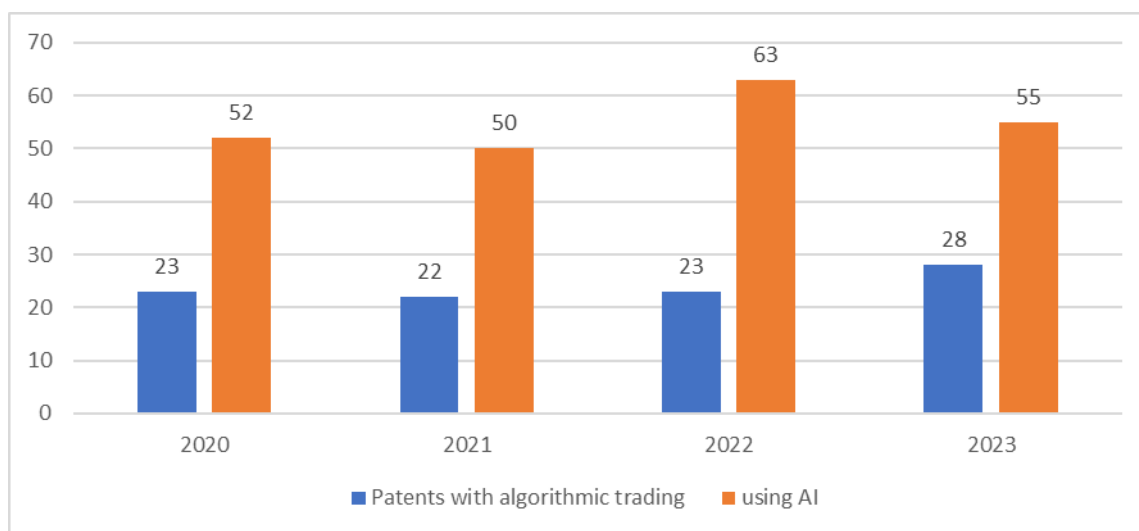
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The rapid development of artificial intelligence covers the entire trading network in the world, causing both satisfaction and anxiety, exploring important questions about its potential impact on the global economy. Researchers are confident, with some confidence, that it is necessary to develop a set of strategies for the safe use of the enormous potential of AI for the benefit of humanity. We are on the cusp of a technological revolution that could boost productivity, stimulate global economic growth, particularly e-commerce, and generate higher incomes worldwide.

Automated trading algorithms help markets execute transactions faster and process large trades more efficiently across major asset classes. But there have been instances where market prices have fluctuated wildly over very short periods of time, such as in May 2010 when US stocks crashed and then rose again minutes later, raising concerns that they could destabilise markets during periods of high stress and uncertainty.

With its ability to process large amounts of data and even text almost instantly for use by traders, artificial intelligence will take this kind of change to the next level.

Artificial intelligence (AI) is becoming a key enabler in this endeavour, offering tools to create hyper-personalised shopping experiences. In fact, AI is changing the retail landscape by creating personalised experiences that resonate with individual shoppers.



**Fig. 1 Dynamics of growth of AI changes in trading applications in the world (%) [1]**

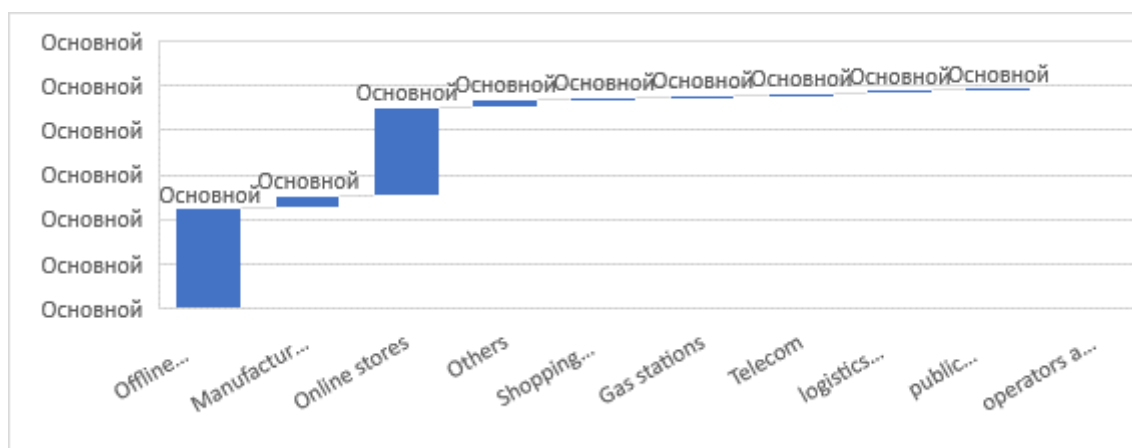
As competition in e-commerce intensifies and the personalized approach to shopping becomes more common, companies of all sizes are finding it increasingly difficult to retain customers with low loyalty.

According to the Decree of the President of Uzbekistan “On measures to create conditions for the accelerated implementation of artificial intelligence technologies”, a Program of measures for the study and implementation of these technologies in 2021-2022 was approved, the priority areas of which include: development of an artificial intelligence development strategy; development of a regulatory framework; widespread use of artificial intelligence technologies; creation of a domestic ecosystem of innovative developments; creation of conditions for developers of software using artificial intelligence technologies to access digital data; formation of investment attractiveness of scientific work and developments in the field of artificial intelligence; ensuring access of domestic enterprises and specialists to information resources and competencies in the field of artificial intelligence; development of the necessary educational environment; development of international cooperation in the field of artificial intelligence and technologies for its application.

Modern artificial intelligence technologies are quite labor-intensive to analyze huge volumes of user data, namely from patterns of browsing purchase histories to the number of clicks and time spent on social media pages. The collected data allows AI functions to understand the specifics of consumer behavior, their preferences and even predict future purchases.

The main advantage of AI technologies is its ability to use this data for large-scale personalization of each segment of e-commerce. From the moment a buyer enters an online store, AI begins to select the shopping process taking into account their individual preferences. More and more participants in e-commerce in Uzbekistan: banks, retail, fintech companies, marketplaces are striving to use speech and video analytics, as well as smart assistants.[2]

Why the use of artificial intelligence for companies is an important growth factor was discussed at the International PLUS-Forum "RETAIL CENTRAL ASIA" held in Tashkent on November 20-21, 2024 at the Tashkent Hotel, International hotel.



**Fig. 2 Market segments represented by participants of the Forum "RETAIL CENTRAL ASIA" [3]**

One of the most discussed topics was artificial intelligence in e-commerce and retail. The participants of the thematic session were representatives of the Unified Integrator UZINFOCOM, which is engaged in the creation and support of state information systems, fintech companies, providers and marketplaces. Each of them shared their personal experience of "cooperation" with artificial intelligence and talked about how AI influenced business development. Artificial intelligence is increasingly being used to develop e-commerce in Uzbekistan. As the forum participants noted, artificial intelligence has come a long way - from a very ambitious project of the future to the main direction in digital technologies. And if at first AI was often perceived as something threatening, with the advent of the GPT chat (generative artificial intelligence), communicating in human language, people began to treat it more loyally and use it more actively. They noted that more than 70% of the world's largest organizations need artificial intelligence technologies, but to date, only about 5% of them have implemented AI.

Company executives intend to use artificial intelligence in almost all areas. However, most plan to use AI in supply chain planning, demand forecasting, marketing and advertising, pricing and promotion of goods and services.

For example, one of the leaders of global e-commerce Amazon estimated that they were able to achieve 30% of sales thanks to recommendations that the neural network gave to customers using the history of their previous purchases, they noted.

Artificial intelligence is actively used in remote biometric identification for face recognition and checking for "liveness". In turn, the fintech company Alif Uzbekistan presented its unusual assistant named GulChatAI. She analyzed and considered more than 80 client parameters at the same time, such as demographic, financial and geographic. The new "employee" took on the load of more than 60% of the total volume of Alif installments. [4]

To make a decision, she needs 25 seconds - this is the time to collect data. GulChatAI is able to make the right decisions instantly, so the level of overdue loans is only 0.3%, while the average in the Uzbek market is from 2% to 5%, noted Muna Shukurova, Managing Director of the fintech company Alif Uzbekistan.

Vitaly Akulov, Director of Business Development at CyberNet, spoke about voice robots, which became a resident of the IT Park in Uzbekistan.

"The strongest points of all robots are the weak points of people. The robot does not need vacation, sick leave, it is always in a good mood, because in the morning it did not quarrel with either its wife or husband, and its children do not get sick," Akulov began his speech at the forum.

Another interesting application of artificial intelligence is speech analytics, a toolkit that allows you to extract new, valuable knowledge for business from dialogues between employees and clients and with each other. Speech analytics allows you to automate the quality control of employee work. This means that each dialogue is automatically analyzed. After this, both the employee and the manager can understand what needs to be worked on. Every company has communication standards that form the basis of each such project.

It is also worth noting the method of personalization based on AI, which uses advanced algorithms and machine learning models that dynamically adapt to customer requests. Next-generation search platforms use these tools to improve product search processes, ensuring that each search or recommendation is precisely tailored to the buyer's interests. These platforms are capable of real-time learning, which allows them to constantly improve their accuracy and relevance based on ongoing interactions with users.

One of the most prominent technologies in the spotlight is dynamic pricing. This approach adjusts product prices in real time based on a variety of factors, including market demand, customer characteristics, and purchasing behavior. This strategy is particularly effective in B2B e-commerce, where prices can vary significantly based on pre-existing agreements and bulk purchases. Several B2B retailers have already made significant strides by implementing AI-powered personalization into their platforms. One example is e-commerce company GroupBy Inc., which receives personalized search results and recommendations, as well as pricing strategies tailored to individual customer agreements. This level of personalization ensures that B2B buyers receive the most relevant offers.

“AI models have advanced to the point that they can process massive amounts of user behavior data to provide a personalized, 1:1 product search experience. “Every search query, web page review, or recommendation can be tailored to specific users at scale,” says Arvind Natarajan, Chief Product Officer at GroupBy. “Next-generation search platforms powered by this kind of AI technology can deliver better, hyper-personalized shopping experiences at scale for both B2B and B2C retailers and distributors across any industry or vertical.” And hyper-personalization doesn’t just make shopping convenient, it makes it memorable. AI-powered personalization treats shoppers as individuals with unique needs and preferences. [5]

A personalized experience makes the shopper feel understood and valued, which in turn increases customer engagement. Engaged customers are more likely to return and, in turn, promote the brand to other customers. Thus, AI-powered personalization drives sales and builds a loyal customer base, which is the true sign of a successful digital commerce strategy.

As AI technology advances, its capabilities in e-commerce will only expand. More advanced personalization technologies are expected to be implemented in the future, with the introduction of augmented reality (AR) that will allow shoppers to feel and experience before they buy online. Voice-activated shopping assistants with AI assistants and sophisticated chatbots that will manage customer service are expected.

The role of AI in e-commerce personalization is transformative. As companies leverage these advanced technologies, they will have more opportunities to meet the growing expectations of their customers. For companies looking to succeed in the world of online retail, AI is an indispensable tool.[6]

In conclusion, the intersection of AI and e-commerce is the future of e-commerce, i.e. deeply personalized, highly satisfying and efficient. In this rapidly evolving market, those who master AI-powered personalization will lead the way, setting new standards for buying and selling in the digital age.

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