



FACTORS OF EFFICIENCY OF IMPLEMENTATION OF MODERN INNOVATIVE TECHNOLOGIES AND DIGITALIZATION PROCESSES IN THE CUSTOMS SYSTEM

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Annotation: This article is devoted to analyzing the effectiveness factors of implementing digitalization processes and modern innovative technologies in the customs system of the Republic of Uzbekistan. It reveals the theoretical foundations of automating customs operations, including issues related to enhancing the efficiency of risk management through the use of Artificial Intelligence and Big Data analytics.

Keywords: Customs, digitalization, innovative technologies, artificial intelligence, big data, electronic declaration, blockchain, smart customs, risk management, regulatory documents, transparency, foreign economic activity, customs administration, digital transformation.

Annotatsiya: Ushbu maqola O'zbekiston Respublikasi bojxona tizimida raqamlashtirish jarayonlari va zamonaviy innovatsion texnologiyalarni joriy etishning samaradorlik omillarini tahlil qilishga bag'ishlangan. Unda bojxona operatsiyalarini avtomatlashtirishning nazariy asoslari ochib berilgan, jumladan, Sun'iy Intellekt va Big Data tahlilidan foydalanish orqali xavflarni boshqarish samaradorligini oshirish masalalari yoritilgan.

Kalit so'zlar: Bojxona, raqamlashtirish, innovatsion texnologiyalar, sun'iy intellekt, Big Data, elektron deklaratsiyalash, xavflarni boshqarish, normativ hujjatlar, shaffoflik, tashqi iqtisodiy faoliyat, bojxona ma'muriyatchiligi.

The Customs Service is an important institutional foundation for the economic security of any state, the protection of its fiscal interests and the proper regulation of

international trade in accordance with global standards. In the 21st century, when integration and logistics processes are accelerating in the global economy, ensuring the efficient and fast activities of customs authorities is closely related to the implementation of modern innovative technologies and systematic digitalization strategies.

Digital Customs is a governance model based on the principles of the World Customs Organization (WCO) and based on the application of advanced information and communication technologies (Artificial Intelligence, Big Data, Internet of Goods). Its aim is to ensure full automation of all customs procedures, paperless (dematerialization) and continuous (24/7) operation as well as trade facilitation and minimization of human factor in management processes while ensuring customs security[1].

Big Data is a large data set that can be updated rapidly (in real time) and presented in various (structured, semi-structured, unstructured) formats. Big data analytics (analytics) requires complex operations that are incompatible with traditional data processing tools, and its main value is that it allows you to identify hidden trends, dependencies, and risk signals within the data [2]. In the customs system, this involves various streams of information such as declarations, payments, scan images, foreign trade statistics, and social media information.

The Republic of Uzbekistan is implementing a comprehensive strategy of digitalization and radical reform of the customs sector, following the principles of World Trade Organizations (WTO) and best international practices. The reforms have been developed on a solid legal basis, determined mainly by the norms of the Customs Code of the Republic of Uzbekistan on electronic declaration and information systems (for example, Articles 297, 299), as well as targeted decrees and resolutions of the President of the country aimed at the development of the sphere. In particular, the Resolution of the President of the Republic of Uzbekistan dated March 25, 2025, No. PP-122 and the Decree of the President of the Republic

of Uzbekistan dated April 27, 2022, No. UP-122 set the priority task as the transformation of customs administration, drastically reducing the human factor, reducing the clearance time, and introducing artificial intelligence technologies in the field. These normative documents create a solid base for the uninterrupted conduct of customs procedures on the principle of "24 hours a day, 7 days a week".

The main and directly noticeable efficiency factor of digitalization is the acceleration of customs clearance and cost reduction through the Electronic Declaration System. Reducing the "waiting life" or time to clearance[3] of customs cargo at border points[3] is of significant importance in order to improve the World Bank's position in the Logistics Efficiency Index.

The second and strategically important factor is the deep improvement of the Risk Management System with the use of Artificial Intelligence and Big Data analytics. Whereas traditional control methods required high bureaucracy and huge resources, SI algorithms allow customs authorities to analyze in a matter of seconds the huge amount of data, such as the history of all previous shipments, profiles of economic operators, price dynamics and the list of international sanctions. This ensures that control is directed only to shipments that are deemed truly dangerous by automatically assigning a risk score to a commodity, based on its origin, value, or level of hazard. Such targeted control not only saves resources, but also serves to effectively prevent smuggling, misrepresentation in declarations and other customs violations. The Presidential Decree of October 22, 2025, No. UP-189 creates an institutional base for the widespread introduction of Artificial Intelligence technologies into public administration, including the customs system.

The third important aspect is to increase transparency and prevent corruption, which is the direct key to the investment attractiveness of any economy, especially Uzbekistan. By using the automatic customs payments calculation in electronic form and the use of the payment digital tracking system, the possibility of an employee to make a subjective decision, change the price or incorrect tariff classification is

completely limited[4]. The fact that all processes can be digitally traced and audited maximizes transparency, which creates a fair and trustworthy environment for foreign trade participants.

In conclusion, digitalization has created a solid foundation for interagency and international integration. As a result of the introduction of electronic exchange of information between customs information systems with tax, statistics, transport, certification authorities and other government agencies, the practice of repeated requests from participants in foreign economic activities for the same document by different agencies will be eliminated. It reinforces the principle of "One Time Serving", reduces bureaucracy and allows you to act on the basis of a single database. Digitalization of the customs system and widespread introduction of modern innovative technologies (artificial intelligence, Big Data analysis) is the important driving force of fundamental transformation in the economy of Uzbekistan. These processes serve to achieve high cost-effectiveness by reducing clearance time, ensuring maximum transparency and eliminating corruption risks, while improving the quality of customs control. Digital reforms, together with the strengthening of the legal framework, play a decisive role in achieving the goals of country's integration into the World Trade Organization and increasing competitiveness in the global trade space defined in the strategy "Uzbekistan – 2030".

References

1. Official document of World Customs Organization. 2017 (Page: 3)
2. Buyumov A. Kh. "Theoretical Foundations of the Use of Big Data Analysis in Customs" Scientific Bulletin of Uzbekistan 2024 (Page: 12).
3. Rasul B. Newspaper material titled "Customs Domestic 'Lifespan' Halved." 2023 (Page 4)
4. Savchenko A. G., Lavrikova N. Yu. Article entitled "The role of digitalization in accounting for customs benefits". As of 2025.
5. Customs Code of the Republic of Uzbekistan.

6. Decree of the President of the Republic of Uzbekistan dated March 25, 2025, No. PP-122 "On further measures to further improve the activities of the State Customs Service bodies and customs administration".
7. Decree of the President of the Republic of Uzbekistan dated October 22, 2025, No. UP-189 "On additional measures for the further development of artificial intelligence technologies"
8. Decree of the President of the Republic of Uzbekistan dated April 27, 2022, No. UP-122 "On further measures for further improvement of the customs administration"
9. Mantusov V. B. Article "Issues of digitalization of customs sector in the context of digital economy". 2018 (Page:5)