

DOI: 10.31432/1994-2443-2023-18-2-48-55
УДК 334.025(478)

Digitalization Development of the Customs Service in the Republic of Moldova

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Abstract. Cross-border trade is one of the sources of financing the state budget, and the Customs Service is the institute that ensures control over the payment of customs duties on time and in the amounts established by law. Along with the development of the digital economy, the digitization of all spheres of a modern state is also taking place. Information technologies have simultaneously touched both the public and private sectors. The Customs Service is one of the closest services to the economy, and its development (as well as the evolution of other sectors) is vital for the state and its economy. Moreover, the innovations of the Customs Service should be carried out much faster than in other institutions because this service controls foreign trade, protects the domestic market, and fights against smuggling and other economic crimes related to illegal import/export of goods.

Keywords: Custom Service, digitalization, innovation, economy, foreign trade

Citation: Gutium M.P. Development of the digitalization of the customs service in the Republic of Moldova // // Information and Innovations 2023, T.18, №2. p. 48-55. DOI: 10.31432/1994-2443-2023-18-2-48-55



Развитие цифровизации таможенной службы в Республике Молдова

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Аннотация. Трансграничная торговля представляет собой один из источников финансирования государственного бюджета, и именно Таможенная Служба обеспечивает контроль за уплатой таможенных платежей в срок и в установленных законодательством объемах. Наряду с развитием цифровой экономики происходит и цифровизация всех сфер современного государства. Информационные технологии одновременно коснулись как государственного, так и частного секторов. Таможенная Служба является одной из наиболее близких к экономике служб, поэтому ее развитие, наряду с другими институтами, жизненно необходимо для государства и его экономики. Более того, инновации Таможенной Службы должны осуществляться гораздо быстрее, чем в других секторах, потому что именно эта служба осуществляет контроль за внешней торговлей, защищает внутренний рынок, так как борется с контрабандой, и с другими экономическими преступлениями, связанными с незаконным ввозом/вывозом товаров.

Ключевые слова: Таможенная Служба, цифровизация, инновации, экономика, внешняя торговля

Цитирование публикации: Гутюм М.П. Развитие цифровизации таможенной службы в Республике Молдова // Информация и инновации. 2023, Т.18, № 2. с. 48-55. DOI: 10.31432/1994-2443-2023-18-2-48-55

1. Introduction

Technology has changed every aspect of how we conduct business and manage organizations. The development of the organization is defined not only by the quality of the employed specialists, management, and technical equipment but also by the software. Cross-border trade along with domestic trade can no longer exist without the use of information technologies. Because the elimination of given technologies will not only reduce the volume of sales and the number of businesses but also destroy the supply chains that had been created for decades [1]. Innovative technologies enable the acceleration of work processes, faster data collection for the analysis of the final results, and corrective action to improve efficiency.

Cross-border trade represents a harsh environment of international competition that requires the implementation of an intelligent strategy that integrates electronic customs in organizational management. One of the requirements to maximize the efficiency and speed of the exchange of goods is investment in digital technologies and their assimilation by customs services and commercial companies [2].

Each country has gone through its own experiences and implemented particular ideas that make up its concept of digitizing the economy. As an eloquent example, we will analyze the successful solutions regarding the digitalization of the Customs Service in China and the United States, and on this basis, we will determine the most pressing problems of creating a digital custom in the Republic of Moldova.

In 2016 the World Customs Organization introduced the term “digital customs.” From this period, it is expected that the Customs Services of different countries will actively implement information technologies in their system for a quick and transparent collection of customs duties, as well as the carrying

out of customs control of the movement of goods. It can be argued that the emergence of “digital customs” was objectively predetermined by an existing international economic phenomenon, which is today called the “digital economy.” According to the Oxford dictionary, “digital economy” is an economy that functions primarily due to information and communication technologies, especially that related to electronic transactions carried out over the Internet [3]. Digitization of “everything” creates new intelligent networks that fundamentally change the conduct of traditional commerce.

Every day the information systems of the Customs Service of countries engaged in international trade accumulate terabytes of information, which allows us to consider the Customs Service a leader among public institutions that work with large amounts of data (Big Data). Electronic declaration centers, a single register, and a risk management system are established, with access to an enormous amount of information about the departments of the Republic of Moldova, which allows the effective functioning of the Customs Service of the Republic of Moldova.

The activity of the Electronic Declaration Centers makes it possible to exclude the human factor when declaring goods, which reduces the component corruption when performing this customs operation. However, the use of certain digital tools, in particular - the electronic digital signature, remains associated with certain risks. This is due to the lack of adequate computerization among the population regarding information security. It is worth noting that the given problem in the Republic of Moldova is also urgent in large companies, where personnel with low technical qualifications, often due to the lack of the necessary knowledge, cause leaks of trade secret data, which can lead to higher financial losses for the given company.

2. The international experience in the digitalization of the Customs Service

If we analyze the experience of the Customs Administration in China, we can see that the Government has introduced and uses in the practice of the Customs Service the Program to Encourage Economic Operators (EEO), which is based on state control and takes into account the level of creditworthiness of commercial companies. The meaning of the given program consists in the fact that the level of creditworthiness of companies that commit crimes decreases as a sign of punishment. Legally accredited persons under this program are recognized as "Automated Commercial Environment" (ACE) and receive the right to use 49 simplifications provided by government agencies.

The State Council of the People's Republic of China has established a data exchange system between economic agents through which China Customs provides information on EEOs and exchanges data with other public institutions. Finally, it is unnecessary to duplicate the state control results that had been transferred to the system. If the company has been suspected of any illegal activities, or of non-compliance, or partial compliance with the imposed obligations, the data is transmitted to the customs authorities in China, where it will be decided whether the suspension of the ACE status or the total exclusion of legal entities from the EEO register will take place.

Since November 2017, Guangzhou Customs has carried out the "paperless registration reform" for companies using "electronic printing technology." The centralized customs system is connected to the relevant Information Technology (IT) systems of the Industrial and Commercial Administration to provide automatic data comparison and real-time verification between enterprise registration information and local enterprise

information, which enables the authentic and fast provision of the information used. Another innovation of Ningbo Customs is the model of "control of goods in stock by status classification" [4].

This system allows unrelated goods to be stored and distributed together with related customs goods in specific control areas for their export or import. EU-China Smart and Safe Trade Routes Pilot is a pilot project between the EU and China that enables continuous review of supply chain security tools and mechanisms in line with the Simple Agreement for Future Equity (SAFE) and World Customs Organization (WCO) Standards. This system allows to reduce the execution time for customs control and clearance processes, which ultimately allows to reduce the final cost of transporting the goods.

The USA has a wealth of experience in the development and application of electronic declarations, as well as the development of the digital economy that had been accumulated throughout its history and in its activity as a participant in cross-border trade. In 1984, the ACS (Automated Commercial System) began to be introduced in the USA. This innovative digitization process had been completed in the mid-1990s. During its implementation, the basic principles of the electronic declaration had been created.

In the second half of the 1990s in the United States, the decision was made to develop a new version of the automated system called Customs Automated Commercial Environment (ACE). Initially, the main driving reason for modernization was the moral obsolescence of the system's computing, software facilities, data storage technologies, and ineffective method of interaction with participants in foreign economic activity. However, the events of September 11, 2001, and the analysis of the reasons that con-

tributed to the implementation of terrorist acts in the United States led to the revision of the entire concept of customs, immigration, and other control organizations that control people moving across the border, natural persons, goods and vehicles [5]. This is reflected in the approach to automation customs service activities.

The purpose of the creation of the integrated data system on international trade (IDSIT) is total and comprehensive control over the movement of natural persons and goods intended for customs clearance. The ACE customs system has become considered a part of the IDSIT. In the new version of the automated system, improved information support for customs control processes is essential. Optionally, the ACE system is also entrusted with the informational support for activities intended for national border security.

At the same time, some subsystems of the old Automated Commercial System (ACS) related to document customs clearance of goods and vehicles are registered as an integral part of ACE. In February 2018, Customs and Border Protection implemented a program of seven major planned ACE development programs, thanks to which all information on the main stages of cargo handling is now uploaded to ACE. Looking forward, Customs and Border Protection (CBP) customs and border protection of plans to modernize ACE and ensure the operation of ACE as an available and reliable system.

3. The electronic commerce and Custom Service in the Republic of Moldova

Without international trade, there can be no Customs Service, because the trade interactions give economic meaning to the existence of the Customs Service. According to the data of the National Bank of Moldova for the year 2021, there is a significant increase in non-cash payments made by citizens of

the Republic of Moldova, especially non-cash payments through electronic commerce platforms. Fifteen million cashless payments were made without the physical presence of the card, on electronic commerce platforms, with payment cards issued in the Republic of Moldova, which constitutes 11.5%, of which: 3.3 million operations worth 1.6 billion lei were carried out on e-commerce platforms in the Republic of Moldova and 11.7 million operations worth 5.0 billion lei, carried out on e-commerce platforms abroad [6]. The number and the value of payments registered an increase of 36.3 percent and 37.5 percent, respectively, compared to 2020.

At the same time, during 2021, the number of e-commerce platforms in the Republic of Moldova increased by 11.2% compared to 2020, amounting to 584 platforms at the end of 2021, compared to 525 in 2020 and 408 in 2019.

In 2022, the border trade of the Republic of Moldova was strongly affected by geopolitical upheavals. This year, the following phenomenon appeared as the export of mineral products, which de facto represents a re-export of these goods. The import decreased significantly in the year 2022 due to the higher reduction in the import of energy resources. At the same time, the annual rate of exports in 2022 amounted to 37.9 percent, which is 10.4 percentage points more compared to the period of 2021. The positive dynamics of the annual rate of exports were determined by the increase in the volume of exports to the Commonwealth of Independent States and to the European Union countries.

As we see from Fig. 1, external investments in Information and communications are at a level of only 4.9%, which does not allow the rapid development of information technologies and their implementation in the Customs Service.

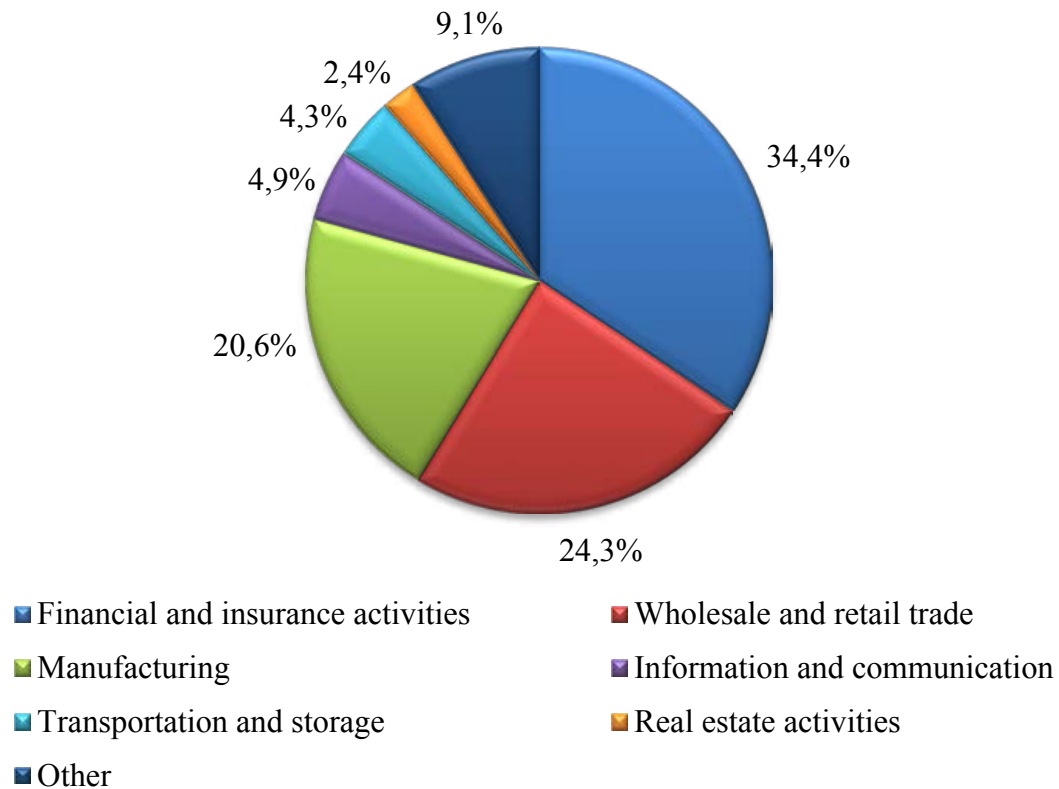


Fig. 1. Investment in the Republic of Moldova, 2022
Source: National Bank of Moldova (NBM) [7]

The implementation of information technologies in the economy is an important driver of innovation and increasing the competitive level of the state. The Republic of Moldova is actively engaged in making the transition to a digital economy, introducing elements of the informational economic paradigm. The Customs Service of the Republic of Moldova, in particular, plans to carry out large-scale digitization by implementing Information Technology (IT) elements in the customs authorities to improve the quality of services and ensure national security. To solve this problem, the administration of the customs service should be fully adapted to the conditions of the digital economy, for which completely new technologies for customs regulation and customs control of goods transported across the customs border must be developed. In this case, essential resources should be given to the devel-

opment of digital customs control and smart customs.

The very emergence of the “digital customs” paradigm was predetermined by the emergence and evolution of the digital economy, which itself represents an international economic phenomenon. The term “digital customs” is also current for the Customs Service of the Republic of Moldova. However, the World Customs Organization (WCO) defines the term “digital customs” as “the implementation of digital systems in the customs service to secure and guarantee the payment of customs duties, perform customs control over the flow of goods, people, transport, monetary funds, as well as the protection of international trade against crime, including international terrorism, which continues to spread around the globe” [8].

The digitalization of the Customs Service of the Republic of Moldova is in a continu-

ous process of modernization and innovation: currently, electronic customs centers and electronic declaration systems have been created, remote self-issuance technologies, declaration self-registration systems have been introduced, the personal account service intended for a foreign participant in economic activity and a unique personal account system for interaction with the customs authorities to facilitate the procedure for paying customs duties. Thanks to the rational use of the information resources of the central database, the unified automated computer system was introduced and the classification system of participants in foreign economic activity was corrected. The Customs Service of the Republic of Moldova, in partnership with the United States Agency for International Development (USAID), concludes intending to develop the concept of “the electronic customs declaration represents a major step towards the digitization of customs procedures” [9].

From January 2023, it became possible to use the electronic customs declaration for all customs regimes, which will allow all customs declarations to be completed in electronic form [10]. The administration of the Customs Service pays much attention to the digitization of the customs transit procedure. The Customs Service of the Republic of Moldova has introduced the technology of automatic registration of goods transit declarations. The benefit of automatic introduction of registration of electronic transit declarations is to reduce the time and financial costs of participants in foreign economic activity. In addition, this technology eliminates the subjective factor since the information analysis process is automated as much as possible.

USAID, through the MISRA (Motor Industry Software Reliability Association) program, had provided data storage spaces,

which allowed the digital archiving of not only customs declarations, but also copies of accompanying documents. Finally, the Customs Service of the Republic of Moldova could review the accompanying documents.

These reforms will significantly contribute to raising the quality of the services provided by the Customs Service, reducing the costs and waiting periods necessary to complete customs documents for both customs officials and customs specialists, reducing acts of fraud and corruption through online monitoring of customs operations, but also by excluding contact between customs brokers and civil servants, at the same time these actions will ensure transparency in customs control procedures.

In the current stage, the management model of the systems of the customs institutions is changing. Their main content can be defined by the following paradigms, which are characterized by qualitative parameters corresponding to the activity environment of customs authorities and management models:

- ✓ functional paradigm: functional environment for the activities of the customs authority, function-oriented management model;
- ✓ process paradigm: activity process environment, process-oriented;
- ✓ service paradigm: activity environment — service (services), marketing model;
- ✓ the digital paradigm: the digital environment of the activity, the informational and logistic model;
- ✓ cognitive paradigm: intellectual activity environment, cognitive-productive management, which includes the implementation of artificial intelligence.

4. Conclusion

States such as China or the USA, being the largest economies in the world, take

into account the need to develop the customs system, therefore they make major efforts to implement innovations in this system. Digitization of the Customs Service is an integral part of the digital economy. It would be a mistake if the authorities of the Republic of Moldova would omit the international experience in the innovation of the Customs Service.

The authorities of the Republic of Moldova should implement not only digital technologies in the Customs Service but also a good international experience so that the economy of the Republic of Moldova can face the new trends in the global digital economy, and become a worthy member of it.

Funding

The study had no funding.

Conflict of interest

There is no conflict of interest.

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